

## THE IMPLEMENTATION OF CORE BANKING SYSTEM (CBS) AT PT. BANK SULUT TBK. (PERSERO)

by  
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### ABSTRACT

Banking sector has become an integral part of globalization. Banking vital role not only in the conventional activities such as savings and credit, but has become part of the entire electronic transaction activity. The present trend is an online banking application system that owned by almost all existing banking. The purpose of this study is to determine how is the implementation of Core Banking System (CBS) at PT. Bank Sulut. The populations observed in this study are the employees and the customers of PT. Bank Sulut as many as 20 informants. Bank Sulut decided to use the Core Banking Application System OLIBs (*Online Integrated Banking System*) as the primary system. It has bring a significant change, which are, the increase of validity data and the ease in performing banking functions. The constraint faced by the bank is disturbance in the technology system that caused by the damage condition of hardware and software, power supply, communication networks, and human error. The solution is the company should developing the system into the IT-mandiri system, develop the human resource by training, manage and maintain all the component that related to the system.

**Keywords:** *banking, core banking system*

### INTRODUCTION

#### Research Background

Technological developments in the various fields are progressing very rapidly. The rapid ability was mainly caused by the increasing sophistication of computer and communication technologies that exist in this world. Computer technology and advanced communications have encouraged all economic sectors, industry, transport, telecommunications, defense, and others. When this issue of globalization become common in the hearing, where the condition is characterized by reduced state borders in the context of information, economics, and business. Competitive advantage must be share by all businesses to be able to survive in the competition, so that the control technology is a key to success.

Banking technology industry has implement the Online Banking System, ATM, Internet Banking and Mobile Banking. The Bank that belong to the Local Government: Regional Development Bank (BPD) also makes changes to improve the system of services which is offline into on-line system, as well as introducing the provision of ATM. One of the requirements is providing the online service that is a Core Banking System that reliable, inexpensive, safe and flexible in doing development.

Indonesian economy recovery accelerated has a positive impact in the world of banking as well as provide opportunities to create new products and services for the general public as users of banking services. However, these opportunities at the same time is a challenge that must be answered as to win the market and create a good brand image, the superiority of the product should be supported by the consistency of service that is fast, precise, reliable data better known by service excellence.

The management of PT.BankSulut decided to use the Core Banking Application System: OLIBs (*Online Integrated Banking System*) as the Primary system from PT. Collega as purchase source applications and further developed by PT Bank Sulut itself after going through stages of knowledge transfer.OLIBS Core Banking has been a lot of development done in order to accommodate the development of PT Bank Sulut products and government regulation, among others: The implementation of ATM and ATM Bersama, SID and other applications.

Korn (2009) has explained Core Banking as the correlation between the performance of the bank and the fact whether they have successfully implemented new core banking technology-packaged core banking software. Core Banking System (CBS) is a core application which is the heart of the system banking. Core Banking is used to process the loan, saving, customer information files to various other banking services. When compared with other industries, Core Banking application is similar to the Telecommunications Billing systems in the company, or Its ERP manufacturing company.

## **Research Objectives**

Regarding to the topic, the problems of this research examined of: How is the implementation of Core Banking System (CBS) at PT. Bank Sulut, what the effect of the implementation, which are the components that involved in the system and Analysis the constraint faced by the bank since using this system.

## **THEORETICAL FRAMEWORK**

### **Management Information System**

Loudon and Loudon (2007:16), Management Information System (MIS) is a planned system of collecting, storing and disseminating data in the form of information needed to carry out the functions of management. Caldelli and Parmigiani (2004:160) stated Management Information System is a control-tool, but reminds connected to conduct, as it is the way action, procedures, and task are carried out as a consequence. O' Brien (2001:12) said that Management Information System consists of components of hardware resources, software resources, human resources, data and information resources, and network resources.

### **Information System**

Laudon and Laudon (2007:14) stated that Information system can be defined technically as a set of interrelated components that collect, process, store, and distribute information to support decision making and control in organization. Information system contain information about significant people, places, and things within the organization or in the environment surrounding it.

### **Information Technology**

Laudon and Laudon (2007:19), Information Technology is all the hardware and software technologies a firm needs to achieve its business objectives. Information technology is one of many tools managers use to cope with change, it consists the computer hardware and computer software. Computer hardware is the physical equipment use for input, processing, and output activities. Computer software consists of the detailed, preprogrammed instructions that control and coordinate the computer hardware components in an information system.

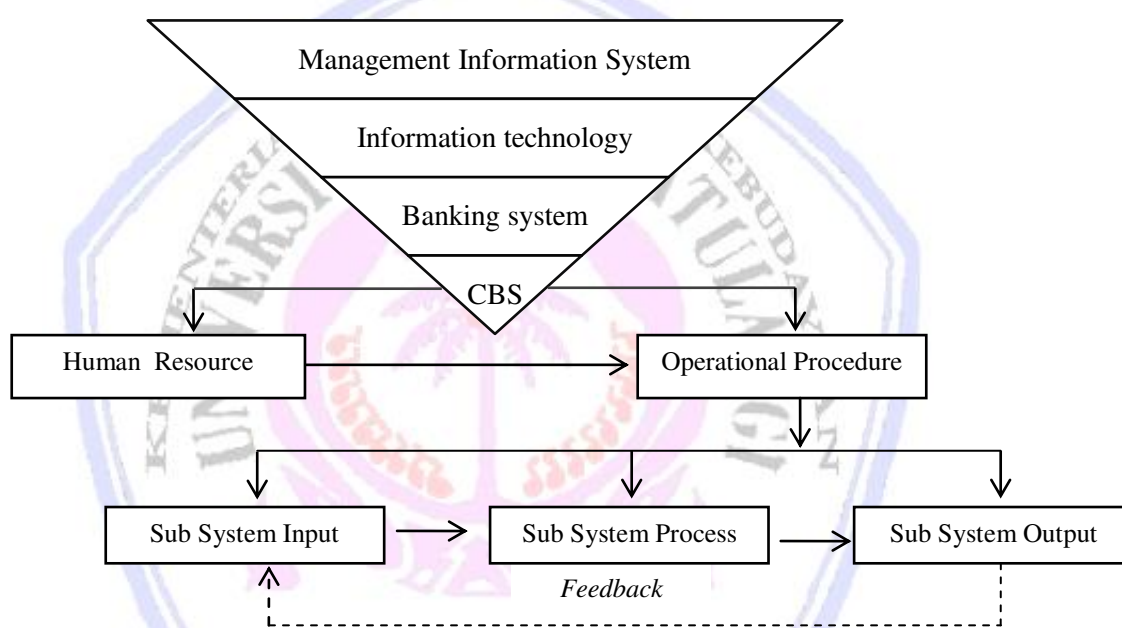
### **Core Banking System**

Core Banking as a back-end system of the banking system that handles the day-to-day banking transactions, and does an update post to accounts and other financial records. Satchindananda (2006) explained that Core Banking System is the heart of banking system that contain with core application. If compared with other industries CBS is Similar to the ERP (Enterprise Resource Planning) implementation in manufacturing companies.

## Previous Research

Dutta (2011) examined that the Core Banking is a general term used to describe the services provided by a group of networked bank branches. Bank customers may access their funds and other simple transactions from any of the member branch offices at Real Time. There are five ingredients that form part of the Core Banking System. These are essential building blocks for the entire bank / institution: General Ledger, Customer Information System, Deposit System, Loan system, and Management information system (MIS).

Haller and Heuberger (2009), Core-banking systems are standard software products. Buying standard software (instead of developing new applications in-house) is appealing for many companies. It allows companies to concentrate on their core business. The core business of a bank is providing financial services to customers: it is not developing software. Next, companies with in-house software development require the right technical and project management skills in-house. Otherwise (or even then) there is a high risk that their projects fail or the costs are higher than expected. The staff aspect is especially challenging for smaller and medium banks. Finally, buying standard software gives a bank access to state-of-the-art business processes.



**Figure 1 Conceptual Framework**

*Source: Processed data 2014*

**Note:**

CBS: Core Banking System

## RESEARCH METHOD

### Type of Research

In conducting this research, the researcher used qualitative method to explore the implementation of Core Banking System (CBS) at PT Bank Sulut.

### Place and Time of Research

This research will be conducted at PT Bank Sulut central office while the interviews to all of user of Core Banking System (CBS) which are the employee and customer. This research will be processed from June to November 2014.

## Data Collection Method

This research will use In-Depth Interview as the data collection method to get the data from participants. In-depth Interviews are interviews in which participants are encouraged and prompted to talk in-depth about the topic under investigation without the researcher's use of predetermined, focused, short-answer questions. (Given, 2008:422). The informants of this study are as much as 20 informants, which consist of the employees and the customers.

## Instrument of Research

In qualitative research, the researcher is the key instrument. Sugiyono (2007:398) The researcher as instrument could reach any stimulus from environment that must be predicted has meaning or not for the research itself. Furthermore, the researcher could adapt in every condition and collect many types of data.

## Data Analysis Method

Sugiyono (2007:426) stated, Data analysis is the process of systematically searching and arranging the interview transcripts, field notes, and other materials that you accumulate to increase your own understanding of them and to enable you to present what you have discovered to others. Hancock (2009) defined the qualitative research as the attempts to broaden and/or deepen our understanding of how things came to be the way they are in our social world. The qualitative research seeks to discover the meanings that participants attach to their behaviour, how they interpret situations, and what their perspectives are on particular issues (Woods, 2006).

# RESULTS AND DISCUSSION

## Result

### The Human Resource in Implementation System

The employees of PT. Bank Sulut who are handling OLIBS divided in accordance to the placement they occupy in each Division. The employee has a responsibility to update the data on the system by respectively running. The number of employee in each division, especially in the objects which I carefully studied has been sufficient. This is reinforced information given by the informant 1, as the Information Technology Division (IT) Staff. Apparently different from the answer given by the informant 2 as Administrator of Bookkeeping, she said that the number of employees in charge the user of OLIBs system is still lacking, it should be placed one technicians in each division who understand the system so that every time crashed, they did not bother to call the IT person to fix the problem.

The training that has been given related to OLIBs core banking application was only at the time of program development which is the employees of PT. BANK SULUT have been involved in the preparing of the program and given information exchange. This was disclosed by the informant 3 as network specialists, He said that the training is still lacking. All users should still need a lot of training to adapt the existing technology development.

## Implementation Procedures

Informant 2 said that to run / operate OLIBs, here the things that will be faced, such as:

1. User at all levels must have previously registered through system administration / Utility menu.
2. User Password has been in Override (approved) through the Operational Leadership utility menu.
3. If there is alternate System (*Task Increase*) then the entire menu of authority will approved by an authorized officer of the Bank.

The aim is in each user can be defined by OLIBs as well, in accordance to level Security menu. As an illustration, the following table presents the relationship between the User Security Level in Security menu of TSI OLIBs.



The accuracy of OLIBs core banking has been controlled automatically. It is certain that the data has entered are valid data and there is no duplication. This is in accordance by informant 1. Security controls are also intended to avoid damage and inaccuracies of data. This security control procedure is Back up Data. As described by the informant 3, he said that, righteously with other regional banks which have backup system, so did in Bank Sulut. There are three types procedure of backup system at Bank Sulut; 1) Internal Back Up at PT. Bank Sulut, 2) External Backup Back Up Vendors (Jakarta) and 3) Backup offside (Bandung), better known BDC (Backup Disaster Center).

## **Workflow Implementation of OLIBs**

### **Sub System Input**

Informant 4 described that, the workflow of OLIBs seen from the dimensions of content and form which is at the beginning the officer accept the form from customer, then ensure the form has been filled in completely and correctly. After that the officer start entering data in the computer that will be processed by the system. The Sub system input includes Customer Information File (CIF), such; open new savings, Entry file for a credit application, Giro deposits, BI-RTGS, Cheque, etc. It was continued by the informant 2, she said that the input data for example RTGS, Payment Receipt, withdrawal, or deposit slips.

### **Sub System Process**

Bank Sulut as implementers and developers of OLIBs required having a variety of means support, such as; a number of hardware maintenance support such as computers and peripherals, including printers, memory, hard disc and a space network (Maintain network) as proposed by the informant 5 as IT division staff. . The application OLIBS using Delphi and PHP, and the database used is oracle 9.1 as the programming language, while the network system with land mapping window. That's all the components that used in running the operational banking process using OLIBs core banking. The expression by informant 3 as Computer Operator, he said the workflow is so dense in some division, so it often troubled with the existing computer. It still need to made latest computer device procurement or what we call rejuvenation inventory for treasury division especially, because they're done many transaction every day.

### **Sub System Output**

Output data can be divided into two, they are the hard-copy and soft-copy. Media that used to output the data in hardcopy is a printers. It was stored in OLIBs as soft-copy and can be accessed again when necessary. For hard-copy form, the output is usually generated letters decision, data summary, RTGS slip, slip completion and confirmation, daily billing, etc. The output of decree issued at PT. BANK SULUT appropriate standards referring to the rules of BI and local governments. That's a description by the informant 3. The Sub system output has a feedback with the Sub system input, where the each part have the same function and collerated each part. The Subsystem output will result the form of information that will be use in the sub system input.

The constraints on output delivery time to the Customer or to the relevant agencies, especially in BI-RTGS transaction impact to the service excellence and Bank Sulut's branch images. One of the most critical operational risk in the payment system is down time as explained by the informant 6as a dealer officer in Treasury Division.

Late settlement (down time) is basically a result of chain events in various factors that influence it. Some factors that may be the late settlement is a telecommunications failures, errors officer (human error) and delay confirmation. It recognized by informant 7 as a Head of Human Resources Division at Bank Indonesia. He said that sometimes delivery reports over a set time, it was certain sent though late. Bank should always record on the log book about the hours when the interruption occurs, as the instruction. From its Log book, it still able to understand the delay was not deliberate, but there are several factors such as power outages, disruption of telecommunications.

## Discussion

### The Human Resource in implementation system

The key issue in the implementation of the system is mainly dependent on the personnel or employees. With many service coverage and extensive PT. Bank Sulut supported by Human Resources that are reliable and openness in receiving any information and input that can contribute positively to the development of better. Barki and Hartwik (1994) stated that user participation as set of behavior, activities, and assignments that engage users throughout the system development process. This participation has multiple dimensions: overall responsibility that the user may have with the project, the relationship between user and system, and hands-on-project-on project-related task. Increasing user participation in one or more of these dimensions enhances post development user involvement and attitude.

Human characteristics and capabilities of the computer can be seen that when humans and computers combined advantages we will get very good performance for the MIS. Some experts even say that the key issue in the modern MIS is how to combine human capabilities and the ability of a computer to generate a good managerial decision. (Kumorotomo and Tanuwijaya, 2004:17). The role of Human Resources (Personnel) in the implementation of this OLIBs system is a very central element because any sophisticated technology applied in an institution of supported by Human Resources to run, manage, and develop it, then certainly going to bring maximum results. Readiness of Human resources to implement this information system (OLIBS) may indicate the successful execution of subsequent systems. The Training is provided by the service providers and it has been followed well by more specialized employees at PT.Bank Sulut IT Division evident. It is conduct of their readiness did the Transfer Knowledge of OLIBs system to the users in branch offices or rather the other division after IT division. But the training by one provider of such services is still not enough. Their needs more training on information technology and these things become consideration of HR Division as an organizer of Training, seminars, and workshop employees. Ideally the new education system performed well on the level of user information, including all elements of management, the Head of Division in particular the IT Division is responsible for the implementation OLIBS.

### Implementation Procedures

Control Procedure is a procedure that specifies how the process can be controlled. In a computer, controls system should be put in place that in security, accuracy and privacy the data storage, so that the result in a product information system is viable and accountable for user information. Control procedures include security controls, control accuracy, and privacy controls. The third control procedure has been carried out by PT. Bank Sulut in running OLIBs. Before the input data entered into the system, control procedures performed to update the data. This is done, to ensure that the data entered into the system avoid mistakes and not be abused by those who are not responsible. The purpose of this system is built so each transaction can be controlled with the clear existence. Authorize the system is the same as the flat pay in manual accounting transactions. Authorize excellence in OLIBs can directly control from the workstation / Supervision PC (remote).The verification of transactions conducted in OLIBs has provided higher control function, because each transaction will be verified based on the number of slips or transaction record, it was the resulting from the auditing and controlling. Transactions can be done automatically and this is consistent recurring transaction that has determined the period / duration (beginning and end of the transaction) under the terms, it can be planned with certainty. It has been set about When and Criteria (do while, when, and how) and also been determined association (Self Control) so that this automatic transaction will not leave the rules of organization and accounting.

The advantage of the system OLIBs views of the precision control procedures are:

1. Monitoring can be done Real Time
2. Reconcile can be done daily or periodic
3. Verification and Tracing. Can be performed simultaneously on the same day or periodically.
4. Timing, Classifications, and validations can be done on the same day and same time.
5. Internal control system, which is related to the control environment, it can be done well, among others:  
Organizational Structure, Personnel skilled, systems and procedures, as well as the authority and functions.

## **Workflow Implementation of OLIBs**

### **Sub System Input**

Laudon and Laudon (2007: 527) stated that input is the data fed into the information system for processing to output. That means, input is the data that will be insert to the information system for processing and then become output. The customer base is the data related to bank customers, such as customer identification and other data according to the provisions of banks in general. A collection of customer data is known as Customer Information File (CIF). To facilitate the search and identification for each customer, the system will provide a number of customers that are unique and known as CIF number. Every customer will be identified by CIF number before opening a new account number either Giro, savings, deposits and loans. Firstly, Customer service has to register the pertinent customer data, if the customer previously had an account number, or in other words, already a customer of the bank, so customer service officer doesn't need to open a customer base again, unless if there is a more updated information about the customer. CIF is basic information about the customer of the bank and the key access a variety of information about the customer.

### **Sub System Process**

The process of development, change and improvement of the system is strongly associated with the furnishing / equipment system. The use of computers as a middle part in running system information is absolutely necessary because it presence has been put on the computer as a data processor in a very important position. Bank Sulut as implementers and developers of OLIBs required having a variety of means support, such as; a number of hardware maintenance support and a space network. Bank Sulut equipped the supporting hardware such as memory, hard disk, monitor, CD room, and printer. This time, the number of computers at PT. Bank Sulut is sufficed. In each division, there are about 20 pieces of computer contained OLIBS applications. To run applications and store the database in OLIBs, They use a computer server which should ideally contain to backup server. The equipment as supporting the performance of OLIBs was already maximum but the condition of computer and printer is very contrasting in each divisions. In the Credit Division, for example, the number of computers is sufficient, as well as in the Secretariat. But in the Treasury Division computer unfavorable conditions and frequently problems (trouble).

### **Sub System Output**

The output is a result of the information for later use in order to provide useful information for PT. Bank Sulut in running management and staffing services. The output from OLIBs program will also be used as a source of information for decision-making in banking. The practical realization of the system OLIBs is produce the kind of output such as decision Letters, Information Officer, Customer Information, recapitulation, all forms of reporting (cash, liquidity, maturity, etc.), and more information is generated to be used as a good resources conduct to internal task at PT. Bank Sulut itself and to stakeholders. The role of support tools become a part of the success in implementing system. The number of computer and printer that needs in each part of Division User has been met. Just need the latest version of the computer upgrade or replacement of a new device in the Treasury division that has a lot of work.

The transaction delayed is an impact of natural disorder; it is not only got a loss in the Bank side but the customers also. Reduction in service excellence will affect to the Bank Sulut's brand image especially from the interview, only a few people that understand about the performance of system in general, but in some peoples, they're complain about the delay and the disappointment from one person impact to the poor judgment from some people who didn't know the rule out injured party and they were told about the bank's performance based on the misunderstanding. Down time means delay of sending the completion in transaction (late settlement). Realized that late settlement is a very important factor that should be a major concern in the implementation of the system. Increased use of technology has always strived to eliminate or minimize the occurrence of late settlement by any service providers.



Bank Indonesia Real Time Gross Settlement system (BI-RTGS) is a system that created by Bank Indonesia that using for any financial transaction which is in the large nominal and it is importantly. The Information generated by OLIBs is very useful for the stakeholders, Bank Indonesia (BI) as government banking, they controlled us by the information they got from the system output directly. Bank Indonesia is directly monitoring the RTGS transaction process through the resulting information system (output).

OLIBS is an instrumental in generating output information. Its resulting information is quickly present, accurately, and in accordance with input data. But in the process of making the output is still there are several times of problem occurs delay time delivery of information beyond the specified time. Although, the output of OLIBs always strived to delivered as much as possible to parties concerned.

## CONCLUSIONS AND RECOMMENDATIONS

### Conclusions

The Implementation of Core Banking System at PT. Bank Sulut has bring a significant change, in terms of technology systems and human resources that manage the system. The big change are, the increase of validity data, the ease in performing banking functions, and overall, the progress of the system brings the company be able to compete in Indonesia economy business.

The components that involved in the Core Banking System which run the financial transaction in PT. Bank Sulut, such as, the Database (Customer Information File (CIF) includes Saving, Deposit, Information, Loan, Giro, Information Blacklist), Input, output, process, control, network, hardware, software, and the human resource.

The Constraints faced by the Bank since using this OLIBs Core Banking which are; There are some failures (down time) in OLIBs which are old/damage condition of hardware and software (application), power supply, communication networks, and Human error, a disturbance in the system technology (OLIBs) at PT. Bank Sulut has indirectly led financial losses for both natures (claim, over time, etc.) moreover, non financial losses such as Bank Sulut's brand image as the organizer. In Human resource component, there is a lack of training, It can be seen from the lack of preparedness of the user in applying the system which they rely on people who are more adept when an interruption occurs and the other one is the employee placement is not targeted well. Availability of the equipments/facilities that related to the system is less attention so it does not adjust the needs in each division. The constraints is in some branch office is not evenly distributed the network communication because of the region not reachable by the network, so they still using one provider.

### Recommendations

1. Develop, manage and maintain the IT processes through various banking application systems and data network system that connects all offices, ATM terminals, and the DRC and Develop an application to support the relevant units and other government agencies, especially for BI-RTGS.
2. The information system of an organization can never be fully automated or thorough. However, a management information system is very possible and practical to be based on a good overall plan as well as the system developed by trained personnel and seminars in the field of information technology and banking. Positioning the IT staff to unfilled position in division that need the staff from IT educational background.
3. **For Bank management**, it is need the replacement of OLIBs core banking applications. It would be better if the company developing the system into the IT-mandiri system. The second is building a relationship of trust between employees, management and information specialties. That relationship is achieved by being honest about the impacts of the computer system and by adhering to the promise. Formal communication



and user participation on the project team leads are the achievement of trust. This will only be possible to be implemented if the leadership of the company knows about IT. He must understand of what the company is trying to achieve by applying OLIBs. The third one is Preparing power system analysts and programmers as well as the recruitment of IT-Expert in the course of independent IT (for the long-term plan) to maintain the system and solve the disorders directly.

4. **For the Government**, it is need to provide the seminar or training more. Considering the technological system that is always experiencing growth and change, and therefore the government would be able to facilitate the media on the public so they can learn more about the management of information systems, both to employees, students, and entrepreneurs.
5. **For Universities**, the author suggest to learn more about the operation of an Information Technology as early as possible to facilitate us in running the business for the next plan or for those who had a plan to work in a banking industry or establish the own business, where involvement of the system technology is the main supporting factor for a success business.

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