

The Role of MIS in The Banking System in Albania

Jona Mulliri, Eris Zeqo, Lindita Mukli, Alba Çomo

Abstract— nowadays, data information is the most important element that financial and banking systems possesses. It is difficult to take good decisions without information. Also it is not possible to obtain appropriate information without adequate information systems. The basic concept of an information system is to provide accurate and relevant information at the proper time at all levels of management. Banking system in Albania has given a great importance to the implementation of management information systems. The purpose of this study is: 1.To identify usage level of management information systems in commercial banks in Albania, for planning and decision making.2.To assess the use of the functions offered by these information systems and to identify the reasons of disuse or dysfunction of these systems. This study aims to define the role of Management Information System in banking system in Albania. The first phase of this study was the distribution of questionnaires in commercial banks in Albania, by evaluating the current situation of MIS. The collected data were analyzed to identify the usage level of MIS in commercial banks in Albania. Also we want to specify what actions should be taken in order to implement a MIS system that can provide efficient information in base of the environment requirements and support the decision-making process. In order to achieve our goal, we have been focused in some aspects: 1. Is MIS implemented in banking system in Albania? 2. Identifying the factors that affect the quality of information produced by MIS. 3. Evaluate the importance of MIS in decision-making process. As result, we can specify and that management information systems have an important role in obtaining good information for an efficient decision making process. MIS is used to create reports for specific needs (financial and treasury) which get data from different sources and different files, eliminating manual work and so many human errors that can be made if these reports are manually processed. Voluminous data cannot be managed as proper information for the reporting process without MIS. Assuring qualitative and quantitative data from MIS with proper timely information helps managers in decision-making.

Index Terms— Banking System, Commercial Bank, MIS (Management Information System), Planning.

I. INTRODUCTION

Worldwide banking system is facing with rapid changes. These changes are observed not only in developed countries but also in developing ones. The use of the latest technologies will be the main force of the development of banking industry in the future. Strategic planning is the way to achieve the desired economical objectives. Strategic planning is divided into three main parts, where we are, where we want to be and how we reach our goal.

Management Information System (MIS) is not a new concept in banking system. Banks and financial organizations

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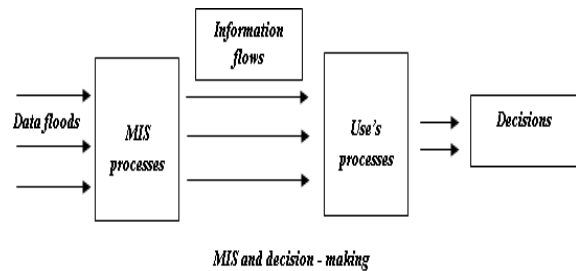
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have used this terminology referring to the process of generating various reports, analyses and support decision-making process to managers. Management Information Systems is an idea associated with man, machine and methods for gathering information from different sources, processing and distribution of this information in order to facilitate the process of decisions - making of business. [7]



MIS can also be defined as a system useful to most of banks to provide high quality of information and precision necessary to manage these financial institutions effectively. Management Information System is an integrated system that helps the management with relevant information to run business effectively and efficiently. There are some necessary components to make MIS function like: computer hardware and software, data and information, manual procedures, mathematical and reporting models for analysis and human recourses. The data must be collected, stored, processed, manipulated, analyzed and distributed like e qualitative and quantitative information to managerial level. Banks and organization with a well-defined information system will generally have a competitive advantage comparing to the organizations with poor MIS or without MIS.

MIS is a computer-based information system which needs a database, based on technology tools like data warehousing and data mining to provide efficient information for different employers in the organization. Qualified people are a vital component of any information system. All workers in an organization must be trained to utilize capabilities of management information system. The personnel include development and operation managers, system analysts and designers, database administrators, programmers, computer security specialists and computer operators.

The purpose of this paper is to identify the usage level of management information systems in commercial banks in Albania, for planning and decision making and identify the reasons of disuse or dysfunction of these systems.

Today, banks are gradually passing from using information systems for rationalize operations to using information systems for strategic applications: to improve customer services and to achieve competitive advantage.

II. LITERATURE REVIEW

According to lecturer review Management Information System (MIS) provides information that organizations need to

manage themselves efficiently and effectively [10]. Management information systems are typically computer systems used to manage five primary components: hardware, software, data (information for decision making), procedures (design, development and documentation), and people (individuals, groups, or organizations). Management information systems are distinct from other information systems, as they are used to analyze and facilitate strategic and operational activities [9]. Management Information System can be classified as a system, providing different level of management with proper and timely information necessary to facilitate decision-making process and enable organizations planning, controlling, and performing operational functions effectively.

Alternatively, Management Information System can be defined as “a computer-based system that provides information and support for managerial decision making” [13]. Management Information System can be defined as “a system to convert data from internal and external sources into information and to communicate that information, appropriately, to managers at all levels in all functions by enabling them to make timely and effective decisions for planning, directing and controlling the activities for which they are responsible” [8]. Management information systems (MIS), produce fixed, regularly scheduled reports based on data extracted and summarized from the organization’s underlying transaction processing systems to middle and operational level managers to identify and inform structured and semi-structured decision problems [6]. The information required to implement a good MIS system needs to be accurate, complete (to cover all aspects of the business) and available. According to Pride there are five important functions of Management Information Systems identified as below [11]:

- *Collecting data* - the collection of data is necessary for decision-making in short-term and long-term perspectives.
- *Storing data* - keeping and storing data in an effective format and a database in order to ensure the right of data that can be retrieved in a minimum duration of time whenever is necessary.
- *Updating data* - ensuring that changes related to the data that has been stored are reflected on the system.
- *Processing data into information* - the application of various analytical methods with the usage of information technology can transform raw data into meaningful information.
- *Presenting information to users* - increasing the level of presentability of data that can be used for decision making by relevant parties.

A decision is a choice between different alternatives. At the end, the decision is the result of the selected choice.

MIS has the responsibility to support this process in all necessary levels. The most part of the decisions are taken from the management, but some other decisions are taken from lower levels of the bank, too.

Simon defined four stages of the decision making process [15]:

- *Intelligence* - understanding the problems of the organization)
- *Design* - the identification of the solutions of the problems)
- *Choice* - choosing the best alternative)
- *Implementation* - implementation of the alternative chosen and monitoring it after the implementation).

Adequate decisions cannot be taken without the accurate information, which can be provided by MIS.

III. METHOD

This study aims to define the role of Management Information System in banking system in Albania. The first phase of this study was the distribution of questionnaires in commercial banks in Albania, by evaluating the current situation of MIS. The collected data were analyzed to identify the usage level of MIS in commercial banks in Albania. Also we want to specify what actions should be taken in order to implement a MIS system that can provide efficient information in base of the environment requirements and support the decision-making process.

In order to achieve our goal, we have been focused in some aspects:

1. Is MIS implemented in banking system in Albania?
2. Identifying the factors that affect the quality of information produced by MIS.
3. Evaluate the importance of MIS in decision-making process.

IV. MIS IN ALBANIAN BANK’S

There is a great usage of hardware, also computers with different level of operating system, different speed of processors and RAM capacity. They have used the latest media to broadcast process like optical fibers and wireless transmission. The banks have also developed their own applicative systems to automate the processes.

The Management Information System environment is composed by the following elements:

- Core Banking System
- Data Warehouse
- Reporting modules

The core banking system is the heart of the operations. It captures all the data for clients, assets, deposit account, loan and credit processing, transactions, reporting tools etc. There are different core banking systems used in the banking system in Albania like: Delta, Midas, Flex Cube, Boss etc.

A core banking system is the back-end data processing application to process all transactions that have occurred during the day and post updated data on account balances to the mainframe. This database is an essential component of MIS. Some of our banks use Oracle OFSA that combines all the data gathered from the departments of a bank in a single program, an integrated software that operates with a single database that is Data Warehouse, so that different departments can easily share information and communicate with each other. OFSA includes functional modules for financial data management, transfer pricing, activity analyzer, risk management, budgeting and planning (Sitronics). Other reporting technique used are Business Object (BO) and

Microsoft Reporting Database (MRD), which use the data stored in the core banking system. With Business Object we can provide performance management, query, reports, analysis, planning, and information management.

Nowadays MIS it is a necessity for our banks. We were able to identify some main aspect supported by Management Information system from the questionnaire. MIS is used to create reports for specific needs (financial and treasury) which get data from different sources and different files, eliminating manual work and so many human errors that can be made if these reports manually processed. Voluminous data cannot be managed as proper information for the reporting process without MIS. From the business aspect reports are mainly related with the financial situation of the company, required analysis for decision-making, mandatory reporting in base of legislation, verification and monitoring of the information accuracy, planning of business development, process evaluation etc.

The main processes supported by Management Information System in Albanian banking system are:

- Profit & Lost account
- Budgeting
- Strategic Planning
- Cost accounting
- Cash flow statement
- Balance sheet
- Customer Satisfaction

V. RESULTS

We applied a research study at Albanian banks which aims to identify the usage of Management Information System in the banking system. Below are shown some of the main questions and their results.

1. Is MIS implemented in your bank?

Table 1, MIS implementation

	Percent	Valid Percent	Cumulative Percent
Valid Yes	95,7	95,7	95,7
No	4,3	4,3	100,0
Total	100,0	100,0	

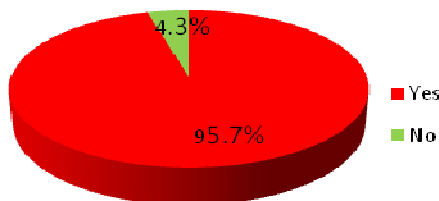


Figure 1

The banking system in Albania has made very significant development and investment in implementing Management Information Systems and related technologies. 95, 7% of the interviewed banks have given a positive response to the question for the implementation of MIS in their system and only 4, 3% of them have not implemented MIS yet but they are in process development. We have to emphasize that they are well known with the importance and role of MIS in their system.

2. Are you satisfied with the level of MIS implementation?

Table 2, satisfaction of MIS implementation level

	Percent	Valid Percent	Cumulative Percent
Valid Not too much	17,0	17,0	17,0
Enough satisfied	18,0	18,0	25,0
Satisfied	52,0	52,0	87,0
Very satisfied	13,0	13,0	100,0
Total	100,0	100,0	

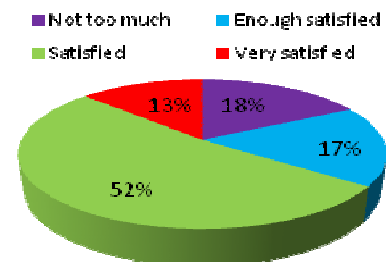


Figure 2

We also asked the employs if they are satisfied with the level of MIS implementation. The responses are shown below. 13% of the bank employers are very satisfied with the level of MIS and the facilities offered in decision-making and other relevant reporting processes. Most of them find that there are necessary some improvement in their MIS system, related with hardware and software equipment, centralized database for storing the data gathered from Transaction Processing Systems like Data warehouse, human resource requirements to develop, operate, update, and maintain MIS etc.

We found out that some banks have created MIS departments as part of their structure, with the average of 5 workers in the department. The banks that have implemented earlier MIS in their system, have given an important role to the human recourses specialized in that field. Training sessions and user-friendly interface are very important for a proper application of MIS.

3. Do you have Data Warehouse in you banking system?

Table 3, Data Warehouse

	Percent	Valid Percent	Cumulative Percent
Valid Yes	65,2	65,2	65,2
No	34,8	34,8	100,0
Total	100,0	100,0	

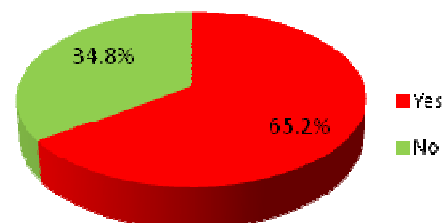


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4. Is MIS important for decision-making process?

Table 4, MIS importance in decision-making process

		Percent	Valid Percent	Cumulative Percent
Valid	Enough	11,0	11,0	11,0
	Important	33,4	33,4	44,4
	Very important	55,6	55,6	100,0
Total		100,0	100,0	

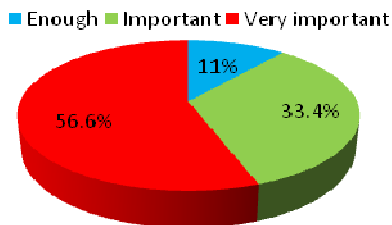


Figure 4

Regarding to the importance of MIS in decision-making process, see table 4, the banks with long usage experience and well implemented MIS systems gave a great importance of MIS in this process. Banks can get qualitative and quantitative data from MIS with proper timely information that helps managers in decision-making.

There are also some problems identified during the questionnaire process in some of our banks. We can specify that in some cases the data are not stored in database systems, making difficult the process of accessing and analyzing data to provide information in time.

Historical data are necessary for a good decision-making process but these historical data are missing. In other cases these is no automation of the routine transactions and the reporting process.

In some cases managers has specified that they are not satisfied with the actual information provided because it does not support the decision-making process of the bank, most of the information is retrieved manually and therefore it can be delayed and it may contain errors due to manual data processing.

Also another problem is the communication between departments. Even that information is available, doesn't mean that managers can have it or maybe they are not even aware of it. Management doesn't know what information is available, and on the other hand IT doesn't know what information management wants to have.

VI. CONCLUSION

- Management Information System has a very significant role to ensure accurate information to reach

effective decisions in the organization based on our questionnaire results.

- By using MIS banks can assure appropriate shared information between all the departments in the organizations and help the management in the decision-making process.

- This study concluded that our banks are well known with the importance and role of MIS in their system and they have made very significant development and investment in implementing Management Information Systems and related technologies.

- Data Warehouses are implemented in most of the Albanian banking systems to meet these needs. By Using Data warehouse information can be organized in a way for conducting analytical processes on large data sets.

- MIS is used to create reports for specific needs (financial and treasury) which get data from different sources and different files, eliminating manual work and so many human errors that can be made if these reports are manually processed. Voluminous data cannot be managed as proper information for the reporting process without MIS. Assuring qualitative and quantitative data from MIS with proper timely information helps managers in decision-making.

RECOMMENDATIONS

Referring to the questionnaires, we concluded from our interviewers that MIS is not a new concept for our banking system. But from identified problems we want to emphasize that there is a need for a well-implemented and well-organized MIS that can provide management to increase profits and reduce operating costs (P & L account).

As we specify that MIS is the interaction of human resources, technologies and procedures we recommend banks to give high importance to:

- Training session of the employers of the MIS department, for well-knowing the functions offered by MIS and right usage of them.

- Implementing Business Intelligence tools like OLAP (Online analytical processing), data mining for better analyzes and decision-making process.

- Make DWH fully operational.

REFERENCES

1. Ajayi, I. A. and Omirin, Fadekemi F. (2007). The Use of Management Information Systems (MIS) In Decision Making In the South-West Nigerian Universities, Educational Research and Review, Vol. 2, No. 5, pp. 109-116.
2. Akram Jalal Karim "The significance of Management Information Systems for enhancing strategic and tactical planning". JISTEM J.Inf.Syst. Technol. Manag. (Online) Vol. 8, No. 2, 2011, p. 459-470. ISSN online: 1807-1775.
3. Baskerville, R.L. and Myers, M.D., (2002), Information systems as a reference discipline. MIS Quarterly, 26(1), 1–14.
4. G.Satyanarayana Reddy (2009). Management information system to help managers for providing decision making in an organization. International Journal of Reviews in Computing, ISSN: 2076-3328.
5. Kozak S. (2005). The role of information technology in the profit and cost efficiencyimprovements of the banking sector. February 2005, Journal of Academy of Business and Economics.
6. Laudon, Kenneth C.; Laudon, Jane P. (2009). Management Information Systems: Managing the Digital Firm (11 ed.).
7. Lucey, T. (1997) "Management Information Systems. London.
8. Lucey, T. (2004) "Management Information Systems", Cengage Learning.
9. Lucey, T. (2005): Management Information Systems. London: Book Power.

10. O'Brien, J (1999). Management Information Systems – Managing Information Technology in the Internetworked Enterprise. Boston: Irwin McGraw-Hill.
11. Pride, WM, Hughes, RJ & Kapoor, JR, 2009, Business, Cengage Learning
12. Ralph M. Stair, George Reynolds, George W. Reynolds. (2009). Principle of Information Systems.
13. Daft. RL, Murphy, J & Willmott, H, 2010, Organisation Theory and Design, Cengage Learning
14. Rimvydas Skyrius (2013). The Development of Management Information Needs. International Journal of Artificial Intelligence and Interactive Multimedia, Vol. 2, N° 3.
15. Simon H. The New Science of Management Decision



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