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Loan Fund Performance Monitoring and Evaluation System Using An Interface Based On BKM Ngesrep Semarang

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Abstract: This research develops an interface-based loan fund performance monitoring and evaluation system at BKM Ngesrep Semarang. This system aims to increase transparency, efficiency and accuracy in monitoring and evaluating the use of loan funds. By using an information technology-based interface, this system allows BKM Ngesrep to effectively manage and track the use of loan funds in real-time. This study explains the system design, technology implementation, and the benefits obtained by BKM Ngesrep after implementing this system.

Keywords: Monitoring system, performance evaluation, loan funds, interface based, BKM Ngesrep Semarang, transparency, efficiency, information technology

1. INTRODUCTION

BKM Ngesrep Semarang, as a microfinance institution that plays an important role in supporting the economy of local communities, plays a strategic role in providing loan funds for small and medium businesses. Effective and transparent management of loan funds is very important to ensure that these funds are used appropriately and have a positive impact on the borrower and the surrounding community.

In this context, the development of a system for monitoring and evaluating the performance of loan funds using an information technology-based interface at BKM Ngesrep Semarang becomes very relevant. This system aims to simplify the process of monitoring and evaluating the use of loan funds more efficiently and accurately. By utilizing an information technology-based interface, BKM Ngesrep can access real-time information, manage data better, and increase transparency in managing loan funds.

This research will discuss the design, implementation and evaluation of this system, as well as the resulting impact for BKM Ngesrep after implementing this system. In addition, this research will also identify challenges that may be encountered during the system development process and provide recommendations for future improvements. With this system, it is hoped that BKM Ngesrep can increase its operational effectiveness and provide better services to borrowers and other stakeholders.

2. THEORETICAL FOUNDATION

a. Understanding Systems

General system definition:

- a. A collection of parts that work together to achieve a common goal. Examples are the solar system, digestive system, public transportation system, computer system, information system.
- b. A collection of objects that are related and interact with each other and the relationships between objects can be seen as a single unit designed to achieve one goal.

Thus, in simple terms, a system can be interpreted as a collection or collection of elements or variables that are mutually organized, interact with each other and depend on each other. (Hanif Al Fatta, 2007)

b. Understanding System Development

According to Mujiharto Panga (2014), systems development *can* mean developing a new system to replace the old system as a whole or improve an existing system. The old system needs to be repaired or replaced due to several reasons, namely as follows:

- 1) are problems that arise in the old system.
- 2) Irregularities in the old system cause the old system to not be able to operate as expected.
- 3) Fraud intentional fraud that results in the company's assets being unsafe and the veracity of the data being less guaranteed.
- 4) Unintentional errors can also cause the correctness of the data to be less guaranteed.
- 5) Inefficient operations.
- 6) Failure to comply with established management policies.
- 7) Organizational growth.

c. Definition of Information

According to (Gelinas and Dull, 2008; Hall, 2008; Laudon and Laudon, 2006; Turban ed al, 2006) in their book (Samiaji Sarosa, 2010) Information is data that has undergone processing in such a way that it can be used by users in making decisions.

d. Information Quality

Information has three qualities of information, including:

- 1) Accurate (a ccurate)
- 2) Right on time (*timeliness*)
- 3) Relevant (relevance)

e. Management information System

Management Information System (MIS) is a system that is able to provide information (which is the result of the transaction process that occurs) which interact with each other to achieve the goals set by management.

Management information systems have the following characteristics:

- Operating on structured tasks, namely in an environment that has defined operating procedures, decision-making rules and information flows firmly and clearly.
- 2) Increase efficiency by reducing costs.
- 3) Providing reports and easy access that are useful for decision making, where managers will use the reports and information to make various conclusions and ultimately make decisions. (Kusrini and Andri Koniyo, 2007)

6. Definition of Monitoring and Evaluation

a. Understanding Monitoring

Routine process of collecting data and measuring progress on program objectives / monitoring change, focusing on process and output. Monitoring involves accounting for what is done. Monitoring involves observing the quality of the services provided. (Firdaus Hafidz, 2009)

b. Understanding Evaluation

Evaluation is the use of social research methods to systematically investigate program effectiveness/assess the program's contribution to change (goal/objective) and assess the need for improvement, continuation or expansion of the program (recommendations). Evaluation requires a study/research design. Evaluation sometimes requires a control group or comparison group. Evaluation involves measurements over time. Evaluation involves special studies/research. (Firdaus Hafidz, 2009)

7. Types of Monitoring and Evaluation

a. Monitoring Type

- 1) Aspects of program *input* include, among other things: human power, funds, materials, equipment, working hours, data, policies, management, and so on. What is needed to carry out program activities
- Process/activity aspects are aspects of the program that reflect an activity process, such as research, training, production processes, providing assistance and so on.
- 3) *output* aspect, namely the program aspect which includes the results of the process which is mainly related to quantity. (Syahrul Hakim, 2008)

b. Evaluation Type

- Initial evaluation of activities, namely assessing program readiness or detecting program feasibility.
- 2) Formative evaluation, namely an assessment of the results that have been achieved during the process of implementing program activities. Implementation times are carried out regularly (monthly, quarterly, semester and yearly) in accordance with information needs on assessment results.
- 3) Summative evaluation, namely an assessment of the results that have been achieved as a whole from the beginning of the activity to the end of the activity. The implementation time at the end of the program is in accordance with the period during which the program is implemented. (Syahrul Hakim, 2008)

8. Understanding Measurement

Measuring (*measurement*) is an action that aims to determine the dimensional quantity of a quantity in a system, by comparing it with one dimensional unit of that quantity. (Ambar Febriyanti, 2014)

9. Definition of Funds

Funds are cash and working capital, current assets (*current assets*) are often equated with the definition of working capital (*working capital*), namely assets used for short-term needs or under one year and consist of three main components, namely cash, receivables, inventory. (Singgih Santoso, 2008)

10. Definition of Loan (*loan*)

A loan is an amount of funds provided by a bank to a customer with interest, which must be repaid at the agreed time or in installments. (Ralona M., 2009)

3. METHODOLOGY

The model that will be developed refers to the *Research and Development* (R&D) model from Borg and Gall. The development plan with R&D design from Borg and Gall has the aim of developing and validating the product. The Development and Research (R&D) model has 10 steps, including *Research and information collecting, Planning, Develop preliminary form of product, Preliminary field testing, Main product revision, Main field testing, Operational product revision, Operational field testing, Final product revision, Dissemination and implementation.* The system development carried out in this research only reached stage 6 (six), producing a final product in the form of a prototype, so it did not reach the product implementation stage. To arrive at the product implementation stage, further research can be carried out. Procedurally, the 6 (six) steps of the R&D model are as shown in Figure 3.1 below:

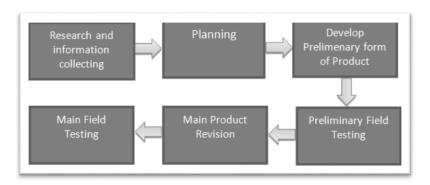


Figure 3.1 Six-Step R&D Design Model

Apart from developing and validating educational results, *Research and Development* also aims to discover new knowledge through 'basic research', or to answer specific questions about practical problems through 'applied research', which is used to improve educational practices. This research and development method has been widely used in technology, nature and health sciences. Almost all technological products such as vehicles, household appliances, medical equipment, are developed through research and development. However, research and development methods can also be used in the fields of social sciences, such as psychology, counseling, education, sociology, management, and others.

The Borg & Gall model is more generally not as focused on learning or subjects as the previous models in this discussion. The aim of this research is to reveal the findings at the

BKM Ngesrep institution by developing a monitoring and evaluation system for the performance of loan funds, then testing and analyzing the data to produce a new model.

4. RESULTS AND DISCUSSION

4.1 User Access Rights

The menus in the *interface -based loan fund performance monitoring and evaluation system* have been explained in chapter 3, while the distribution of access rights for each *user* can be seen in the table below:

Table 1 Table of *User* Access Rights

No	Users	Access rights			
1	Administrator	➤ Can carry out <i>input processes</i> : management			
		data, KSM data			
		➤ Can process transactions : loans, installments			
		and monev			
		Can view reports: KSM data, loans,			
		installments, monitoring and evaluation.			
2	Manager	Can process transactions : money .			
		Can view reports: KSM data, loans,			
		installments, monitoring and evaluation.			
3	Leader	Can process transactions : monev .			
		Can view reports: KSM data, loans,			
		installments, monitoring and evaluation.			

4.2 Program Results

1. Menu Page

a. Login Form

Before entering the system, each user must log in on the login form.



Figure 4.1 Login Form

If the login user name or password is entered incorrectly, a dialog window will appear and you cannot enter the menu form, picture as follows:



User Name and Password Confirmation Dialog Window

The display for renewing *the password* is as follows:



Figure 4.3 Password Reset Form

b. Main Menu Form





Figure 4.4 Main Menu Form

Information:

form has 4 menus, namely

- 1. Masters
 - There are 2 master menus, namely: Management, KSM
- 2. Transaction

There are 3 menus in the transaction menu, namely: Loans, installments, monitoring and evaluation.

3. Report

There are 4 menus in the transaction menu, namely: KSM data report, loan data report, installment data report, monitoring and evaluation report.

4. Go out

2. Input / Master Page

a. Management Data Input Form



Figure 4.5 Management Data Input Form

Information:

- Management data *input form* contains complete data for each administrator who has access rights, consisting of code, name, position
- There are 5 *action buttons*, namely New functions to *input* new administrator data, Save functions to save *files* that have been input, *Edit* functions to correct data if there is something you want to change, Delete functions to delete *files* that have been saved and Exit functions to exit the administrator *form*.
- Datagrid functions to display management data that has been entered.

DATA IDENTITAS KSM KODE KSM NAMA PEMINJAM ΝΔΜΔ ΚΩΜ .ΙΔΒΔΤΔΝ TGL.PEMBENTUKAN 23/08/2014 JENIS KELAMIN REG. PEMINJAM TGL LAHIR ¥ ¥ ALAMAT BARU SIMPAN EDIT PEKERJAAN NO. KTP JUMI AH PINJAM 16/09/2014 JUMLAH PINJAMAN SEMUA KSM Rp.

b. KSM Data Input Form

Figure 4.6 KSM Data *Input Form*

Information:

- KSM data *input form* contains complete data from each individual borrower in one KSM group, consisting of KSM code, KSM name, date of formation, loan registration, borrower's name, position, gender, date of birth, address, occupation, KTP number, loan amount.
- There are 5 *action buttons*, namely New functions to *input* new KSM data, Save functions to save *files* that have been input, Edit functions to correct data if an error occurs, Delete functions to delete *files* that have been saved and Exit functions to exit the KSM *form*.
- Datagrid functions to display KSM data that has been input.

In the KSM data *input form there is a confirmation form* / dialogue window which functions to remind and avoid input errors, which lies in the KSM code only being used by one group (KSM), and reg. The loan can only be used by one individual. The image can be seen as follows:

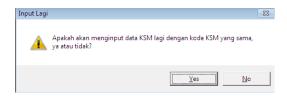


Figure 4.7 Dialog window confirming *input of* the same KSM code and KSM name

If the answer to the above dialogue is *yes*, then *the input of* individual identity data is still in one KSM, followed by the same KSM code and KSM name, but if the answer to the above dialogue is *no*, a confirmation dialogue window appears as follows:

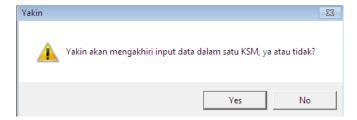


Figure 4.8 Confirmation Dialog Window Ending KSM Data Input

3. Transaction Page

a. Loan Transaction Form

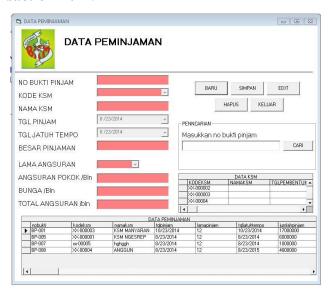


Figure 4.9 Loan Transaction Form

Information:

- Form loan transactions contain complete data from KSM borrowing transactions, consisting of proof of loan number, KSM code, KSM name, disbursement date, due date, installment length, loan size, principal installments/month, interest/month, total installments/month. Also included is a search for borrower data based on the KSM code.
- There are 5 action buttons, namely New, which functions to input transactions new loan data, Save function to save the file that has been entered, Edit function to correct the data if an error occurs, Delete to delete the file that has been saved and Exit function to exit the loan form
- Datagrid functions to display loan data that has been input.

In the loan transaction *form there is a confirmation form* / dialogue window which functions to remind and avoid errors in loan transactions which can only be made once before the installment payment is complete. The image can be seen as follows:



Figure 4.10 Dialog window for reminders that KSM has borrowed

b. Installment Transaction Form

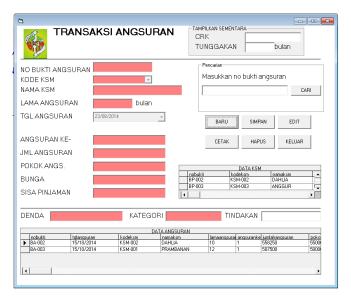


Figure 4.11 Installment Transaction Form

- Form installment transactions contains installment data for each KSM, consisting of installment proof number, KSM code, KSM name, installment duration, installment date, installment amount, installment principal, interest, remaining loan, fines, category. Also included is a search for installment data based on the installment proof number
- There are 5 *action buttons*, namely New, which functions to *input* transactions new installment data, Save function to save *the file* that has been input, Edit function to correct the data if an error occurs, Delete to delete *the file* that has been saved and Exit function to exit the installment *form*.
- Datagrid functions to display installment data that has been input.

c. Monitoring and Evaluation Transaction Form

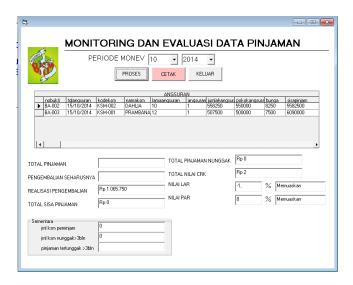


Figure 4.12 Monitoring and Evaluation Transaction Form

- Form Monitoring and evaluation transactions contain monitoring and evaluation period data.
- There are 3 *action buttons*, namely Process functions to calculate installment transactions whose commands have been set in the program *source code*, Print functions to display monitoring and evaluation reports, Exit functions to exit the monitoring and evaluation *form*.
- Datagrid functions to display monitoring and evaluation transactions that have been input.

4. Report Page

a. KSM Data Report Print Form



Figure 4.13 KSM Data Report Print *Form*

Information:

 Form print KSM data containing Print per KSM group followed by input KSM code and Print all KSM data. • *action* buttons, namely Print, which functions to print the KSM data report, and Exit, which functions to exit the KSM data print *form*.

b. Installment Report Print Form



Figure 4.14 Installment Report Print Form

Information:

- Form print installment report containing Print per-KSM, per-period and installment slip, if per-KSM followed by input the KSM code, if perperiod followed select the month and year period.
- There are 2 action buttons, namely Print, which functions to print the KSM data report, and cancel, which functions to cancel the process of printing the installment report

c. KSM Individual Identity Data Report Per-Group

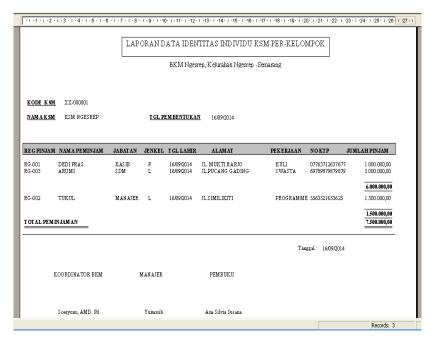


Figure 4.15 KSM Individual Identity Data Report Per Group

Information:

The KSM individual identity data report per group functions to display the identity data of each individual borrower in one KSM group which includes: KSM code, KSM name, Borrower Reg, borrower name, position, gender, date of birth, address, occupation, KTP number, loan amount.

d. Individual Identity Report for All KSM Data

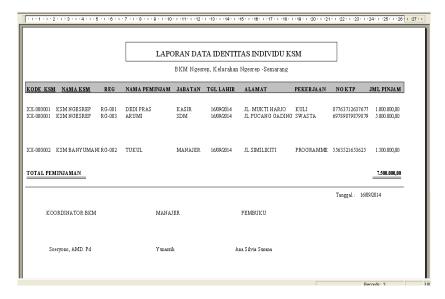


Figure 4.16 Individual Identity Report for All KSM Data

The individual identity report for all KSM data functions to display all identity data for each individual borrower in the KSM group which includes: KSM code, KSM name, Borrower Reg, borrower name, position, gender, date of birth, address, occupation, KTP number, loan amount.

e. KSM Loan Report

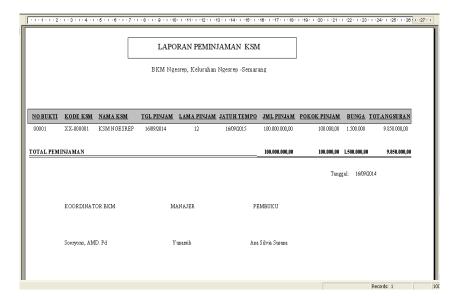


Figure 4.17 KSM Loan Report

The KSM loan transaction report functions to display the results of loan transactions to KSM includes: Loan proof number, KSM code, KSM name, loan date, length of loan, maturity date, loan amount, principal, interest, total installments.

f. Per-KSM Installment Report

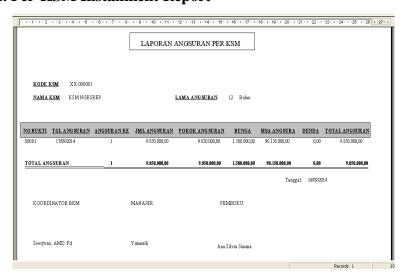


Figure 4.18 Per-KSM Installment Report

Information:

The installment transaction report per KSM functions to display the results of installment transactions from KSM for one KSM includes: Installment

proof number, KSM code, KSM name, installment date, installment duration, next installment, number of installments, installment principal, interest, remaining installments, fines, total installments.

g. Report on all KSM installments per period

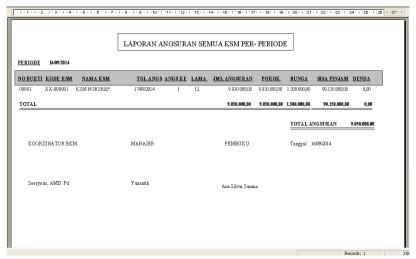


Figure 4.19 Report of all KSM installments per period

Information:

The transaction report for all KSM installments per period functions to display the results of all KSM installment transactions in a one month period includes: period, installment proof number, KSM code, KSM name, installment date, installment duration, next installment, number of installments, installment principal, interest, remaining installments, fines, total installments.

h. Installment Slip Proof Report

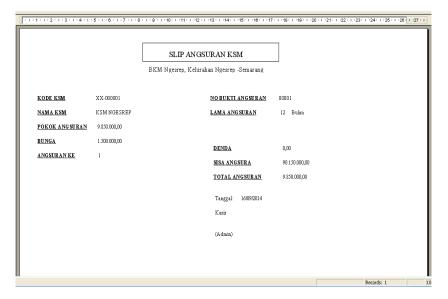


Figure 4.20 Installment Slip Evidence Report

Information:

The KSM installment slip proof transaction report functions to be printed as proof of installment payments from KSM including: Installment proof number, installment duration, KSM code, KSM name, installment principal, interest, next installment, fine, remaining installments, total installments, installment date.

i. Monitoring and Evaluation Report

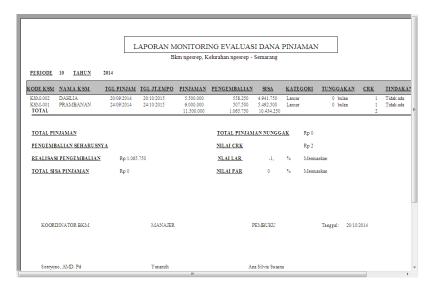


Figure 4.21 Monitoring and Evaluation Report

The monitoring and evaluation transaction report functions to monitor and evaluate the installments of all KSM including: Monitoring and evaluation period, KSM code, KSM name, loan date, due date, loan, return, remaining loan, category, arrears, crk, description, action, due return, total delinquent loans, lar value, par value

4.3 Final Product Discussion

4.3.1 Expert Validation

interface -based monitoring and evaluation system for loan fund performance at BKM Ngesrep Semarang has been validated by experts. The expert who validated this design was appointed by STEKOM and is a lecturer from STEKOM itself.

Validation of the design was carried out on the STEKOM campus. The design of this *interface* -based loan fund performance monitoring and evaluation system received a total of 32 points. Lecturers who had been appointed as experts were given a research instrument in the form of a questionnaire that had been prepared by the researcher. In accordance with the value indicator table, the results obtained for this system design are "Very Good". The conclusion drawn by experts for the design of this system is "Very good, so it can be used with a few revisions".

From the results of the validation that has been carried out, the system design can be used to manufacture products from the system to be developed. With several additions and revisions to improve the product.

4.3.2 Testing on Prospective Users

prototype created has passed the stages of validation by experts and testing by users. This is done to assess whether the prototype created is in accordance with the expected research objectives.

The results of the research instrument in the form of a questionnaire by research subjects can be seen in the attachment. The questionnaire recap table can be seen in table 4.2 below:

Indicator	User 1	User 2	User 3	Average of
No	(admin)	(manager)	(leader)	Each Indicator
1	3	3	3	3.0
2	3	3	3	3.0
3	3	3	4	3.25
4	3	3	4	3.25
5	3	3	4	3.25
6	3	4	3	3.25
7	4	4	4	4.0
8	3	3	3	3.0
9	4	4	3	3.5
10	4	4	4	4.0
Final	33	34	35	33.25
Average test	results by 3	33.25		

Table 2 Recap of Questionnaire Results

From the results above it can be seen that for indicator question number 1 the average was 3.0 and the indicator value obtained was "Good", which means *the user* is comfortable with the appearance of the system created.

For indicator question number 2, the average was 3.0 and the indicator value obtained was "Good", which means that *the user* is easy to operate the system.

For indicator question number 3, the average was 3.25 and the indicator value obtained was "Good", which means *the user* easily inputs data into the system.

For indicator question number 4, the average score of 3.25 was "Good", which means *user* 1 and *user* 2 can easily edit or delete data if an error occurs, *user* 3 which means they can easily process monitoring reports. and evaluation of loan funds.

For indicator question number 5, the average score of 3.25 was "Good", which means *user* 1 can easily process KSM data and installment transactions and easily process monitoring and evaluation data on loan fund performance, *user* 2

can easily easy to process officer data and loan transactions and easy to process monitoring and evaluation data on loan fund performance and *users* 3 can easily obtain information presented according to *user needs*.

For indicator question number 6, the average score of 3.25 was "Good", which means *the user* can easily and quickly find the desired data.

For indicator question number 7, the average score of 4.0 was "Very Good", which means that *users* can obtain reports generated from the system that presents officer data information (only *user* 1, *users* 2 and 3 not), KSM data, borrower data, installment data and monitoring results evaluating loan funds clearly and accurately.

For indicator question number 8, the average score of 3.0 was "Good", which means *the user* can get the report produced by the system and the report can be used as a basis for decision making.

For indicator question number 9, the average was 3.5 and the indicator value obtained was "Good", which means *user* 1 can easily serve installments and easily present reports, *user* 2 can easily service loans and easily access reports, *user* 3 can clearly monitor the progress of loan fund development.

For indicator question number 10, the average was 4.0 and the indicator value obtained was "Very Good", which means *user* 1 can easily print existing reports, *user* 2 can easily access data at any time and control their respective access rights. *user* and *user* 3 can easily obtain monitoring and evaluation data on loan funds that are easily accessible at any time.

The total score of all prospective *users* who filled out the questionnaire was worth 102 points, with an average of 33.25 and the indicator was "Good". Which means that potential *users* feel that *the prototype* created is worthy of further development.

5. CONCLUSION

Based on the Validation Test which was carried out in several stages, the expert assessment results were 32 points and were declared feasible according to the results of a questionnaire from users *with* 102 points for each of these aspects falling into the good and good category. So it can be concluded that the product is suitable for use so that the objectives of developing a new system can be achieved, namely:

- a. program that has been created can be done make it easier user in input data and process transaction data faster
- b. The application program created has made it easier for users to monitor and evaluate loan funds so that services to KSM can be improved and installment delays can be anticipated quickly.
- c. From the results of trials by prospective users, this application is quite easy to understand and use, and can be used at BKM Ngesrep Semarang, although it still requires several improvements and modifications which will be carried out in stages.

BIBLIOGRAPHY

BIBLIOGRAPHY IS EMPTY