

# DEVELOPMENT OF INFORMATION SYSTEM IN KOPINKRA SENTRA KAPUR KARANGDAWA

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## ABSTRACT

Kopinkra Sentra Kapur is a non-governmental institution located in Karangdawa, Margasari sub-district, Tegal regency. Kopinkra Sentra Kapur operates in limestone mining sector, and savings-and-loans. On its daily basis, Kopinkra Sentra Kapur experienced difficulties in implementing budget planning and monitoring. A financial management information system is an information system designed to provide information about financial flows for existing users in an organization. Financial information systems are used to solve financial problems. The data system in the financial information system is supported by an internal audit subsystem that provides internal data and information. The steps taken to get planning that is close to realization are by using forecasting. The forecasting method used in this study is double exponential smoothing, this method is chosen to adjust the shape of the data pattern. Based on the results of the tests that have been carried out it can be concluded that planning using forecasting methods can be achieved, and the process of monitoring funds can proceed. In general, this research can be said to be successful. Suggestions for further development are the use of more accurate methods.

**Keywords:** Financial Management Information System, Cooperative, Double Smoothing Exponential, Forecasting, PDCA.

## 1. PREFACE

Kopinkra Sentra Kapur Karangdawa is a non-governmental institution located in Tegal district, precisely in Karangdawa, Margasari district. Kopinkra Sentra Kapur Karangdawa is particularly engaged in the management of limestone mining in Margasari sub-district, Kopinkra Sentra Kapur also serves saving-and-loan for its members. The bookkeeping and archiving process in this cooperative still

uses manual method by writing everything related to transaction data in the book. Mr. Saefudin, as the bookkeeper, said that there were concerns that in the time of managerial transfer there will be a miscommunication that the data recorded earlier become inaccurate, this was also supported by the large number of lost or undocumented data.

This recording is not carried out according to accounting standards in general, but only limited to things that can only be understood by the management and employees of Kopinkra Sentra Kapur, for example, the process of daily transaction bookkeeping, in this process the source of funds usage such as debit and credit origin is not included that the bookkeeping process at the end of the month where the funds from some posts were used by other post could not be traced, as happened in 2016 where some posts used the remainder of mining ticket funds but could not be detected. This creates difficulties for the supervisor to perform monitoring, therefore, a system is needed to facilitate monitoring process.

Based on the interview with Mr. Achmad Fauzan as chairman of Kopinkra Sentra Kapur explained that the management problem faced is the inaccuracy of realization with annual budget planning, for example in 2016, the total budget for the savings and loan unit amounted to 100 million rupiahs, while in realization, the funds were not used, this happens because planning is not always taken into account from existing information and data from previous years, this can cause

losses every months so that if the Kopinkra Sentra Kapur lack of funds then it must take loan from the bank, even though at the end of the year it can cover the debt, this can reduce the benefits that can be obtained.

Management Information System is an information system that handles and controls the managerial fields of a company, starting from planning, utilizing human resources, documents, procedures and technology with efforts to solve business problems such as product, service or business strategy costs. This system can also provide information or data related to the company for users who have access. This information can be in the form of information in the past, what is happening or what might happen in the future [1]. Financial Information System (FIS) is an information system that handles everything related to finance, FIS is also part of the Management Information System.

From the problems that have been explained in the previous paragraph, it can be concluded that the right solution to the problem at Kopinkra Sentra Kapur Karangdawa is by developing a financial information system using the PDCA method.

### **1.1. Financial Information System**

Etymologically, a financial management information system refers to the computerization of expenditure processes including budget planning, budget execution and accounting processes [3]. The financial system of an organization, both small and large, has a large influence on the growth and existence of the organization. Due to the increasing complexity in handling financial activities, the need to use a computer-based information system that is centralized, decentralized, or distributed to distribute information flow will be very influential. Therefore, an efficient mechanism for processing larger data to produce information is needed, this can help manager to make a decision effectively and scientifically.

Data management provides information needed for effective and efficient

tools in making future decisions. Management information systems help in setting goals, strategic planning, adjusting business plans and implementing them. The financial management information system works with basic systems such as transaction processing, data storage and any other tasks such as data recording, therefore management information systems are effective tools for the implementation of management processes. This ultimately enlightens financial management issues such as monitoring.

The following are the factors that influence the success of the development and implementation of financial management information systems:

- i) Users and developers must have close interaction to discuss business objectives.
- ii) Managers must interact with developer in each phase of development to ensure that the system is built in accordance with business objectives.
- iii) Users must openly discuss their needs.
- iv) The level of reliability of the database in an organization must be high

The financial information system is an information system designed to provide information about financial flows for existing users in an organization. Financial information systems are used to solve financial problems. The data system in the financial information system is supported by an internal audit subsystem that provides internal data and information [4].

The function of a financial information system is as follows:

- a. Identify future funding needs.
- b. Help plan the budget in the future.
- c. Assisting the process of procuring funds.
- d. Control expenses and income at the company.
- e. Systematically monitor the use of funds.

### **1.2. Forecasting**

Forecasting activities are an integral part of management decision making. Forecasting reduces dependence on things that are uncertain. Forecasting has the nature

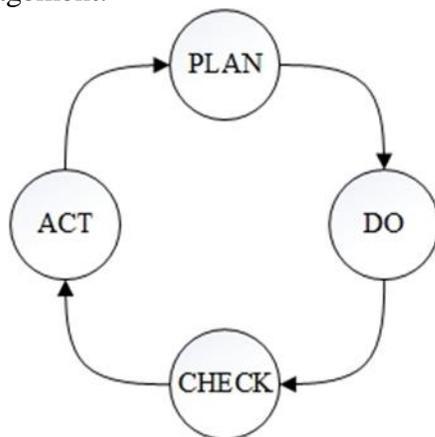
of interdependence or division. Errors in sales projections will affect the budget forecast, operating expenses, cash flows, inventories, and so on. Two main things that must be considered in an accurate and useful forecasting process [2]:

1. Collecting relevant data in the form of information that can produce accurate forecasting
2. Selecting correct forecasting method according to the data form.

Quantitative forecasting methods can be divided into two types, causal and time series. Causal forecasting methods include factors related to predicted variables such as regression analysis. Time series forecasting is a quantitative method for analyzing past data that has been collected regularly using appropriate techniques. The results can be used as a reference for forecasting values in the future [4].

### 1.3. PDCA

PDCA is applied in every organization in the world to maintain its continuation. PDCA is a management basis for managerial organizations. There are several management processes such as PDCE (Plan, Do, Check, Evaluate), and POAC (Plan, Organize, Action, Check). However, the PDCA concept is more widely used because it is more in line with every level of management.



**Figure 1.** PDCA Cycle

PDCA has four processes, namely plan, do, check and act, here is an explanation of the four processes:

- A. Plan includes setting goals and finding ways to achieve these goals. Planning has been considered as the main function of management and includes everything that managers do.
- B. Do is an implementation process that is carried out after planning. Small changes are usually done, and data from the implementation is collected to see the effect of the implementation of the plan which is then processed in the check phase.
- C. Check to ensure that performance is in line with the plan. This compares actual performance with predetermined standards. If there is a significant difference between actual and expected performance, the manager must take corrective actions.
- D. Act is the phase where adjustments to reactions occur when the phase is running. In general, in this phase new standardization can be carried out in the future if needed.

The PDCA cycle does not mean that it must stop when all phases have been carried out, just the opposite, this cycle must continue to run so that it can improve the performance of the managerial system. New problems and opportunities will automatically reappear, so adjustments must always be made to be able to find room for improvement.

## 2. Research Contents

### 2.1. Analysis of Financial Management Information Systems

The managerial process used in Kopinkra Sentra Kapur Karangdawa is PDCA. This cycle begins in the planning process (plan), then the plan is carried out (do), the implementation process is supervised (check), if there is an incompatibility between plan and the implementation then an adjustment is acted (act). The PDCA cycle lasts for one year.

PDCA analysis contains steps to identify the functions and activities of the company that can be seen based on the organizational structure and job descriptions related to finance to generate income. This income will be divided into several posts to finance the company.

## 2.2. Database Analysis

Database analysis on the financial information system that will be built using the Entity Relationship Diagram (ERD). ERD is a data model built using several notations to describe data in the entity context and the relationships described by the data.

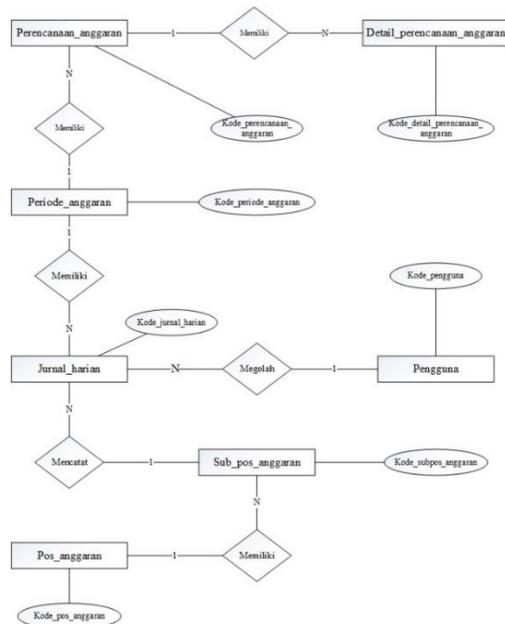


Figure 2. Kopinkra Sentra Kapur's ERD

## 2.3. Relation Scheme

Relationship schemes are used to describe the connection of tables in the system in detail.

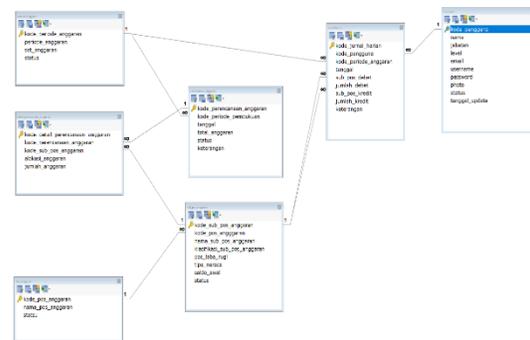


Figure 3. Kopinkra Sentra Kapur's relation scheme

## 2.4. Data Flow Diagram (DFD)

Data flow diagrams describe the flow of data from the data source (input) to the data receiver (output). Data flow is needed in order to know when a data must be stored, when to be processed and when to be distributed. DFD at Kopinkra Sentra Kapur Karangdawa will be explained as follows.

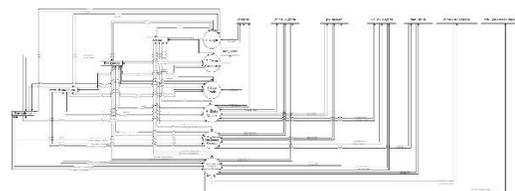


Figure 3. DFD Level 1

## 2.5. Menu Structure

Menu structure design is made to provide functions that will be used in the information system to be built. The large number of menu structures that will be designed according to the number of related users or users who have access rights. In this information system users who have access rights there are 4 users, among others, the structure of the menu of the chairman, supervisor, treasurer, and bookkeeper.

### 2.5.1. Chairman Menu Structure

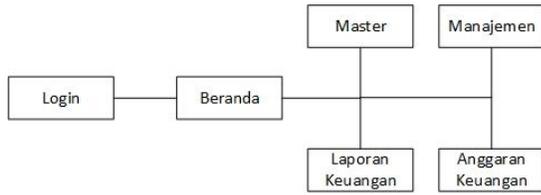


Figure 4. Chairman Menu Structure

### 2.5.2. Supervisor Menu Structure

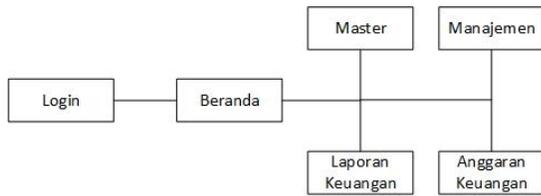


Figure 5. Supervisor Menu Structure

### 2.5.3. Treasurer Menu Structure

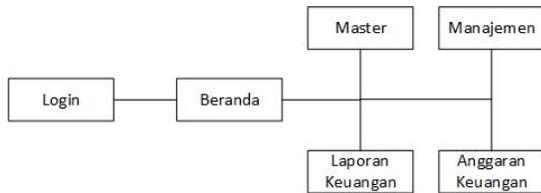


Figure 6. Treasurer Menu Structure

### 2.5.4. Bookkeeper Menu Structure

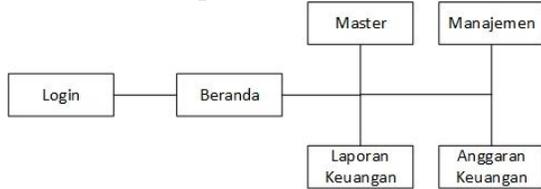


Figure 7. Bookkeeper Menu Structure

## 3. Interface Implementation

Interface implementation is based on each display of the financial management information system at Kopinkra Sentra Kapur with coding in the form of program files. The interface implementation display that is built

is divided into four, namely for chairman, treasurer, supervisor, and bookkeeper.

### 3.1. Chairman

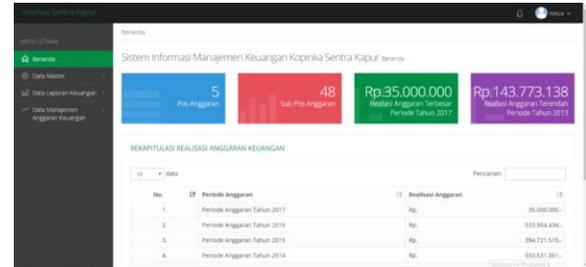


Figure 8. Chariman's homepage

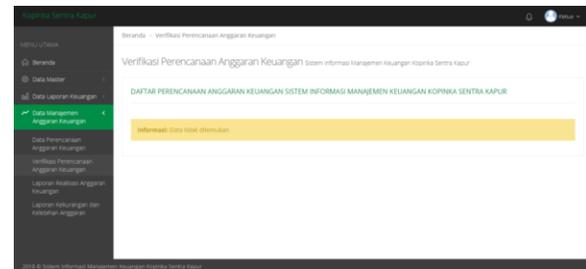


Figure 9. Chairman's verification page

### 3.2. Treasurer

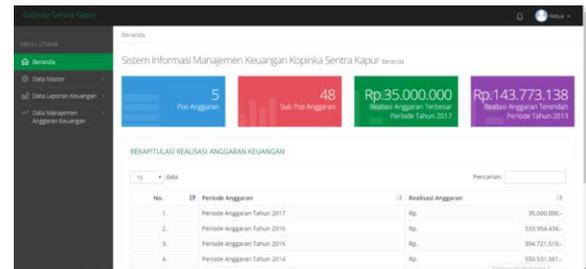


Figure 10. Treasure's homepage



Figure 11. Treasurer's planning page

### 3.3. Pengawas

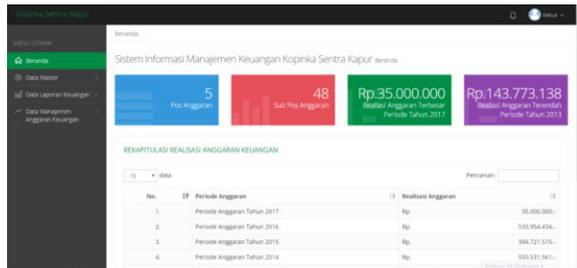


Figure 12. Supervisor's homepage

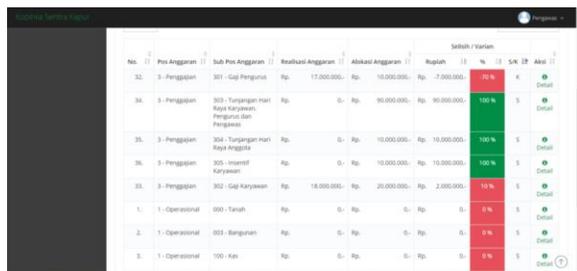


Figure 13. Supervisor's monitoring page

### 3.4. Pembukuan

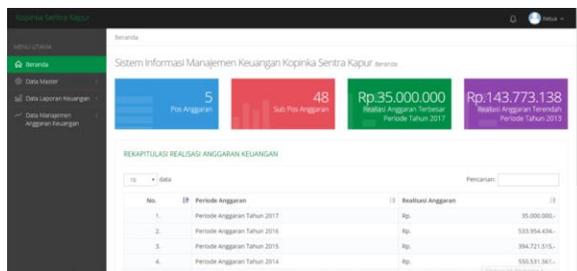


Figure 14. Bookkeeper's homepage

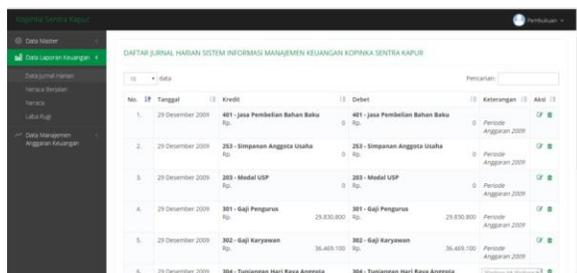


Figure 15. Bookkeeper's journal page

## 4. Testing

### 4.1. Blackbox Testing

Black box testing is focused on the functional requirements of the software that

is built. Based on the Black Box test results, the Financial Management Information System at Kopinkra Sentra Kapur has functionally met the needs that are in line with expectations.

### 4.2. Beta Testing

This beta test is done by testing directly at the research site using interview techniques aimed at the chairman, treasurer, supervisor and bookkeeper. Based on the results of interviews with management and employees at Kopinkra Sentra Kapur, it can be concluded that testing of this financial management information system can help in determining the financial budget plan that is close to realization.

## 5. Conclusions and Suggestions

### 5.1. Conclusions

Based on the testing and discussion that has been explained from chapters 1 to 4, it can be concluded that this management information system has fulfilled the purpose of helping management and employees in managing financial data and assisting in the determination of fund allocation in budget planning that is close to realization.

### 5.2. Suggestion

Suggestions are given for further development of the Kopinkra Sentra Kapur financial information system in the future, hoping to create operational and management tools for Kopinkra Sentra Kapur, these suggestions are:

1. This financial management information system requires a more accurate forecasting method, so that it can increase higher accuracy in determining the allocation of budget planning.
2. This system requires a more user-friendly interface, so users can operate it more easily.

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