

Enhancing Bank Reputation by Centralizing Bank Debtor Information System

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Abstract

Indonesia's commercial banks are required to report the debtor data maintained to Bank Indonesia as central bank each month. Now, the reporting process is done manually by relying on one officer in each branch because the system and the data have not been integrated, also the network connection to Bank Indonesia are still using dial-up connections with low bandwidth and sometimes problematic. Therefore, this study aims to provide information system solutions in the form of debtor information system design integrated, automated, and able to cope network connection problems with Bank Indonesia. The research methodology used is to conduct interviews and analyze internal and external factors that affect the process of data reporting debtors. Then do the comparison with the literature review to design Debtor Information System (SID) Automation. The design of using use case diagrams, sequence diagrams and activity diagrams with interface Sistem Informasi Debtor (SID) Automation as output. The design of Debtor Information System (SID) Automation is generating the reporting process of debtor data integrated, automated, and uses direct line to Bank Indonesia. (RMA).

Keywords: bank reputation, system, integration, automation, network.

1. Introduction

Based on Indonesian regulation Act No. 7 / 1992 on Banking [1], which was replaced by Act 10 / 1998, Bank Indonesia's role is to manage and develop the implementation of information systems between banks and other institutions in the financial sector, especially in order to obtain and provide information debtor. To support it, Bank Indonesia issued Bank Indonesia Regulation No. 9/14/PBI/2007 about Debtor Information System. Debtor Information System is a system that provides information which is processed by the debtor on Debtor Reports send to Bank Indonesia [2]. Debtor Information System, created in order to expedite the process of provision of funds (credit) to encourage the development of Indonesia's growing economy and the implementation of effective credit risk management as well as the availability of quality information

that can be reliable borrowers. It is expected by the Debtor Information System of Bank Indonesia, all of the data into a centralized debtor in Indonesia in Bank Indonesia, and the data is expected accurate, current, and complete. It is also an impact on any commercial banks, rural banks every, every non-bank financial institutions (insurance, pension funds, securities, venture capital, and corporate finance, as well as other agencies that perform management of public funds), in addition to credit card organizer banks and credit unions to provide a report to Bank Indonesia debtors managed in accordance with applicable regulations.

2. Background

Indonesia has 4 categories for its bank, namely, Book 1, Book 2, Book 3, and Book 4. The higher the book number means the bigger the bank. This paper is focusing on book 4 Bank of Bank Indonesia. A single bank in book 4 category has the total assets of more than Rp. 300 Trillion by the end of 2012, and has more than 200 major branches (KCU) spread inside and outside the country as well as one of the commercial banks in Indonesia, also have an obligation to report the debtor data to Bank Indonesia managed in accordance with the applicable rules. According to Bank Indonesia Regulation No.9/14/PBI/2007 about Debtor Information System, Debtor Data Reporting should be conducted every month at the maximum on the day 12th of every month [2]. Currently managed data reporting debtors in the bank conducted at each branch respectively (decentralization) by a branch administrative officer (ADC). Administrative officer of the branch every month should update debtor's transactions (if the debtor has a loan facility) and also reported the data branch debtors (if new debtor) is in addition to administrative duties branch. Data reporting is done based on Loan Balance Report List that is available for each of the debtor and the debtor made the addition of evidence-based application and credit approval. Of course it makes the ADC branch officers to work harder and the dependent on personnel ADC (key person) is high. Lack of data or information borrowers also often a constraint so that the risk of reporting errors is high. Problem reporting network connection for access to Bank Indonesia is often problematic, because the technology used is still dial-up connection to get connected with Bank Indonesia extranet network. Many times the connection is lost and can not even connect to the reporting manual (off line) which was still running. The possible errors in data reporting of debtors as previously described and the possibility of delays or the possibility of the report is not received by Bank Indonesia have an impact on reputational risk and financial risk or financial. Reputational risk, as a bank in book 4 category ofcourse the bank is always maintaining its reputation to gain the trust of the public because it is essentially the bank's business is a business of trust. If there are errors, then the warning letter will be addressed to the directors of the bank as the main responsible. Financial risk or finance, with a delay and error reporting, Bank Indonesia will impose financial penalties against the bank with direct debiting account director at Bank Indonesia. With two of these risks, and some who have received fines, the bank make directors fully supports the policy of centralization

and automation of this Debtor Information System. This is evidenced by the System Integrator, one of which served to prepare the data mapping and make the formulation of the Debtor Information System needs at the bank. Based on the problems, this study is expected to be able to provide solutions for problems in the data reporting systems debtor at the bank, which occurred during the debtor information systems by designing integrated, centralized, and automated.

3. Research Methodology

3.1 Frame of Mind

At the first time, the process of the current debtor information system is looked over, either through surveys or interviews with resource persons related to such activities. The study results will be formulated problems that occurred in the current debtor information system. In the process, there are internal and external factors that influence in the development of information systems centralize the debtor. Internal factors, the current system is still a manual process that must be performed by the reporting officer is in the process of updating the data and data input of new borrowers, so that human error is still high. Infrastructure is also greatly affected, such as network connection problems to Bank Indonesia, dial-up modem which is rarely sold in the market, and constraints if the personal computer is damaged or affected by the virus. In addition, factors also affect the human resource, because it's so dependent on a branch administration officer reported. External factors, the Act and Regulation of Bank Indonesia are also influential. A change in the reporting provisions, and the rules on the use of network connection dial-up connection to get connected with Bank Indonesia extranet network.

Problems occurred are still related to the manual process in debtor information system so that human error is still high, long processing time because it is done manually by an officer of ADC, yet integrated system, and connection problems are less stable. For that we need an information system that can support the process of data reporting debtors to continue using existing equipment, but more automated and integrated. Then by comparing the literature review has also been carried out, the design of information systems centralize the debtor can be done.

3.2 System Design Method.

Centralized design method debtor information system using conceptual UML (Unified Modeling Language) is usecase diagrams, sequence diagrams, and activity diagrams. [3], [4], [5].



Fig. 1. UML Diagram

According to Jones and Rama [6], Use Case Diagram is a sequence of steps that occur when an actor interacts with system specific purpose. According to Bennett et al. [7], a sequence diagram is a diagram illustrating the interaction of multiple objects or functionality on a condition / time. According to Jones and Rama [6], activity diagram plays an important role of a "map (folder)" in understanding the business process by showing the order of activity in the process.

The system is designed based on the dimensions of system dependability, which consists of the availability, reliability, safety, and security [8].

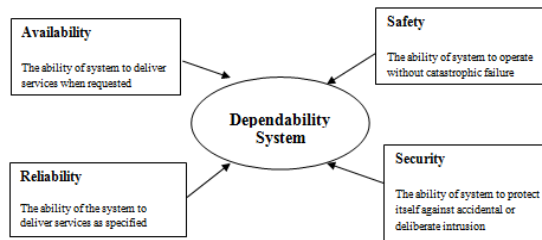


Fig. 2. Dependability System Dimensions

Availability where a system that can run and provide the necessary services at any time. Reliability in which a system can provide appropriate services as expected by the user in a certain time period. Safety, namely whether a system can cause damage or harm to people or the environment. Security, which is a system that can withstand intentional interference or not. User interface design method using eight golden rules. According to Shneiderman [9] for the design of human interaction and computer systems are good, should pay attention to the eight golden rules

4. Results and Discussion

4.1 SWOT Analysis.

Based on the identification of factors strengths, weaknesses, opportunities, and threats [10], [11] [12], SWOT matrix hereafter devised (Strength, Weakness, Opportunities, Threat) to generate a wide range of viable alternative strategies to be implemented at the bank. Figure 3 at the appendix shows the complete SWOT analysis.

As a conclusion of the SWOT analysis, the current bank progressive action is required to be able to seize opportunities by leveraging the strength of the company at this time. Here are the actions of a company that can do SO strategy.

4.2 Analysis of Current System.

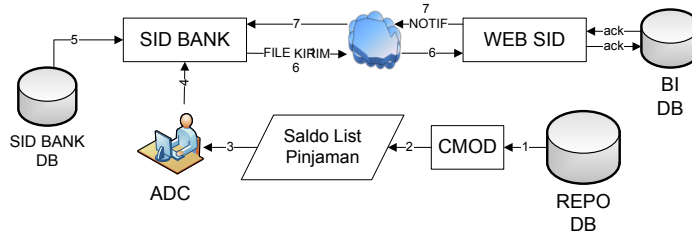


Fig. 4. Current process

1. Data Repository or so-called Repo is a datawarehouse data contained in the bank. One of the repo contents of the data is the data managed by each debtor - each branch. Debtor data is presented in an application called CMOD application. CMOD application is a web-based application that can be accessed by all officers of the ADC, the ADC for officers connected with the bank network.
2. In the CMOD application, there is a report that contains detailed information about all the data that is managed by the account debtor respectively - each branch called Loan Balance Report List.
3. List Loans Balance report can be downloaded by ADC officers and used as a Debtor Information System reporting.
4. Officers to input and update of the debtor to the application by SID Bank Loan Balance List and supporting documents manually.
5. Application SID Bank is a desktop application made by Bank Indonesia as a means of reporting the data debtor. In every application Bank Debtor Information System, there is a database that serves to store data that is reported debtor database SID Bank.
6. After the updating process and the data input is complete, the ADC officers will perform data validation checks before being delivered to Bank Indonesia. In the SID Bank application, data validation functions already provided. If the data is valid report, officers ADC will create a file send function also is available at the SID Bank. The output of the application SID Bank is ready to send files uploaded to the web SID as debtor monthly data reports. ADC officers send the file to upload to the web via the extranet network SID Bank Indonesia.
7. If the upload or reporting data has been received successfully by Bank Indonesia, the web SID will send notification that the report has been received and Officers ADC to backup data on the computer.

The current network topography is described at Figure 5.

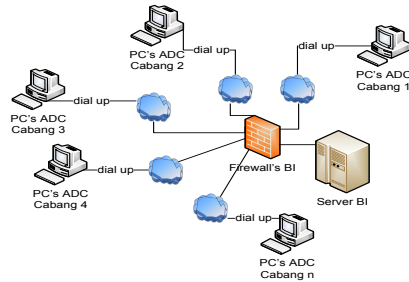


Fig. 5. The current network topography

4.3 System Design.

Branch Administration Officer (ADC) interacts with the Statutory Report Portal (SRP) and SID Otomasi in accordance with use case diagram depiction in Figure 6, Figure 7 and Figure 8 at Appendix..

The Proposed System.

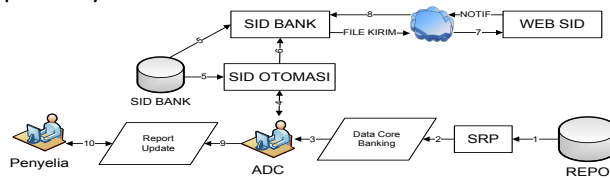


Fig. 9. proposed process

1. Data Repository or so-called Repo is a datawarehouse data contained in the bank. One of the repo contents of the data is the data managed by each debtor - each branch. The debtor data presented in the form of flat files into the portal Statutory Report Portal (SRP). SRP Portal is a web-based portal devoted by the to deliver reports to other parties, which can be accessed by all officers for officers ADC ADC is connected to the bank network.
2. In the Statutory Report Portal (SRP), created a menu to download the data core banking. The core banking data contains complete data on all data debtor accounts managed by each - each branch.
3. To download the data in the SRP core banking, officers must login with a username and password that has been given. Once the data is downloaded by the core banking next step ADC officers, officers debtor data through the application process automation and SID SID Bank.
4. Officers perform process automation in the SID Automation applications. First, the officers perform a data import core banking via SID Automation, where officers only need to specify the directory data is stored and core banking automated system will read the file. Second, officers import data through SID SID Bank Automation (picture 4:36), where officers only need to press the button and the process automation system will read the database SID Bank. Third, the clerk did create a text file that is the result of

the comparison of data between the data core banking with Bank SID data, where officers only need to specify the directory data storage and automation system will make the process of data comparison between the data core banking and SID banks which results in a text file ready for import into SID Commercial Bank.

5. Application SID Bank is a desktop application made by Bank Indonesia as a means of reporting the data debtor. In every application Bank Debtor Information System, there is a database that serves to store data that is reported debtor database SID Bank. SID data bank was also read at SID Automation application during the import process SID Bank.
6. SID Automation produces a text file containing results of the comparison of data between core banking and SID Bank is ready to be reported to Bank Indonesia. The results of the text file is imported into the application SID Bank which has been provided in the application SID Bank.
7. In the application SID Bank officers ADC will perform data validation checks before being delivered to Bank Indonesia. In the SID Bank application, data validation functions already provided. If there are still some errors when the data is validated, then the officer can update data in SID Bank. If the report data is valid, ADC officer will make the send file function is also available in the SID Bank. The output of the application SID Bank is ready to send files uploaded to the web SID as debtor monthly data reports. ADC officers send the file to upload to the web via the extranet network SID Bank Indonesia.
8. If the upload or reporting data has been received successfully by Bank Indonesia, the web SID will send notification that the report has been received and officers ADC to backup data on one computer - each.
9. After reporting to Bank Indonesia conducted, officers are obliged to report data to be updated in the SID Bank during the validation process. SID Automation is providing the report to facilitate ADC officer.
10. The report updates the data that was reported to a supervisor (supervisor) for cleansing the data to be monitored in the future in order to correct the data and passes validation.

The proposed network topography is described as figure 10.

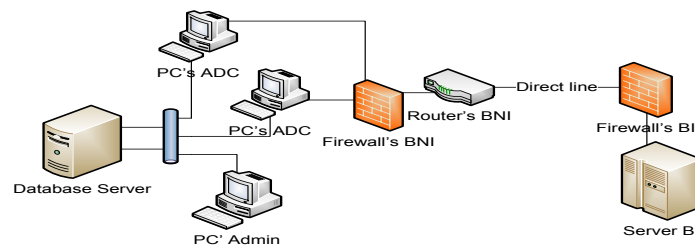


Fig. 10. Proposed network topography

5. Conclusion

It can be concluded that:

- 1 The bank needs information systems that can integrate systems and data with automated process and addresses the connection problem to Bank Indonesia.
- 2 The design of Debtor Information System (SID) Automation minimizes human error rate for manual user input into the system so that the minimum SID Automation reporting errors to be small. With small errors in reporting, fines and reputation risk is also small.
- 3 The design of Debtor Information System (SID) Automation convert manual processes into an automated process that initially the data processing time needed more than one day to input and update the report data debtor, with the SID Automation quick process, because the process is replaced by the system
- 4 The design of Debtor Information System (SID) Automation changing dial up connection to connect directly to Bank Indonesia using bandwidth, provided so the reporting process can be integrated, safe, quick and easy.

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Appendix

EFI EFE	Strengths	Weaknesses
	<ul style="list-style-type: none"> - Has a complete product in line with customers' requirements - Support the management of the infrastructure, networks, and systems for the company. - Having a wide network covering domestic and overseas 	<ul style="list-style-type: none"> - Products that are not supported with complete good marketing and not on target. - The system is still manual data reporting debtors in each branch
Opportunities	Strategi SO	Strategi WO
<ul style="list-style-type: none"> - Needs banking products in Indonesia continues to increase community - The rapid development of information technology - The use of the system to speed up and simplify the process of operational reports. 	<ul style="list-style-type: none"> - Develop innovative and competitive products according to customers' requirements - Harnessing information technology to improve service and performance - Establish a system to speed up and simplify the process of operational reports 	<ul style="list-style-type: none"> - Evaluation of product marketing marketing system in order to better and more targeted - Developing an integrated and automated systems to expedite and simplify the process of data reporting debtors - Making information systems as a tool in the process of operational reports
Threats	Strategi ST	Strategi WT
<ul style="list-style-type: none"> - Competitors are more and more innovations and competitors are getting better - Financial and reputation losses are unavoidable at the time the debtor data reporting incorrect or late. - Regulatory changes and erratic system of regulators 	<ul style="list-style-type: none"> - Conducting innovation in creating new products based on customer needs while remaining - Developing an integrated and automated systems to minimize the risk - Support the management of the regulatory changes and uncertain system of regulators 	<ul style="list-style-type: none"> - Conduct marketing a better product by continuously improving innovation Establish a centralized system, automated, and easily adapted to the rules of the regulator]

Fig. 3. SWOT Analysis matrix

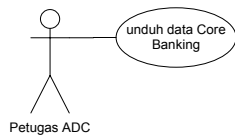


Figure 6. Use Case SRP for ADC

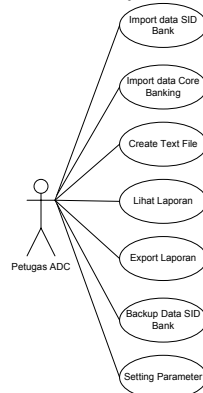


Fig.7. Use Case Diagram SID Otomation for ADC

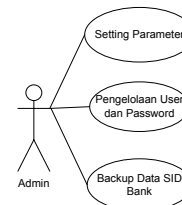


Fig. 8. Use Case Diagram SID Otomation for Admin