ST. MARY'S UNIVERSITY COLLEGE
BUSINESS FACULTY
DEPARTMENT OF MANAGEMENT

MANAGEMENT INFORMATION SYSTEM AUDITING:
CASE OF DASHEN BANK

BY
ROMAN KESTU

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**A SENIOR ESSAY SUBMITTED
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**BY
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APPROVED BY THE COMMITTEE OF EXMINERS

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Advisor	Signature
Examiner	Signature
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CHAPTER ONE

1. INTRODUCTION

1.1 BACKGROURND OF THE STUDY

Management Information System is basically concerned with processing data in to information which is then communicated to the various Departments in an organization for appropriate decision-making as follows:

Data	→	Information	→	Communication	→	Decision
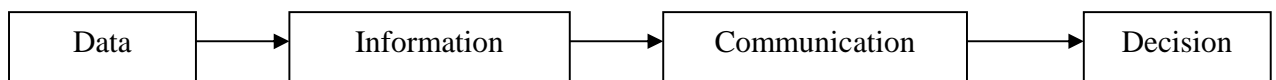
Data collection involves the use of Information Technology (IT) comprising: computers and telecommunications networks (E-mail, Voice mail, Internet, Telephone etc.)

➢ Computers are important for more quantitative, than qualitative, data collection, storage and retrieval; Special features are speed and accuracy, and storage of the large amount of data.

➢ Telecommunications provide the means for one way or two-way communication and for the transmission of messages. A combination of Information Technology (IT) is used: telephone, computer, processor, printer, etc. A lot of time and money saved and the security of data and messages is ensured. (http://www.microsoft.com)

Management Information System provides several benefits to the business organization: the means of effective and efficient coordination between Departments; quick and reliable referencing; access to relevant data and documents; use of less labor; improvement in organizational and departmental techniques; management of day-to-day activates (as accounts, stock control, payroll, etc.); day-to-day assistance in a Department and closer contact with the rest of the world. It is important to note that whatever Information Technology (IT) is installed must be appropriate to the organization, and to each department (http://www.microsoft.com)

In general Organization's run on Information Technology (IT) for their competitive advantage and Information Technology (IT) is given same level of attention to financial

supervision and overall enterprise governance. Effective management of information and related information technology is becoming critically important to the survival and success of an organization. Good Information Technology risk management and clear communication not only reduce the cost and damage caused by Information Technology failures but also stimulate greater trust, teamwork and confidence in the use of Information Technology itself and the people trusted Information Technology services. (Dashen Bank, Annual Report 2006:2)

Management Information Systems auditing is defined as any audit that covers the review and evaluation of all aspects of automated information processing systems and the interfaces between them. In other words, Management Information System audit is a branch of general auditing concerned with control of information and communication technologies.(Dashen Bank, Annual Report 2006:2)

1.2 BACKGROUND OF THE ORGANIZTION

Dashen Bank S.C. is a privately owned company established on September 20,1995 E.C. in accordance with the licensing and supervision of Banking Business Proclamation No. 84/1994 of Ethiopia to undertake commercial banking activities, with a paid up capital of Birr 50 million and 33 shareholder. Currently, the Bank has managed to raise its paid up Capital to Birr 454 million. The Bank has 2,110 employees and more than 540,000 customers. And Dashen Bank S.C. is the first networked Bank and it has three divisions under the Control department namely: Management Information System, Internal Audit and Inspection Divisions (Dashen Bank 12th, Annual Report June 30, 2008:6)

Information and Information Systems are assets of high value to Dashen Bank as they are vital to all aspects of its operations. Hence, they must be protected with high care from threats, such as disclosure, abuse damage or loss whether accidental or deliberate (Dashen Bank Information Systems Audit Manual 2006:3)

Dashen Bank S.C. has ten Departments and one of which is Control Department. As mentioned before there are three divisions under Control Department namely: Management Information System, Internal Audit and Inspection Divisions. This study attempted to audit the practice of Management Information System in Dashen Bank S.C. with a special focus on the function of Management Information System division, identified problem and forward the possible recommendation.

1.3 STATEMENT OF THE PROBLEM

Fast and dramatic advances in Information technology, while providing great benefits of technology, have also created significant and extraordinary risks to organizations, especially banks. Some of the known technology risks include, among other things: lack of control and audit trail it means lack of control hardware and software resources are protected from physical and logical hazarded and lack of audit trial lack of audit system software; inaccurate reporting; loss of user confidence/belief in the process; lost business or no longer existence in business; loss of privacy and confidentiality/loss of secret and belief of user, inadequate protection of information resources/asset it is limitation of system security to protect resources/asset; interruption of business operations meaning braking business activity; lack of data integrity or lack of data completeness; etc. These risks must be effectively controlled by banks in order to avoid disruptions to business and potential losses. To control this risk observed by the study with data collection method like Questioner and Interview, the availability of an efficient and well developed Management Information Systems is essential. Failure in applying proper Management Information Systems will result in one or more of the above listed risks.

But the main issues are determining how to apply Management Information System, which area, and how to identify problems and the best way of applying Management Information Systems to get the maximum out of it.

1.4 BASIC RESEARCH QUESTION

This study is an attempted to audit Dashen Bank's Management Information Systems practice. As such, it was tried to answer the following questions:-

- How is Management Information Systems practiced in Dashen Bank?
- What are its major challenges?
- What can be done to solve the problems?

1.5 OBJECTIVES OF THE STUDY

1.5.1 General Objective of the study

The general objective of this study audited the state of Management Information Systems practice and find the problem of Management Information Systems then proposed a corrective measures that helped to develop the Management Information Systems role of the bank.

1.5.2 Specific objectives of the study

- Specific objectives of the study on the base of general objective:

- Find the way how Management Information Systems practice in the bank.
- Identified the major challenges facing the bank with regards to its Management Information Systems function.
- Suggested viable solutions based on the findings.

1.6 SIGNIFICANCE OF THE STUDY

Significance of the study to be; Firstly, it allows the researcher completed the requirements of the course Seminar in Management which is one of the per-requisite courses for graduation. Second, as it identified the weaknesses and strengths of Management Information Systems practices in Dashen Bank, it will help them take certain corrective measures to overcome the Information Technology(IT) risks to which the Bank is exposed. Third, as the Management Information Systems practice in other Banks as well is more or less the same, they find the recommendations of this study useful. Fourth, it will serve as a starting point to fill the gap in the dearth of research in this area.

1.7 SCOPE/DELIMITATION OF THE STUDY

As mentioned before, Dashen Bank S.C. constituted its Management Information System division within the control department. This study in general was audited the function of this division. In addition to that the study emphasized the security of Management Information System. In other words this study was not including the functions of internal audit and inspection division.

1.8 RESEARCH DESGIN & METHODOLOGY

1.8.1 Research Design

This research is relied on Descriptive research technique that used to a review come up to collated data. The research design included collection of review of related literature, development of questionnaire & interview questions, completion of data get from primary and secondary sources as mentioned under Data type, and summarized findings conclusions & forwarded recommendations that are relevant to address the situation.

1.8.2 Population and Sampling Techniques

The total population consists of 300 staff members in a head office of the bank. To take out the research, the total population classified based on the positions each staff member has in the bank as expressed below in table 1.

Strata	No Population	Sample size
Manager	1	1
Department Head	1	1
Division Head	1	1
Supervisor	3	3
Auditor	20	20
Information Technology Staff	274	64
Total	**300**	**90**

To make the sample representative the study used to a Probability sampling techniques particularly Simple Random sampling techniques. Consequently, out of the total population, 90 members of the employees (30% of the total population) is concerned about the study by using conventional method it says, if the total number of population less than 1000 take 30% of total population as a sample.

Simple Random sampling techniques to be used because of its correctness, less cost, straightforwardness. In addition to that it gives to all population equal chance when select a sample. As a result, it makes available each member of the population to have an equal probability of being picked or choose. Generally, Simple Random Sampling will help avoiding bias in sample selection .The sample elements indicated on the above in table 1.

1.8.3 Types of Data to be collected

In order to achieve the planned objective, data collected from both secondary and primary sources. Secondary data obtained from books, online journal articles, and other published literature in order to navigate the theoretical underpinnings of Management Information System. To supplement this, primary data to be gathered through interview with the Information System(IS) Auditors in order to gather information on Management Information System practice of the Bank. In addition, questionnaires also prepared and distributed to Information Technology(IT) staff and selected managers in order to garner further information on the practice of Management Information System in the Bank.

1.8.4 Methods of Data Collection

The research to be used Interview and questionnaires with the Information System (IS) Auditors and Information Technology(IT) staff and selected managers to collect primary information. Besides, different records were referred to get secondary information. The use of these combined methods provides the relevant information by applied each tool where the case requires done. Questionnaires & interview method was preferred because it enables the researcher to get well-located responses rather than others method. In questionnaires are used open ended questions because it gives freedom for respondent to respond the questions, which uses for researcher to get more information about the study.

1.8.5 Data analysis methods

After the data is collected from the data sources explained before, with descriptive statistics data to be tabulated, systematically analyzed, organized & interpreted using prevalence consideration and percentage. Thus, descriptive statistics method used to analyze the data because it is suitable and simple to analyzing the data.

1.9 LIMITATION OF THE STUDY

This study is limited only in selected Management Information System Division in different department because of time and money constraint. Despite the above limitation there is also problem of getting Information.

1.10 ORGANIZATION OF THE STUDY

This paper presented in four Chapters. The first Chapter includes Background of the study & Background of the Organization, Statement of the problem, Basic research question, Objective of the study, Significance of the study, Scope/Delimitation of the study, Research design & methodology which all accounts to the introduction part. The second Chapter deeply deals with Review of related literature. The third Chapter is discussed the finding of the study, thus it is tried to analyze and integrate the data that is obtained. Finally, the fourth Chapter covered the Conclusion and Recommendation of the study.

CHAPTER TWO

2. LITERATURE REVIEW

2.1 Definition of Management Information Systems auditing

Different Authors give different definitions of the subject of Management Information Systems auditing. However, most of these definitions focus on some important features of Management Information Systems audit. For instance, one of the definitions considers Management Information Systems audit as any audit that encompasses the review and evaluation of all aspects of automated information processing systems and the interfaces between them. It further states emphasizes that, this audit as an independent branch of general auditing concerned with governance (control) of information and communication technologies(Dashen Bank Information System Manual, 2006:1)

Another definition considers this audit as a process of evidence collection and evaluation allowing to decide whether a computer system (information system) ensures assets' security, data integrity, as well as helps to efficiently seek organizational goals and rationally use the resources (Ron A. Weber,1999:10). Other additional definition which focuses on the process aspect defined as a systematic process of objectively obtaining and evaluating evidence/information regarding the proper implementation, operation and control of information and the Information System resources. It could be considered a part of Financial Audit (Reserve Bank of India, 2001:17-20). In the end, what one can see is that while the first definition focused on the information governance role of Management Information Systems audit, the later definitions took a process view of Management Information Systems audit.

2.2 Objectives of Management Information Systems

As a whole objective of Management Information Systems is a system that provides information needed to manage organizations effectively. Management information systems are regarded to be a subset of the overall internal controls procedures in a business, which cover the application of people, documents, technologies and procedures used by management accountants to solve business problems such as costing a product, service or a business-wide strategy. Management information systems are distinct from regular information systems in that they are used to analyze other information systems applied in operational activities in the organization. Academically, the term is commonly used to refer to the group of information management methods tied to the automation or support of human decision making. (Wikipedia, the free encyclopedia: Saturday, January 1,2011)

2.3 Specific Objectives of Management Information Systems

2.3.1 Safeguarding of Information System Assets/Resources:

The information system resources of the organization- hardware, software, facilities, people (knowledge), data file, system documentation, and supplies – must be protected by a system of internal controls because hardware can be damaged spitefully, software and data files can be stolen, deleted or changed and supplies of transferable forms can be used for unauthorized purposes. Thus, one of the important objectives of Management Information Systems is to ensure that these important assets/resources of the organization are safeguarded from all sorts of hazards, be it intentional or accidental.(Reserve Bank of India, 2001:17)

Accidental hazards include fire, flood, power failure etc. Fire starts accidentally or is the result of a deliberate attack. All the computer installations should take adequate precautions to ensure that fire can be prevented, detected and extinguished. Flooding can cause extensive damage to the computer systems. The power supply for the computer installations is a vital service need and the uninterrupted availability thereof has to be ensured to facilitate continuity in processing. (Reserve Bank of India, 2001:17)

2.3.2 Maintenance of Data Integrity:

The basic use of Management information systems is to capture, store, and process, retrieve, and transmit data in a secure and efficient manner. In this process, data integrity- its accuracy, confidentiality, completeness, up-to date status, reliability and availability is of paramount importance to the organization. In other words, a compromise in data integrity could undermine the competitive position of the organization or may inflict damage on the interests of various stakeholders in a networked environment. Thus, Management Information System seeks to safeguard the organization's information resources/assets such as accounting records, backups, documentation and many others against unauthorized addition, deletion, modification/alternation, or access. (Reserve Bank of India, 2001:17)

2.3.3 Maintenance of System Effectiveness:

The main objective of introducing computerized information systems in the organizations in the Banking and financial sector is to allow them achieve their goals effectively and efficiently. And the more effective such systems are, even the better. Therefore, one of the objectives of Management Information Systems is to verify system effectiveness by providing inputs to decide when, what and how the system should be improved, so that its utility to the management is maximum. (Reserve Bank of India, 2001:17)

The Management Information System manager's responsibility is to examine how the information systems assist in the achievement of each organization's goals. System Effectiveness is a ratio of the actual output to the standard (budgeted) output. If it is more than 100%, effectiveness is achieved; or else, it shall be deemed that ineffectiveness has been introduced in the business process. Major goals and criteria of computerization are: improved task accomplishments; improved quality; operational effectiveness; technical effectiveness; and economic effectiveness. (Reserve Bank of India, 2001:17)

2.3.4 Ensuring System Efficiency:

System efficiency refers to the ability of an information system to produce maximum output (objectives) with a given resource (cost) or to produce a given level of output (objectives) with a minimum resource (cost) and is measured by the ratio of actual output to actual input. The resources used by an information system such as hardware, software, computer peripherals, system personnel, etc. are scarce and costly. The need to ensure system efficiency becomes especially important when there is no excess capacity in terms of resources. If an Information System(IS) uses minimum resources to achieve the desired objective, it is said to be efficient. Otherwise, it is said to be inefficient. (Reserve Bank of India, 2001:17)

If computerization results in the degradation of efficiency, the effort for making the process automated is defeated. Hence, the assessment of the capabilities of the hardware and software against the workload of the environment is very essential. Thus, Management Information System seeks to ensure the efficient use of information system resources/assets. As such, the Information System(IS) managers are responsible to examine how efficient the application software is in relation to the users and the workload of the environment. The system should assist in management planning and efficient execution thereof. In this context, the efficient use of the hardware resources and their up gradation, as per-requirements, is very essential. Automation should deliver the planned results with less consumption of computer hardware, software, computerized operations and computer personnel. (Reserve Bank of India, 2001:17)

2.3.5 Other Objectives:

a) Management Information Systems are observe to be a subset of the overall internal controls procedures in a business, which cover knowledge, documents, and technologies, procedures, used by the management accountants to solve the management problems. (Reserve Bank of India, 2001:17-20)

b) Ensuring that the implementation of Information Technology in the organization is in accordance with the parameters laid down in the Security Policy of the organization, as approved by the Board of Directors;

c) Verifying whether the information systems procedures and policies have been devised for the entire organization and that the organization's systems, procedures and practices are adhered to and that due prudence is exercised at all times in accordance with the circulars and instructions for a computerized environment, issued management of the organization;

d) Verifying whether proper security policies/procedures have been formulated and implemented regarding the duties of the system administrators, system administrators and persons operating the system for daily operations;

e) Contributing effectively towards the minimization of computer abuses/crimes by suggesting steps for removing any laxity/carelessness observed in the physical and logical controls. (Reserve Bank of India, 2001:17-20)

f) Suggesting improvements in the security controls for the information systems.

g) Acting as an advisor to the management of the organization for improving security and Information Technology(IT) implementation standards.
(Reserve Bank of India, 2001:17-20)

2.4 Benefits of Management Information System

Information systems are implemented within an organization for the benefit/purpose of improving the effectiveness and efficiency of that organization. Capabilities of the information system and characteristics of the organization, its work systems, its people and its development and implementation methodologies together determine the extent to which that purpose is achieved. (Wikipedia, the free encyclopedia: Sunday, January2,2011)

2.5 Scope of Management Information System

The Purpose and Scope of Management Information Systems can be defined as 'The combination of human and computer based resources that results in the collection, storage, retrieval, communication and use of data for the purpose of efficient management of operations and for business planning'. (www.coursework.info: Sunday, January 2, 2011)

2.6 Types of Management Information System

- **Data bank Information systems:** refer to creation of a database by classifying and storing data which might be potentially useful to the decision-maker. The information provided by the databank is merely suggestive. The decision-maker has to determine contextually the cause and effect relationships. Management Information System designs based on the databank information system are better suited for unstructured decisions. (Davis an(www.course work.info)Olson: Friday, January 31,2011)

- **Predictive information systems:** provide source and data along with predictions and inferences. The decision-maker can also enquire as to 'what if a certain action is taken?' and whether the underlying assumptions are true. This type of Management Information System is useful for semi-structured decisions. (Davis an(www.course work.info)Olson: Friday, January 31,2011)

- **Decision-making information systems:** provide expert advice to the decision-maker either in the form of a single recommended course of action or as criteria for choice, given the value system prevailing in the organization. The decision-maker has just to approve, disapprove or modify the recommendation. Decision-making information systems are suitable for structured decisions. Operations research and cost-effectiveness studies are examples of decision-making information systems. (Davis an(www.course work.info)Olson: Friday, January 31,2011)

- **Decision-taking information systems:** integrate predictive information and decision-making systems. (Davis an(www.course work.info)Olson: Friday, January 31,2011)

2.7 Management Information System Process

2.7.1 First establish management information needs and formulate broad systems objectives so as to delineate important decision areas (e.g., general management, financial management or human resources management). Within these decision areas there will be factors relevant to the management decision areas, e.g. general management will be concerned about its relationship with the managing board, institute-client relationships and information to be provided to the staff. This will then lead the design team to ask what information units will be needed to monitor the identified factors of concern. Positions or managers needing information for decision making will be identified.

2.7.2 Develop a general description of a possible Management Information System as a coarse design. This design will have to further refine by more precise specifications. For efficient management of information processing, the management Information System should be based on a few databases related to different sub-systems of the organization.

2.7.3 Once the information units needed have been determined and a systems design developed, decide how information will be collected. Positions will be allocated responsibility for generating and packaging the information.

2.7.4 Develop a network showing information flows.

2.7.5 Test the system until it meets the operational requirements, considering the specifications stipulated for performance and the specified organizational constraints.

2.7.6 Re-check that all the critical data pertaining to various sub-systems and for the organization as a whole are fully captured. Ensure that information is generated in a timely manner.

2.7.7 Monitor actual implementation of the Management Information System and its functioning from time to time.

(Davis an(www.course work.info)Olson: Friday, January 31,2011)

2.8 Management Information System audit in Banks

The scope and objective of Management Information System auditing is normally defined by the Bank's Management. Management Information System auditing in Banks could be broadly classified into two categories:

a) Management Information System auditing at Information Technology(IT) department (review of Information Technology(IT) controls applicable across the Bank);

b) Management Information System auditing at computerized branches. The details of this audit would vary depending on the type of Information Technology(IT) deployment at the branch.

Sample list of Management Information System auditing with scope and objectives which are relevant to Banks and its branches include, among other things: implementation audit; environmental and physical access controls review; logical access controls review; Information System(IS) operations review; System Development Life Cycle (SDLC) controls review; business continuity planning review; application controls and data security review; Information Technology(IT) security review; Information Technology(IT) policies review; certification of vendor software; and Information Technology(IT) Training. (A. Rafeq, 2003:1107)

2.8.1 Implementation Audit

This audit covers review of controls over all the critical areas of Information Technology(IT) operations in branches of a Bank. The areas to be reviewed are usually provided by the Bank with control objectives and checklists as relevant to the branch. It includes review of controls relating to environmental access, physical access, logical access, software installation, change management, parameter settings, business continuity, user management, etc. (A. Rafeq, 2003:1107-1108)

2.8.2 Review of Environmental And Physical Access Controls

The review covers the controls over the Information Technology(IT) process of managing facilities specifically the environmental and physical security relating to information technology. It is expected to provide assurance to the management that the process of environment and physical access to Information Technology(IT) resources are appropriately controlled and monitored so as to satisfy the business requirement of providing a suitable physical surrounding which protects the Information Technology(IT) equipment and people against man-made and natural hazards. Environmental access controls are controls related to facilities provided for housing Information Technology(IT) resources such as those related to physical location, power sources-electricity, generator, fire extinguisher, smoke detector alarm, humidifiers, etc. Physical access controls are controls relating to physical security such as locks, security guard, door alarms, restricted entry, visitor control, video monitoring, etc. (A. Rafeq, 2003:1107-1108)

2.8.3. Logical Access Controls Review

This review covers the control over the Information Technology(IT) process of ensuing systems security specifically related to logical access and is expected to provide assurance to the management that the processes in place in granting access to systems satisfy the business requirements of safeguarding information against unauthorized use, disclosure or modification, damage or loss. It relates to the controls relating to the logical access to the data and information and its protection by providing access on a need to know on a need to do basis. This review covers access controls relating to operating software, telecommunications software, database software and applications software(access controls). The major focus areas of controls to be reviewed relate to access controls at each layer of Information Technology(IT) primarily from perspective of security—that is, from the perspective of maintaining confidentiality, integrity and availability of data. (A. Rafeq, 2003:1107-1108)

2.8.4. Information System Operations Controls Review

This review covers the controls over the Information Technology(IT) process of ensuring that there are appropriate controls relating to IS Administration, organization and management such as formulation of policies, procedures and practices relating to information systems. (A. Rafeq, 2003:1107-1108)

2.8.5. System Development Life Cycle (SDLC) Controls Review

This review covers the controls over the system development life cycle methodology adapted by the enterprise so as to provide an assurance that the business requirements are satisfied system(software, data and infrastructure) are clearly defined before a development, implementation or modification project is approved. The system development life cycle methodology is reviewed to confirm whether the solution's functional and operational requirements are specified including performance, safety, reliability, compatibility, security and legislation. (A. Rafeq, 2003:1107-1108)

2.8.6. Business Contingency Planning Review

This review covers the control over the Information Technology(IT) process of ensuring continuous service and is expected to provide assurance that there are available processes that satisfy the business requirements so as to make sure Information Technology(IT) services are available as required and to ensure a minimum business impact in the event of a major disruption. It primarily deals with controls relating to the capability of the organization to meet any undesired events, which could disrupt the operations partially or wholly. The focus of this review is to assess the policies, procedures and practices in place to ensure that the organization is in a position to recover from any disaster affecting the IT and, thus, the operations. (A. Rafeq, 2003:1107-1108)

2.8.7. Review of Application Controls and Data Security

This review covers the control over the Information Technology(IT) process of managing and protecting data and is expected to provide assurance that appropriate and adequate controls are available in the application software deployed at the enterprise and these satisfy the business requirement of ensuring that data remains complete, accurate and valid during its input, update and storage. It involves review of controls available in the specified applications package. It also involves assessment of controls at various stages such as Input, Processing, Output, Storage, Retrieval and Transmission. The available security features in the package relating to Confidentiality, Integrity and Availability of data are assessed. The prevailing Organization structure, policies, procedures and practices were mapped with the information systems to assess controls. (A. Rafeq, 2003:1107-1108)

2.8.8. Information Technology Security Review

This review involves evaluation of security in the Information Technology(IT) environment at various layers. This involves assessment of security from the technology perspective. It also covers security at various layers of Information Technology (IT) Such as physical layer, network layer, operation system layer, database layer and applications. (A. Rafeq, 2003:1107-1108)

2.8.9. Information Technology Policies Review

This review involves evaluation of policies, procedures and practices relating to the Information Technology(IT) environment. It involves assessment of policies to ensure their adequacy and appropriateness as per the requirements of the enterprises. (A. Rafeq, 2003:1107-1108)

2.8.10. Certification of Vendor Software

This involves review of application software for assessing whether all the Banking related controls as claimed by the vendor are met by the application. The primary objective of this assignment is to conduct applications review of the package so as to review and evaluate the availability, adequacy and appropriateness of controls from the Banker's (user's) perspective. The review is expected to provide reasonable assurance to the users on the availability, adequacy and appropriateness of minimum level of controls in the package, in general as per accepted standard and specifically as adapted to Banking. (A. Rafeq, 2003:1107-1108)

2.8.11. Information System Training

Banks require training programs for their Information Technology(IT) and non-Information Technology(IT) professionals. The areas of training could cover various aspects of Information Technology(IT) implementation, Information Technology(IT) audit, security and control. (A. Rafeq 2003:1107-1108)

2.9 KNOWLEDGE, SKILLS, AND ABILITIES NEEDED TO PERFORM MANAGEMENT INFORMATION SYSTEM PROCEDURES IN A COMPUTER BASED ENVIRONMENT APPENDIX

The technical and functional skills, knowledge, abilities listed below are based on general occupational qualifications for computer and Information Systems Managers commonly recognized by most employers. Typically, you will not be required to have all of the skills, knowledge, abilities listed to be a successful performer. Recruitment and selection standards for an individual state job must be based on the specific knowledge, skills and abilities for that job as indicated in the job announcement and job description in the Employee Work Profile. (http://jobs.virginia.gov/careerguides/CompInfosSysMgr.htm:Wednesday,March 3,2011)

Knowledge

- Business and management principles involved in strategic planning, resource allocation, human resources modeling, leadership technique, production methods, and coordination of people and resources.

- Circuit boards, processors, chips, electronic equipment, and computer hardware and software, including applications and programming.

- Arithmetic, algebra, geometry, calculus, statistics, and their applications.

- Structure and content of the English language including the meaning and spelling words, rules of compositions, and grammar.

- Economic and accounting principles and practices, the financial markets, banking and the analysis and reporting of financial data.

- Principles and procedures for personnel recruitment, selection, training, compensation and benefits, labor relations and negotiation, and personnel information systems.

- Principles and methods for curriculum and training design, teaching and instruction for and individuals groups, and the measurement of training effects.

- Administrative and clerical procedures and system such as word processing, managing files and records, stenography and transcription, designing forms, and other office procedures and terminology.

- Principles and processes for providing customer and personal services. This includes customer needs assessment, meeting quality standards for services, and evaluation of customer satisfaction.

- Human behavior and performance; individual differences in ability, personality, and interests; learning and motivation; psychological research methods; and the assessment and treatment of behavioral and affective disorders.
(http://jobs.virginia.gov/careerguides/CompInfosSysMgr.htm: Wednesday, March 3,2001)

Skills

- Adjusting actions in relation to others' actions.

- Understanding written sentences and paragraphs in work related documents.

- Communication effectively in writing as appropriate for the needs of the audience.

- Understanding the implications of new information for both current and future problem-
   solving and decision-making.

- Considering the relative costs and benefits of potential actions to choose the most
   Appropriate one.

- Talking to others to convey information effectively.

- Motivating, developing, directing people as they work, identifying the best people for the
   job.

- Using logic and reasoning to identify the strengths and weaknesses of alternative solutions,
   conclusions or approaches to problems.

- Analyzing needs and product requirements to create a design.

- Being aware of others' reactions and understanding why they react as they do.
   (http://jobs.virginia.gov/careerguides/CompInfosSysMgr.htm: Wednesday, March 3,2001)

Abilities

- Listen to and understand information and ideas presented through spoken words and
   sentences.

- Communicate information and ideas in speaking so others will understand.

- Read and understand information and ideas presented in writing.

- Communicate information and ideas in writing so others will understand.

- Choose the right mathematical methods or formulas to solve a problem.

- Add, subtract, multiply or divide quickly and correctly.

- Speak clearly so others can understand you.

- Apply general rules to specific problems to produce answers that make sense.

- See details at close range (within a few feet of the observer).

- Combine pieces of information to form general rules or conclusions (includes finding a
   relationship among seemingly unrelated events).
   (http://jobs.virginia.gov/careerguides/CompInfosSysMgr.htm: Wednesday, March 3,2001)

CHAPTER THREE

3. DATA PRESENTATION, ANALYSIS & NTERPRETATION

3.1 INTRODUCTION

This chapter presents the analysis of results obtained thorough self-administered questionnaires and a one-to-one interview of the 90 questionnaires distributed to various groups within the Bank, only 53 usable questionnaires were returned. A 70 percent response rate is fairly satisfactory, given the exploratory nature of the study within a short time. Hence, conclusion drawn from such a large response rate can fairly be taken as representative. In order to augment the data collected through the questionnaire, a one-to-one interview was conducted with a Senior Management Information Systems Auditor of the Bank. The analyses and discussions are made through the use of some common qualitative and quantitative techniques. Such techniques as simple tabulations, cross tabulations, and percentages tests were used as deemed appropriate. This triangulation of multiple sources and methods is believed to enhance the validity of the conclusions and possible recommendations to be drawn from the research.

3.2 RESPONDENTS CHARACTERISTICS

From 53 usable questionnaires, 3 were filled by Manager, department & division heads of the Bank; 30 were filled by respondents from other staff (IT staff) & supervisor and 20 were filled by respondents from the Management Information System unit of the Bank. The qualifications of the respondents are as presented in Table 3.1 below.

Table 3.1 Summary of Respondents' Qualifications

No.	Item	Classification	Response in	
			No.	Percentage
1	Highest educational level attained	Diploma& BA(BSc)	52	98.11
		MA(MSc)	1	1.89
2	Work experience in the Bank	0-5 years	13	24.53
		6-10 years	30	56.60
		11-15 years	10	18.87
3	Work experience in MIS	0-5 years	3	100.00
		6-10 years	0	0.00
		11-15 years	0	0.00

As can be seen from table 3.1, all of the respondents have at least Diploma & First Degree and most of them (56.60 percent) have over six years experience in Dashen Bank. There is only three Information Systems Auditors who have experience in Management Information System. We believe this composition would give us adequate insight in to the Management Information System practice of Dashen Bank.

3.3 MANAGEMENT INFORMATION SYSTEMS PRACTICE

Questionnaires focus on the Management Information System function of the Bank. This set of questions were asked to specifically elicit information regarding: (i) the awareness of users (i.e., Management, IT staff and Management Information System Auditor) regarding the role that a Management Information System function may play; (ii) staffing issues; (iii) some hardware and software infrastructure; and (iv) Management Information System policies and procedures.

3.3.1 Awareness of the Role of Management Information System Function

Management Information System is such a young profession within the context of our country, gauging the awareness of employees of the Bank on the role of Management Information System function towards the attainment of the Banks overall objective is important. To this end, respondents seem to be pretty aware of the role that a sound Management Information System function may play towards the success of the Bank. A review of their responses reveal that, they think the Management Information System function can play significant role towards the achievement of the overall goals of the Bank by: (i) identifying security issues that are overlooked by IT security and recommending appropriate actions to be taken; (ii) identifying the potential threats to which the IS of the Bank is exposed and forwarding possible solutions and new ways of doing thing; (iii) ensuring proper implementation of the Bank's information system policies and procedures; (iv) ensuring whether the information generated by the system is always accurate, reliable, and timely and system is available all the time; (v) avoiding inefficiencies and duplication of information; (vi) providing unrestricted and frequent report on discrepancies and making sure that corrective action is taken; and (vii) ensuring that the information system is not misappropriated or misused.

3.3.2 Staffing Issues in the Management Information System Division

For the successful achievement of the Banks overall objectives, deployment of competent and adequate staff is very important. It is more so when the job involve some new technologies. Hence, this section examines issues related to the competence and adequacy of the staff at the Management Information System unit of the Bank.

Table 3.2 presents a summary of the responses related to the staffing issues of the Management Information System division of the Bank.

Item	Response	Frequency	Percentage
Do you think that the Management Information Systems section of the Bank is staffed with competent people?	Yes	15	45.46
	No	18	54.54
	Total	**33**	**100.00**
The deficiency of staff in the Management Information Systems section.			
a.Lack of adequate technical knowledge.		10	55.56
d. Lack of motivation		3	16.67
e. Lack of experience		5	27.77
	Total	**18**	**100.00**
What remedial action(s) do you recommend to be taken by the bank?			
b. Providing on-the-job training to staff in the section		13	72.22
c. Providing off-the-job training to staff in the section		5	27.78
	Total	**18**	**100.00**
Does the Bank provide trainings for its Management Information Systems staff?	Yes	31	93.94
	No	2	6.06
	Total	**33**	**100.00**
Do you think those trainings helped the Management Information System staff in carrying out their day-to-day responsibilities?	Yes	31	93.94
	No	2	6.06
	Total	**33**	**100.00**
Did you attend any training on Management Information System?	Yes	29	87.87
	No	4	12.13
	Total	**33**	**100.00**
Do you think the training helped you to carry out your day-to-day activities?	Yes	31	93.94
	No	2	6.06
	Total	**33**	**100.00**

Taking inventory of the competence of the staff in the Management Information System unit appears important. One of the questions in this set reveals that it is the view of the majority (54.54 percent or 18) of the respondents that the Management Information System division is not staffed with competent people. A more interesting point exposed through a closer examination of the data is that the staffs in the Management Information System unit don't buy the idea that the unit is adequately staffed. Some of the deficiencies mentioned included, among other things, the view of (55.56 Percent or 10) respondent lack of technical knowledge, (27.77 Percent or 5) respondent lack of experience and (16.67 percent or 3) respondent lack of motivations are the main deficiencies. The respondent training is a core instrument to alleviate problems of incompetence with providing on-the-job training (72.22 percent or 13) & providing off-the job training (27.78 Percent of 5), another question was asked regarding the provision, adequacy, and relevance of training provided to Management Information System staff by the Bank. The attitude of an overwhelming majority (93.94 percent or 31 out of 33) of the respondent's view that the Bank provides training to its staff in the Management Information System division. The majority of them (93.94 percent or 31 out of 33) also believe that these trainings have helped the staff in Management Information System unit to carry out their day-to-day responsibilities. A further follow-up question with the Management Information System units also confirms that they did attend trainings on Management Information System (87.87 percent or 29 out of 33) and also think that the training were relevant (93.94 percent or 31 out of 33). Thus, while the respondents view the relevant trainings are being provided to the staff in the Management Information System unit, the majority think that the unit is still not staffed with competent people. Hence, it implies that more desires to be sought to enhance the competence of the staff in the unit. Now, turning towards the solution pointed, respondents suggested that they still need some more training and exposure, experience sharing with other experts in the field, and having additional experienced staff to improve the competence of the unit.

3.3.3. Infrastructure Related Issues in the Management Information System division

In addition to the human capital, ensuring that the Management Information System unit is equipped with adequate hardware and software infrastructures is another step towards the achievement of the objective of the division in particular and that of the Bank in general. To this end, some questions items probed in to the availability, accessibility and adequacy of software and hardware infrastructures in the Management Information System division.

Table 3.3 Summary of Responses Related to Infrastructure

Item	Response	Frequency	Percentage
Do you think that the Management Information Systems section of the bank is adequately equipped with hardware and software infrastructure?	Yes	24	72.73
	No	9	27.72
Total		**33**	**100.00**
Is there Management Information System trial in your Bank that enables the information system Manager to view the major activities/changes?	Yes	10	30.30
	No	23	69.70
Total		**33**	**100.00**

As can be seen from Table 3.3, (24 out of 33) of the respondents believe that the Management Information System unit is adequately equipped while the rest believe that it is not. And they suggest that the unit in fact doesn't have adequate infrastructure in terms of internet connection/access. Further, the one-to-one interview revealed that the Management Information System unit currently is not using audit software to audit the system. Another question asked as to the availability of audit trial reveals that (23 out of 33) of the respondents believes that there is not audit trail in the Bank, the respondent give different reason for that shortage of time is one of their suggestion. This would have helped Management Information System staff to major activities or changes going on in the IS of the Bank.

3.3.4 Availability and Use of Intranet Related Issue

The other set of items included in the questionnaires were those focusing on the availability and use of intranet. These questions were asked to elicit information from information system auditors and IT staff on the purpose of the intranet. Table 3.4 presents a summary of the responses regarding the availability of intranet.

Table 3.4 Summary of Availability and use of Intranet

Questions	Response	Frequency	Percentage
Do you have the intranet?	Yes	29	78.78
	No	4	21.22
	Total	**33**	**100.00**
For what purpose do you use the internet?			
a. Hardware sharing		9	31.03
b. Software sharing		8	27.59
c. Document sharing		4	13.79
d. Information sharing		8	27.59
	Total	**29**	**100.00**
How often do you review the contents of the website?			
a. Weekly		33	100.00
Which safeguarding methods do you use?			
a. Antivirus		10	30.30
b. Access control		15	45.45
c. Locked doors		8	24.24
	Total	**33**	**100.00**

As can be seen from Table 3.4, the respondents unanimously approve the existence of an intranet facility. As confirmed by the respondent the existence of intranet is a powerful tool for the purpose of sharing information (8 respondent), sharing software (8 respondent), sharing hardware (9 respondent) and sharing documents (4 respondent). The view of (25 respondent out of 33) the website content is reviewed weekly. And the other question is method of safeguarding (30 out of 33) responses Antivirus, (9 out of 33) responses Access control and (17 out of 33) responses Locked doors.

3.3.5 Management Information System Policies and Procedures Related Issues

A further set of questions probed into matters related to Management Information System policies and procedures. These questions were particularly aimed at eliciting information regarding the availability and adequacy of Management Information System policies and procedures manual and the compliance of users to the same. Table 3.5 presents a summary of the responses regarding the Management Information System policies and procedures related issues.

Table 3.5 Summary of Responses Related to Management Information System Manual

Item	Response	Frequency	Percentage
Does the Bank have Management Information System manual?	Yes	30	90.90
	No	3	9.1
Total		**33**	**100.00**
Do you think it is adequate to enable the Management Information System manager to carry out his/her day-to-day responsibilities?	Yes	29	87.87
	No	4	1.13
Total		**33**	**100.00**
Do you think that the Management Information System manual of the Bank is observed by the information systems Manager?	Yes	28	84.84
	No	5	15.16
Total		**33**	**100.00**

As can be seen from table 3.5, of the 32 respondents who returned usable responses, 90.90 percent (30 respondents) were aware of the existence of the Management Information System policies and procedures manual. However, the remaining 9.1 percent (3 respondent) do not know wither exist it, 87.87 percent (29 respondents) believe that the manual is adequate to enable the information systems Manager discharge her/his day-to-day duties and responsibilities.

A marginal 1.13 percent just don't think that is adequate. A one-to-one review with the Senior Management Information System auditor revealed that the Management Information System manual was never been reviewed although the officer agrees to the notion that it should be reviewed on regular (every two years) basis.

Also revealed was the fact that the respondents unanimously (84.84 percent or 28 out of 33) agree that users observe the Management Information System manual while discharging their day-to-day responsibilities. A cursory review of some of the typical reports by Management Information System Manager also confirms that the Managers comply with the policies and procedures manual.

3.4. The responses of Interview
Management Information System auditors

Management Information System practice of the Bank examined by (i) the awareness of users (i.e., Management, IT staff and Management Information System Auditor) regarding the role that a Management Information System function may play; (ii) staffing issues; (iii) some hardware and software infrastructure; and (iv) Management Information System policies and procedures.

To ensure the hardware and software resources are protected from physical hazards and theft, the Bank uses: (i) a human guard system to ensure that the Bank as a whole is protected mainly from theft, robbery and burglary; (ii) periodic audit of the data center to ensure that the gate to it is locked all the time; (iii)log book system to maintain record of who is going in to and out of the data center. (iv) limited access for staff through the use of access card system; (v) periodic audit of air conditioner systems to ensure that they are functional all the time; (vi) ensuring branch servers are physically secured or protected from dust by placing them under rack; (vii) readily available emergency telephone numbers so that anyone can use them for notifying the relevant authorities (such as fire brigades, telecommunication, EEPCO) at times of emergency; and (viii) periodic audit of fire extinguishers, UPS, and alarm systems to ensure that they are functional.

To ensure that the logical access is controlled, the Bank uses such procedures as: (i) defining rules for accessing the system; (ii) creating user roles and granting only necessary roles to user; (iii) enabling users to only access the system through their distinct user name and password; (iv) auditing the uses log file; (v) ensuring that the application servers and the individual computers are password protected; (vi) ensuring that latest antivirus is loaded on each computer and the new virus definitions (patches) are updated regularly; (vii) ensuring CD, floppy, and USB drives are disabled on each computers so as to control customer data/information theft; (viii) protecting administrator password; (ix) using authorization requirements (a system of maker and checker) to ensure that no single person can authorize cash withdrawal or transfer (x) using dual control of sensitive passwords; and (xi) limiting users right and privileges. These procedures, in part, are also used to assess system security and ensure data integrity.

The major task performed by the IS of the Bank is that it allows users to record different transactions and also generates different reports as per users' request.

System Security needs close control, most of the tools and procedures used to audit physical and logical access control are also used to assess system security. Such tools as suing firewalls; disabling CD, floppy, and USB drives; granting user rights according to their responsibility; and strict control over sensitive passwords are included among the tools used to assess and ensure system and data security. Further, such procedures as: (i) limiting access to the data center; and (ii) maintaining backup library are additional steps that the back takes to ensure data security.

The management Information System Manual was never been reviewed although the officer agrees to the notion that it should be reviewed on regular (every two years) basis.

Management Information System unit of the Bank ensures data integrity by periodically checking the conformity of outputs/reports generated with the expectation.

Techniques the bank use to assess the security of the system is disabling CD, floppy, and USB drives; granting user rights according to their responsibility; and strict control over sensitive passwords are included among the tools used to assess and ensure system and data security. Further, such procedures as: (i) limiting access to the data center; and (ii) maintaining backup library are additional steps that the back takes to ensure data security.

To control thefts related to electronic supply transfer, the bank use (i) periodic audit of the data center to ensure that the gate to it is locked all the time; (iii)log book system to maintain record of who is going in to and out of the data center. (iv) limited access for staff through the use of access card system.

Any system has to be efficient as well as effective. Dashen Banks system should not be the exception to this rule. The Management Information System unit ensures that the system is efficient and effective by using such procedures as: (i) review of available disk space; (ii) review of system output/reports; and (iii) review of data files. Whenever the review disk space reveals the necessity additional disk space, it is enlarged. Furthermore, effectiveness is checked by looking at whether the expected outputs/reports are generated by the system.

Further, the one-to-one interview revealed that the Management Information System unit currently is not using audit software to audit the system.

The one-on-one interview revealed the Management Information System unit of the Bank faces the following challenges:

- Lack of awareness and cooperation from major user departments like IT;
- Lack of the habit of documenting activities performed on the database from the backend;
- Lack of the audit trail that is used to review the activities performed on the database;
- Lack of specific training on the field;
- Inadequate connectivity and access to internet by the staff members of the Management Information System units;

The suggestions of respondent to solve the problems and challenges encountered in applying information system in the bank, making the solution for every problem as it needs.

To ensure the security of accounting records, backups, documentation against unauthorized addition, deletion, modification/alteration, or access the Management Information System unit checks log files; looks into various memos prepared by branches on alteration of data; and checking the reports generated by the system and so on.

CHAPTER FOUR

4. SUMMARYOF FINDINGS, CONCLUSIONS & RECOMMENDATIONS

4.1 SUMMARY OF FINDINGS

The emerging interest in Management Information Systems is a reflection of its role in helping organizations attain their set objectives. In today's era of information technology, companies are increasingly relying Management Information System to ensure that their resources are guarded and decision making is more efficient and effective. The role of Management Information System is especially important for companies operating in the financial industry. This study explores the Management Information System practice of one of the private banks in Ethiopia – Dashen Bank S.C. It aims to assess the Management Information System environment in the bank and the challenges thereof. To this end, necessary data was gathered both from primary as well as secondary sources. Based on analysis of 90 self-administered questionnaires and an in depth interview with a key informant, the following Summary are made:

- Although 90.90% employees seem to be aware of the existence of the Management Information System policies and procedure manual, 1.13% employees claims that those documents are inadequate.

- In contrast to the claim that appropriate procedures and tools are put in place to protect the IS resources of the Bank, there is persistence counter-claim that the IS resources vulnerable to internal and external; natural and man –made attacks.

- While there seems to be a consensus that the Bank is providing relevant trainings that were helpful in upgrading the competence of Management Information system staff, it appears that much desires to be done.

- It is important that the Bank has quite appreciable IS infrastructure in place. The relatively trained people, the hardware and software, the policies and procures manual, the intranet, etc are just some of them to mention. Nonetheless, absence or lack of such things as internet connectivity/access, audit software, audit trial, could possibly undermine the success of the Management Information System unit as well as the Bank as a whole.

- The need for effective and efficient use of resources is evident. Apparently, the Management Information System unit focus on the security features of the IS of the Bank. However, little attention was given for enhancing the efficiency and effectiveness of IS resources.

- The Management Information System manual also is far from adequate. It should be reviewed and improved so that it may include such features as; policies and procedures related to procurement of IT software and hardware; and further features related to fire wall audit.

- Although there is a contention that appropriate procedures and tools are in place to ensure security of the Bank's IS, it should develop a stricter requirement so that the staff in-charge will: (i) close any open ports like CD drives, floppy drives, and USP-flash drives; (ii) periodically review and updated the security policies and procedures; (iii) devise appropriate mechanisms to ensure the implementation of policies and procedures; (iv) conduct a regular and frequent audit of the IS; (v) maintain tested backup at secured places; (vi) maintain audit trails and security cameras; and (vii) ensure network security. So doing will help the Bank minimize the exposure of its IS resources to various threats.

- While it is commendable that the Bank provides relevant trainings to the staff in Management Information System unit, the competence of those staffs is far from adequate. Thus, the need for provision of additional on-the-job and off-the-job trainings; experience sharing exposures with seasoned experts in the field; closer coaching by superiors; and recruitment of more qualified personnel cannot be overemphasized.

- Some of the infrastructure problems are 'real' and others are 'pseudo'. For instance, while the internet connectivity/access problem can be readily solved without even involving top management, its provision can solve some the intertwined challenges of staff competence. Absence or lack of audit trail appears to be a major problem. Both the IT and the Management Information System units stand for one common goal – providing support for the core operations of the Bank. If the IT department could properly document the major changes performed on the database and if audit trails of the data base could be maintained, enormous information can be uncovered regarding threats the IS resources. Some sort of orientation and consensus building may rectify this problem. On the other hand, the non use of audit software is not a surprise given that the field itself is in its infant stage in the country. However, the enormous efficiency and effectiveness benefit that comes along with the use of audit software is widely witnessed. Hence, the Bank may have to look in to the pros and cons of using such software for its Management Information System.

- Finally, Management Information System section of the Bank should also give attention to other objectives of System audit apart for security (Safeguarding information system assets/resources). Namely, maintaining data integrity; maintaining system effectiveness; and ensuring system efficiency.

4.1 CONCLUSION

Most employees seem to be aware of the existence of the Management Information System policies and procedures manual, considerable number claims that those documents are inadequate. Furthermore, the fact that neither is reviewed regularly may explain the inadequacies of those documents. Despite the fact that a policy and procedures manual should be observed all the time, whenever possible, the Management Information System policies and procedures manual are routinely observed.

In contrast to the claim that appropriate procedures and tools are put in place to protect the IS resources of the Bank, there is persistence counter-claim that the IS resources vulnerable to internal and external; natural and man-made attacks.

Despite a prevalent appreciation of the role of the Management Information System unit towards the sustained achievement of the Bank's goal, it appears that the unit is far from being adequately staffed and equipped. Deficiencies of knowledge, skills, and abilities are common. While there seems to be a consensus that the Bank is providing relevant trainings that were helpful in upgrading the competence of Management Information System staff, it appears that much desires to be done.

Should be commended that the Bank has quite appreciable IS infrastructure in place. The relatively trained people, the hardware and software, the policies and procedures manual, the intranet, etc are just some of them to mention. Nonetheless, absence or lack of such things as internet connectivity/access, audit software, audit trial, could possibly undermine the success of the Management Information System unit as well as the Bank as a whole.

The need for effective and efficient use of resources is evident. Apparently, the Management Information System unit predominantly focus on the security features of the IS of the Bank. However, very litter attention was given for enhancing the efficiency and effectiveness of IS resources.

4.2 RECOMMENDATIONS

Based on the analysis and discussions chapter and the conclusions made in the previous section, the following recommendations are made so that the Management Information System practice of the Bank could be improved.

The Management Information System manual is far from adequate. It should be reviewed and improved so that it may include such features as; policies and procedures related to procurement of IT software and hardware; and further features related to fire wall audit.

Although there is a contention that appropriate procedures and tools are in place to ensure security of the Bank's IS, it should develop a stricter requirement so that the staff in-charge will: (i) close any open ports like CD drives, floppy drives, and USP-flash drives; (ii) periodically review and update the security policies and procedures; (iii) devise appropriate mechanisms to ensure the implementation of policies and procedures; (iv) conduct a regular and frequent audit of the IS; (v) maintain tested backup at secured places; (vi) maintain audit trials and security cameras; and (vii) ensure network security. So doing will help the Bank minimize the exposure of its IS resources to various threats.

While it is commendable that the Bank provides relevant trainings to the staff in Management Information System unit, the competence of those staffs is far from adequate. Thus, the need for provision of additional on-the-job trainings; experience sharing exposures with seasoned experts in the field; closer coaching by superiors; and recruitment of more qualified personnel cannot be overemphasized.

Some of the infrastructure problems are 'real' and others are 'pseudo'. For instance, while the internet connectivity/access problem can be readily solved without even involving top management, its provision can solve some the intertwined challenges of staff competence. Absence or lack of audit trail appears to be a major problem. Both the IT and the Management Information System units stand for one common goal-providing support for the core operations of the Bank. If the IT department could properly document the major changes performed on the database and if audit trails of the data base could be maintained, enormous information can be uncovered regarding threats to the IS resources. Some sort of orientation and consensus building may rectify this problem. On the other hand, the non-use of audit software is not a surprise given that the field itself is in its infant stage in the country. However, the enormous efficiency and effectiveness benefit that comes along with the use of audit software is widely witnessed. Hence, the Bank may have to look in to the pros and cons of using such software for its Management Information System.

Finally, Management Information System section of the Bank should also give attention to other objectives of system audit apart from security (safeguarding information system assets/resources). Namely, maintaining data integrity; maintaining system effectiveness; and ensuring system efficiency.

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APPENDIX- A

INTERVIEW GUIDE QUESTIONS
FOR INFORMATION SYSTEM AUDITORS

1. How do you examine Management Information System practice in the bank?

    _____

    _____

2. How do you make sure the physical access control?

    _____

    _____

3. How do you make sure the logical access control?

    _____

    _____

4. What are the different tasks performed by the system of the bank?

    _____

    _____

    _____

    _____

5. What are the major areas of system that need close control?

    _____

    _____

    _____

    _____

6. How frequently do you review the system security policy?

    _____

    _____

7. How often do you examine the Management Information System Manual?

    _____

    _____

8. How do you verify the data integrity of the different system?

_____

_____

9. What techniques does the bank use in assessing the security of the system?

_____

_____

10. How do you control thefts related to electronic supply transfer?

11. How do you guarantee data security?

_____

_____

12. How do you make certain system efficiency?

_____

_____

13. How do you assess/audit system effectiveness?

_____

_____

14. Do you use any evaluation software? If yes, for what aim? If no, why not?

_____

_____

15. What are the major problems and challenges come across in applying Management Information system in the bank?

_____

_____

16. What are your suggestions to solve the problems and challenges encountered in applying Information system in the bank?

_____

_____

17. How do you ensure the security of accounting records, backups, documentation against unauthorized addition, deletion, modification/alteration, of access?

_____

_____

SURVEY QUESTIONNAIRE FOR
MANAGER & INFORMATION TECHNOLOGY STAFF

Dear respondent,

The use of this questionnaire is to gather data on management information system practice at Dashen Bank S.C. The data you provide is to be used for a case study meant for a senior essay required for a partial fulfillment of a BA degree in management at the St. Mary's University College. The success of this study primarily hinges on the information gathered through this questionnaire. Hence, your honest response is highly valued. As the information you provide is used only in collective form, the study maintains the confidentiality of the information you provide.

In filling the questionnaire:

1. You need not write your name.
2. For questions involving choices, kindly mark (X) in the box provided corresponding to your answer.
3. For questions involving multiple choices, kindly circle on one which you think is more suitable.
4. For open ended questions, kindly write the answers on the space provided or you may use additional paper if the space provided isn't adequate.
5. Should you need some clarification on the questions, don't hesitate to contact me at the following numbers Roman Kestu 0911488590.

Please kindly fill and return the questionnaire within a week of your receipt.

My heartfelt thanks,

1. Background Information:

1.1. Qualification: Diploma ☐   BA (BSC) Degree ☐

                             MA(MSC) Degree ☐   PhD ☐

                             Others ☐

1.2. Your current position/title in the bank _____

1.3. Your current Department/Division/Section _____

1.4. Work experience in the bank (in Year):

    0-5 ☐   6-10 ☐   10-15 ☐

1.5. Work experience in Management Information System related job (in years):

    0-5 ☐   6-10 ☐   10-15 ☐   15-20 ☐   21 & above ☐

2. Questions related to Management Information System practice

2.1. How do you think does the Management information system function contribute to the success of the bank or your Department/Division/Section/branch?

_____

_____

_____

2.2. Do you think that the Management Information System section of the bank is staffed with competent people?

<div align="center">Yes ☐   No ☐</div>

2.3. If your answer to Q2.2 is No, which of the following do you think is the deficiency of staff in the Management Information Systems section (you may encircle more than one of the following choices)?

   a. Lack of adequate technical knowledge.

   b. Lack of reporting skills

   c. Lack of interpersonal skills

   d. Lack of motivation

   e. Lack of experience

   f. If any other, please specify

_____

_____

_____

2.4. If your answer to Q2.3 is No, what remedial action(s) do you recommend to be taken by the bank (you may encircle more than one of the following choices)?

   a. Hiring more competent staff in the section

   b. Providing on- the-job training to staff in the section

   c. providing off-the-job training to staff in the section

   d. If any other, pleas specify

_____

_____

_____

2.5. Do you have the intranet?

Yes ☐   No ☐

2.6. If your answer to Q2.5 is yes, for what purpose do you use it (you may encircle more than one of the following choices)?

a. Hardware sharing

b. Software sharing

c. Document sharing

d. Information sharing

e. If any other, please specify

_____

_____

_____

2.7. How often do you review the contents of the website?

a. Weekly

b. Monthly

c. Quarterly

d. Semiannually

e. If any other, please specify

_____

_____

_____

2.8. Which safeguarding methods do you use (you may encircle more than one of the following choices)?

a. Antivirus

b. Access control

c. Locked doors

d. If any other, please specify

_____

_____

_____

2.9. Does the bank provide trainings for its Management Information System staff?

Yes ☐   No ☐

2.10. If your answer to Q2.9 is yes, do you think those trainings helped the Management Information Systems staff in carrying out their day-to-day responsibilities?

Yes ☐   No ☐

2.11. Do you think the Management Information System section is adequately equipped?

Yes ☐   No ☐

2.12. If your answer to Q2.11 is No, what do you think is missing?

_____

_____

_____

2.13. Does the bank have Management Information System manual?

Yes ☐   No ☐

2.14. If your answer to Q2.13 is Yes, do you think it is adequate to enable the Management Information System manager to carry out his /her day-to-day responsibilities?

Yes ☐   No ☐

2.15. If your answer to Q2.13 is No, what do you think should be included in to or excluded from the Management Information System manual?

_____

_____

_____

2.16. Do you think that the Management Information Systems manual of the bank is observed by the Management Information System Manager?

Yes ☐   No ☐

2.17. If your answer to Q2.16 is Yes, what do you think does the bank or your Department/division/section do to ensure that the information in the manual are observed?

_____

_____

_____

2.18. If your answer to Q2.16 is No, what do you think should the bank or your
Department/division/section do to ensure that information in the manual are observed?

_____

_____

_____

2.19. Is there Management Information System trial that enables the information system
Manager to view what major activities performed in the system?

Yes ☐   No ☐

2.20. If your answer to Q2.19 is Yes, how often do you review the log?

a. 1 to 2 weeks

b. 2 to 5 weeks

c. 5 to 10 weeks

d. If different, please specify _____

2.21. If your answer to Q 2.19 is No, what do your think is the reason?

_____

_____

_____

2.22. Do you attend any training on Management Information System?

Yes ☐   No ☐

2.23. If your answer to Q2.22 is Yes, do you think the training helped you to carry out your
day-to-day activities?

Yes ☐   No ☐

2.24. Finally, please kindly describe any comments and/or suggestions that you think would
help the bank to improve its Management Information System function?

_____

_____

_____

DECLARATION

I, the undersigned, declare that the thesis/project is my original work and prepared under the guidance of Ato Merga Mekuria . All sources of material used for the manuscript have been duly acknowledged.

Name: _____

Signature: _____

Place of submission: _____

Date of submission: _____

SUBMISSION APPROVAL SHEET

The senior research paper has been submitted to the department of Management in the partial fulfillment for the requirements of BA Degree in Management with my approval as an advisor.

Name:_____

Signature:_____

Date submission:_____