e-ISSN: 2985-4415
DOI: 10.57254/irma.v1i2.29

International Research of Multidisciplinary Analysis
IRMA JOURNAL
Vol. 1, No. 2, February 2023 hal. 121-240
Journal Page is available at http://irma.nindikayla.com/index.php/home

INFORMATION SECURITY SYSTEM *INTERNET* BANKING SERVICES IN BANKING TRANSACTIONS

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Abstract

Information and communication technology development has a tremendous impact on almost all sectors, including the banking sector. In improving services to customers and in line with the rapid development of technology, banks meet customer needs in the form of banking products through information technology systems such as internet banking. The banking industry adopts Internet technology to develop services. This opportunity is used by banks in Indonesia, both state and private banks.

Internet Banking makes it easier for customers to do banking transactions online, both financial and non-financial transactions except for making cash deposits or withdrawals. However, when using Internet Banking services is it safe? Because when using the Internet, communication devices or computer devices are connected to the global computer network, so it is very vulnerable to security attacks or Internet Banking crimes. Therefore, this paper explains the concept of security, the benefits of internet banking, how to form security attacks against Internet Banking. Later in this paper also explains how to prevent attacks or crimes in Internet Banking. This paper also explains the security models of Internet Banking and compares Internet Banking services from several banks in Indonesia both facilities and security. So that bank customers who want to use Internet Banking services gain knowledge and can choose banks that provide better and safer Internet Banking service security and can reduce online crime rates, especially in Internet Banking services.

Keywords: *Security, Internet Banking Services, Banking Transactions*

INTRODUCTION

The banking world is no different from other industries where Internet technology has become pervasive and even some have become de facto standards. Internet Banking began to appear as one of the services of the Bank. Service began to become a demand from some bank customers and ATM and phone banking services. It would be strange if a bank did not have an ATM. Similarly, it will soon be strange if a bank does not have Internet Banking even though Indonesia's number of Internet users is still tiny.

The development of internet technology has now also been adopted in the banking world, which is reflected by the number of banking companies that apply and develop their services by offering internet banking services because internet media is an innovation that makes it easier for people to make transactions anywhere and anytime, so it fits with the development of today's society which is known to be very busy and has high mobility so they do not need to come to Banks queue at the bank to make non-cash transactions.

However, behind all forms of convenience, internet banking also has a level of cyber-crime committed by irresponsible people. Therefore, the security of internet

e-ISSN: 2985-4415
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banking services also needs to be improved from banks and customers who use internet banking.

The more the times develop, the more crimes will occur. Implementing Internet Banking that is easy, fast and practical is not necessarily safe from crime because when using the Internet, communication devices or computer devices are connected to the global network, so it is very vulnerable to Internet Banking security attacks. For this reason, this article will discuss the information security system of internet banking services in banking transactions.

METHOD

The approach method used is the literature review approach method, namely articles carried out to the library, some writings and papers related to the discussion carried out and journals related to the problem.

RESULT AND DISCUSSION

Internet Banking makes it easier for customers to do banking transactions online, both financial and non-financial transactions except for making cash deposits or withdrawals. However, when using Internet Banking services is it safe? Because when using the Internet, communication devices or computer devices are connected to the global computer network, so they are very vulnerable to security attacks or Internet Banking crimes.

Therefore, every customer must pay more attention to Internet banking to avoid and prevent crime. Currently, technological developments are very influential on the application of Internet Banking to realize easy, fast, and safe banking transactions. The existence of this reality banks must pay attention to security in the information system, which is an essential component in order to remain the choice of customers Not only banks are increasingly improving their security features but as savvy customers we must also pay more attention to the features we use.

Customers must be careful before using Internet Banking services, especially the security issues of the Internet Banking service. For Internet Banking security at least, there must be the following security components:

1. User id and password.
2. Website Internet must use SSL and layered algorithms.
3. Second authentication, preferably using tokens.
4. The system is equipped with Auto Logoff.
5. The system records all activities.

Security is a condition or quality free from fear, anxiety, or care. A secure communication network, can be defined as a network where users do not feel fear or anxiety while using a computer network and complete network systems have provided opportunities to reduce costs, increase efficiency and increase revenue. These dependencies 4pose new risks that threaten the security of computers and network systems. Thus, a new challenge arises to protect computer and network systems from various security attacks. Here are the types of security systems used in internet banking according to Lewis and Thygerson, namely:

1. Confidentiality:

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Confidentiality is the concealment of information or resources that prevent unauthorised parties' access to information or resources.

2. Integrity:
   Integrity is the reliability of data or resources and is usually formulated to prevent unauthorized changes. Integrity includes data integrity (the content of the information) and original integrity (the source of the data, often called authentication). Thus, integrity is related to the prevention of information modification carried out by unauthorized parties.
3. Availability:
   Availability is the ability to use desired information or resources. Availability is an essential aspect of system design because a system with no availability is as bad as no system. Availability can prevent the possession of information or resources by unauthorized parties.

According to Thulani et.al (2013) internet banking refers to a system that allows bank customers to gain access to their accounts and general information about bank products and services through the use of bank websites, without the intervention or inconvenience of sending letters, faxes, original signatures and telephone confirmations. Jun and Cai in Wang (2006) suggest that internet banking uses internet facilities for banking services, including traditional banking services such as opening deposit accounts or transferring funds between different accounts and new banking services, such as electronic bill presentation and payment.

According to David Whiteley, Internet Banking is one of the services provided by banks to their customers with the intention that customers can check account balances and pay bills for 24 hours without the need to come to a branch office.

According to Mary J. Cronin, Internet Banking is a financial services application that allows financial institutions to offer their traditional banking products and services such as balance checks, savings and money market accounts, and certificates of deposit over the internet.

According to Mahmood Shah and Steve Clarke Provision of information about banks and their services through website pages on the World Wide Web (WWW). The services provided are customer access to accounts, can transfer between different accounts and make payments or apply for loans through electronic channels".

Internet Banking has three levels of definitions based on what banks offer to customers, which are as follows:

a. Entry Level:
   It is the simplest definition, where at this level there is only statistical information about the bank concerned, what services or products are offered by the bank and also essential services such as loan payment estimates. At this level, only display good sites in a web browser.
b. Intermediate Level:
   This level offers all financial information services at the entry level and is supplemented by essential interactive services with basic capabilities including: credit payment calculation and the ability to display customer deposit details.
c. Advanced Level:
   At this level Internet Banking can be defined as the most complete level of service, where the services offered are all functionality and security. At this level, customers can transfer funds between banks, pay bills and open new deposits.

The facilities contained in Internet Banking are generally almost the same as those found in transactional activities at banks, the difference is that Internet banking

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transactions can be accessed via the Internet whenever and wherever they are while traditional transactions must be at the bank. Internet Banking facilities are generally divided into two parts, namely:

1. Non-Transactional Facility: Is a facility that is used only to view accounts or carry out administrative activities and is not recorded in account transactions. Facilities include:

    a. View your account balance
    b. View recent transactions
    c. Download transaction reports
    d. Register an account
    e. View a picture of a paid check
    f. Order a checkbook
    g. Change Password
    h. And others

2. Transactional Facility: It is a facility directly related to the account and every transaction is recorded into the account. Facilities include:

    a. Transfer funds between accounts
    b. Clearing
    c. Pay bills (electricity, telephone/mobile phone and water)
    d. Pay zakat, waqf and alms
    e. Ticket purchase
    f. Buying and selling investments
    g. Transaction approval process
    h. Loan applications and transactions
    i. And others.

CONCLUSION

Internet Banking service facilities provided to customers from several banks are generally the same. Only a few facilities are different but not very principled. Every bank always provides the best service for its customers ranging from convenience, comfort, and especially security in transactions.

Customers must also pay more attention to the internet banking services used so that early prevention of crimes or cyber-crimes by irresponsible people can be carried out and customers can conduct on-line transactions correctly, safely, and peacefully.

The components that must be present in the security of internet banking services, namely:

a. User id and password.
b. Website internet must use SSL, and layered algorithms.
c. Second authentication, preferably using tokens.
d. The system is equipped with Auto Logoff.
e. The system records all activities.

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