THE ASSESSMENT OF TECHNOLOGICAL IMPACT ON THE EFFECTIVENESS AND EFFICIENCY OF THE BANKING SECTOR THE CASE OF DASHEN BANK S.C

GENENE GETACHEW

A SENIOR ESSAY SUBMITTED TO
THE DEPARTMENT OF MANAGEMENT
BUSINESS FACULITY
ST. MARY'S UNIVERSITY COLLEGE

IN PARTIAL FULFILLMENT OF REQUIREMENTS
FOR THE DEGREE OF BACHELOR OF ARTS IN MANAGEMENT

JULY, 2010
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Approved by the committee of examiners

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CHAPTER ONE

INTRODUCTION

1.1. Background of the Study

The major financial institutions operating in Ethiopia are of banks, insurance companies and microfinance institutions. The number of banks operating in Ethiopia is 15 of which 12 of them are private commercial banks sector and the remaining three are government owned. The increase in the number of private commercial banks and their branch expansions has resulted in increased competition. The competition for market share is also made strong as the private banking sector lack significant difference in their banking service, product offered, policy followed and market place.

The intensified competitive pressure has become one of the driving force for the sector to offer innovative and differentiated banking products or services that are responsive, convenient, accessible and efficient banking services to their customers so as to retain and expand their market share. Technological advancement and its wide spread application has enabled banks to reengineer their services or operations efficiently and to create innovative banking products or services that will differentiate them from others in the industry. The technology has enabled them to offer a more responsive, convenient, and accessible banking services making customer satisfaction at its core.

Recently, the Ethiopian private commercial banking sector is investing huge amount of finance in acquiring the right technology to support their strategies and to stay competitive. But huge investment in technology alone won't bring about the intended results unless the technology is managed wisely.

Unless the technology is managed well and utilized, it has failed to create efficiency and effectiveness of operations. Therefore, the research paper has focused on exploring the potential of technology in contributing to the efficiency and effectiveness of operations and identifying the challenges faced of the private commercial banks, Dashen Bank is the first bank to introduce the art of state technology.

1.2. Background of the Organization

The issuance of the Monetary and Banking proclamation in 1994 (Proclamation No.83/1994) has laid down the legal basis for investment in the banking sector. Following the proclamation, Dashen Bank was established on September 20, 1995 becoming the second private commercial bank in Ethiopia next to Awash International Bank which was established in 1994.

Since its establishment, Dashen Bank has scored remarkable growth. During the year ended 30 June 2009 its total deposit has increased from birr 6.2 million to birr 7.9 billion with a total of 582,497 depositors. The corporate total asset of the bank amounted to birr 9.7 billion. It has reported total income 755.6 million birr and profit before tax reached birr 352.5 million. The number of area banks (branches) has increased to 52 from with 5 additional Foreign Exchange (forex) bureaus Among these Branches 6 of them are labeled as class A branches. The number of staff at the end of June 2009 stood to 2,249 (13th Annual report for the year ended June 30,2009).

Dashen Bank is also a fore runner in terms of investing in technologically supported innovative banking services. It is the first Bank in Ethiopia to implement a wide area network connecting its various branches. It has also implemented banking software packages to automate and support its daily banking operations. Dashen had implemented the "Micro Banker" banking software package which was later upgraded to the more advanced "Flex Cube" banking software package which has enabled the Bank to offer electronic payment system. In collaboration with VISA and Master Card provide payment cards to its customers. Dashen Bank has installed 40 Automated Teller Machines (ATMs) and 501 Point of Sale (POS) Terminals. (Dashen Bank Annual Report, for the year ended June 30,2009)

1.3. Statement of the Problem

Among the problems that will limit the bank from gaining efficiency and effectiveness of operations are:

It is well recognized that Dashen Bank is issuing up to date technology as compared to its competitors. However, the benefits gained and the challenges encountered thereof is not assessed by the bank or researchers.

Among the benefits acquiring to the bank are customer satisfaction, bank's operational efficiency and growth on the other hand, underutilization of capacity, poor design of technology and trained staff turnover are the major problems expected to face the bank.

Technological system failures at different times that disrupt the basic banking operations creating inconvenience on the bank's effort to offer responsive service to its customers result in dissatisfaction and low technology reliance among the employees, management and customers of the bank.

- Low awareness of technology by the society.
- High telecommunication and internet cost charged by Ethiopian Telecommunication Corporation.
- High cost of banking technology charged by foreign software vendors in foreign currency as local technology and software solution providers are undeveloped.

1.4. Basic Research Question

The following research questions have been addressed by the Survey:

- Has the technology been aligned with the overall strategy of the Bank?
- Is the technology contributing to the efficiency and effectiveness of operations?

1.5. Objectives of the Study

The general objective of the study was to identify the opportunities and challenges faced by the Ethiopian banking sector from utilizing the benefits of the technology.

The specific objectives of the study were:

- assessing the opportunities and benefits gained by Dashen Bank due to acquisition and application of new technologies.

- identifying the facing the Bank in the process of technology to attain or support its strategies on to forward policy recommendations that will improve the benefits and minimize facing the bank using technology.

1.6. Significance of the study

The paper besides contributing to the existing knowledge of ICT, it was assumed to have the following significances:

- The paper has explored the opportunities presented by the technology to the banking sector.
- The paper highlighted the need to manage and utilize the technology so as to exploit its opportunities, support strategies and to generate an attractive profit margin.
- The paper has given an insight into the challenges that will limit the technology from contributing to the attainment of the strategies of the banks and forward policy recommendation.

1.7. Delimitation of the Study

The scope of the paper was limited in identifying and studying the technological challenges that limit the Dashen Banks adds, focusing on three branches attainment of their strategies.

1.8. Operational Definition of Terms

Information Technology:

Used for the capturing of data, processing, storage, and to generate information as an output by relying on computers

Information and communication Technology:

Used for the capturing of data, processing, storage, and to generate information as an output by relying on computers and the communication of the information to the right recipients by relying on communication technologies.

Information System (IS):

An organized combination of people, computer hardware, computer software, telecommunication system, and data resources that collects, transforms, and disseminates information in an organization.

Technology Specialists:

Are those professionals who analyze, design, develop, implement, and maintain the technology such as Programmers, Database Administrators, System Analysts, Network Administrators, and so on.

Electronic Payment Card Systems:

Debit or credit card issued by a bank that allows Cardholders to purchase goods and services.

Automated Teller Machines (ATM):

Machines that make cash payments or provide account information to Cardholders.

Point of Sale Terminals (PoS):

They are terminals that allow cardholders to make purchases or settle payments using their payment card.

Internet Banking:

It is a banking system that relies on the internet to offer banking service to clients.

Mobile Banking:

Banking system allows clients to use their mobile phones to access their bank account.

Back Office Automation:

The key motivation is to reduce operational costs and administrative overhead in conducting banking operations by relying on computers and software programs.

Front Office Automation:

To enable personnel dealing with external parties (customers or other stakeholders) to access centrally-held information responsively by relying on computers and software programs.

1.9. Research Design and Methodology

The following methodologies have been adopted to complete the research paper:

1.9.1. Research Design

The research is a descriptive type of research that seeks to describe what already exists in the banking business, particularly Dashen Bank.

1.9.2. Population and Sampling Technique

Population

The employees and customers of Dashen Bank located in Addis three branches have been considered as the total population.

Defining Sample Unit of the Total Population

Customers:

Three hundred Customers from three class A branches were selected.

Employees:

Ten employees have been selected from each branch purposely with a total of thirty employees and corporate managers.

Sampling Technique/Procedures of sampling

Customer:

Convenient & Random sampling techniques was applied for the research.

Employee:

Purposive sampling

1.9.3. Types of Data Collected

Here in this survey it was tried to employ both primary and secondary data. The primary data has been developed by collecting information through questionnaire and interviews, while secondary data integrated all type of internally generated documents from the internal and external sources like internet, books and other materials available.

1.9.4. Methods of Data Collection

Primary Data:

Primary data was collected using questionnaire and personal observation.

Secondary Data:

As secondary source of data various literatures, journals, officially published financial reports of Dashen Bank was reviewed.

1.9.5. Methods of Data Analysis

Descriptive statistical analysis techniques such as total count and percentages were employed to analyze the data and will be presented using tables.

1.10. Organization of the Study

The paper is organized into four main chapters. The first chapter has focused on introducing the study, organization, problem, research question, objective, significance, scope and methodology adopted. The second chapter presented the review of related literatures. The third chapter dealt with data presentation, analysis and interpretation of the findings of the survey. The last but not the least chapter, chapter four was designed to summarize the main findings of the study and provide recommendations.

CHAPTER TWO

REVIEW OF THE RELATED LITERATURE

In the 1950s and 1960s, Information Technology was first introduced for commercial use with the primary target to automate routine transactions (payroll processing, accounting, and general ledger postings). Presently people rely on the Information Technology to support their primary activities.

Also, wide spread availability, advancement, and low cost of the technology has made it possible for companies to acquire the technology and support their daily business activities.

2.1. Banking and Technology

Vaithilingam, S., Nair, M., and Samudra, M. Muthi (2006, cited by Levine, 2003) have argued that the financial sector is vital for the socioeconomic development of a country among others. A well developed and sound financial system can contribute significantly to economic growth by recognizing the important role of financial intermediaries in bridging the disequilibrium between savings and investment needs within an economy.

These authors argue that in recent decades, the financial service industry had been subjected to various major transformations due to computers and telecommunications. Information and communication technologies (ICT) infrastructure are rapidly emerging as a vital factor in socioeconomic development and hence have a crucial role to play in addressing development challenges. They have stated that improvement in information and communication technology (ICT) has enhanced the creation of new business models and has revolutionized the distribution channels of financial systems resulting in not only a reduction in the transaction costs but also has improved the convenience and accessibility for the customers(cited by Devlin, 1995).

According to O'Brien and Marakas (2007, p. 40), innovation is an important driver for increasing the competitiveness and soundness of the banking sector. Literatures show that financial institutions in developed countries invest heavily in research and development

(R&D) with both the quantum and quality of R&D being higher than that in developing and under-developed countries. New innovations in the financial sector have increased market reach, enhanced product quality, improved communication flows and transparency within the banks and across the banking community. Additionally Vaithilingam, S., Nair, M., and Samudra, M. Muthi (2007) argue that banks who have invested on Information Systems and Technology have managed to offer innovative and differentiated banking products and services that are more accessible and responsive than the traditional banking system.

According to Laudon and Laudon (2003, p. 94), Citibank developed Automatic Teller Machines (ATMs) and bank debit cards in 1977. Citibank became at one time the largest bank in the United States. Citibank ATMs were so successful that Citibank's competitors were forced to counterstrike with their own ATM systems. Citibank, Wells Fargo Bank, and others have continued to innovate by providing online electronic banking services so that customers can do most of their banking transactions with home computers linked to proprietary networks or the Internet.

These banks have also launched new account aggregation services that let customers view all of their accounts, including their credit cards, investments, online travel rewards, and even accounts from competing banks, from a single online source. Some companies such as NetBank have used the Web to set up "virtual banks" offering a full array of banking services without any physical branches. Customers of these banks are able to mail in their deposits and use designated ATMs to obtain cash.

Therefore, considering the opportunities presented as a result of technological advancement a significant growth in the use of new Information Systems and financial technologies is being observed in the banking industry.

2.2. How Should Technology be Viewed by Banks?

The underlying motive behind investment in technology is to take advantage of the potential and opportunities presented as a result of its advancement. As a requisite for successful

exploitation of the technology firms or banks have to view information system from three major angles:

Operational View:

When viewed from the operational angle, ICT will primarily be a cost reduction tool improving the efficiency and effectiveness of operations. Operational systems support operational workers by keeping track of the elementary activities and transactions of the organization, such as sales, receipts, cash deposits, payroll, credit decisions, and the flow of materials in a factory. Transaction Processing Systems (TPS) are the basic business systems that serve the operational level of the organization.

TPS is a computerized system that performs and records the daily routine transactions necessary to conduct business. TPS is designed to meet the transaction processing need of each functional unit of a firm such as finance, procurement, marketing, research and development, human resource, and so on. TPS applications are often so central to a business that a system failure for a few hours can spell a firm's ruin or dissatisfaction of customers.
TPS is a major producer of data and / or information for the other types of systems and can be used by managers to monitor the status of operations.

Tactical View:

Serve the monitoring, controlling, decision-making, and administrative activities of middle level or tactical managers. Such systems typically provide periodic reports rather than instant information on operations. Information Systems that support the monitoring and decision making of middle managers are usually called Management Information Systems (MIS). MIS summarize and reports on the companies basic operations by depending on TPS for their data.

Strategic View:

In addition to operational and tactical views, Information Systems need to be viewed from the strategic view point where firms will strive to find innovative ways of using Information Systems and Technology to achieve their strategic objectives. If viewed from strategic

approach, ICT will enhance the firm's profitability through new and innovative ways of producing goods and/or services. Successful Innovative services will differentiate the firm's products or services from others in the industry that might result in client loyalty. This will also raise the switching cost of clients to other Banks and therefore build a strong supply chain with its suppliers and clients. The huge ICT investment will raise the investment required to enter the industry thus raising the entry barrier.

2.3. Role of Information Technology

The major role of information technology is to provide effective support of a company's strategies for gaining competitive advantage. This strategic role involves using Information Systems and Technology to develop products, services, and capabilities that give a company major advantages over the competitive forces it faces in the market place.

According to David (2006, p. 176), a firm can survive and succeed in the long run only if it successfully develops strategies to confront the competitive forces that shape the structure of competition in the industry. In Michael Porter's classic model of competitive strategy, any business that wants to survive and succeed must develop and implement strategies to effectively counter (1) the rivalry of competitors within its industry, (2) The threat of new entrants into an industry and market, (3) the threat of substitute products which might capture market share, (4) the bargaining power of customers, and (5) the bargaining power of suppliers. O'Brien and Marakas (2008, p. 40-58) have indicated that technology can enable firms to build strategic capabilities to confront the competitive forces as they have explained bellow:

Switching Cost

Technology can be used to build switching costs on both its suppliers and customers. Investments technology can make customers or suppliers dependent on the continued use of innovative and mutually beneficial inter-enterprise information systems. This will make customers and suppliers reluctant to pay the costs in time, money, effort, and inconvenience that it would take to switch to a company's competitors. This will lessen the bargaining power of suppliers and customers.

Barriers to Entry

Technology can be used to discourage or delay other firms from entering the market. Typically, this happens by increasing the amount of investment or the complexity of the technology required to compete in an industry or a market segment.

Discourage Rivalries

Innovative use of Information Systems and Technology can be used to increase the domain complexity of the industry and market served. Such increased complexity will discourage rival firms already in the industry from remaining in the market.

Make Substitution Difficult

Integrate Information Technology in products and services to make substitution of competing products or services more difficult.

2.4. Competitiveness through Information Technology

Firms have to support their business strategies by relying on technology in order to gain competitiveness in the industry they operate. To do so, they will have to align information technology with their strategies. According to Tate and Taylor (1983) strategies pursued firms to stay competitive in the industry they operate are:

Low Cost Strategy:

This strategy will help firms become a low-cost producer of products and services in the industry. This strategy can also be used to reduce costs to be incurred by suppliers or customers while consuming the product or service offered by the firm. Additionally, this strategy can help in increasing the costs of a firm's competitors in producing the same or similar services to their clients. Low cost strategy can be achieved by increasing the efficiency and effectiveness of operations in producing the product or service of the firm.

Differentiation Strategy:

Developing ways to differentiate a firm's products and services from its competitors' or reduce the differentiation advantages of competitors. This may also allow a firm to focus its products or services to give it an advantage in particular segments or niches of a market.

Innovation Strategy:

The strategy focuses on finding new ways of doing business. This may involve the development of unique products and services, or entry into unique markets or market niches. It may also involve making radical changes to the business processes for producing or distributing products and services that are so different from the way a business has been conducted that they alter the fundamental structure of an industry.

Growth Strategies:

This strategy focuses on significantly expanding a company's capacity to produce goods and services, expanding into global markets, diversifying into new products and services, or integrating into related products and services.

Alliance Strategies:

This strategy focuses on establishing new business linkages and alliances with customers, suppliers, competitors, consultants, and other stakeholders. This linkage may include mergers, acquisitions, joint ventures, forming of "virtual competitors", or other marketing, manufacturing, or distribution agreements between a business and its trading partners.

O'Brien and Marakas have indicated that technology can be used to achieve a firm's competitive strategies. According to them, firms can automate their services to substantially reduce the cost of business processes and the costs of their customers or suppliers in consuming the products or services of the firm. The term Automation refers to a system in which a workplace or process has been converted to one that replaces or minimizes human labor with mechanical or electronic equipment or replacement of labor to capital (Microsoft Encarta, 2006). Through automation firms can increase the efficiency of operations by reducing the resource (time, manpower, and money) sacrificed to produce a product or service.

O'Brien and Marakas have further specified that technology can enable firms to create innovative products and services to retain or attract new market segments. Innovation refers to invention and commercialization of a product, service or process that is new or different (Microsoft Encarta, 2006). Information technology can be used by firms to develop new innovative products or services different and better from the products or services offered by their competitors. According to them information technology can also be used by firms to reduce the differentiation advantage of their competitors by reengineering their competitive products or services.

O'Brien and Marakas have also noted that firms can manage regional and global businesses by relying on information and communication technology which is relatively faster, convenient and cheaper means of communicating and accessing information. By relying on new and improved ways of communication such as video conferencing, e-mail, fax and firms can support strategic business alliances with clients, partners, suppliers and other stakeholders located globally.

2.5. Strategic Role of Information Technology to Banks

Banks can rely on technology to create and offer innovative banking products and services that will support the attainment of its strategies. Among the Innovative Banking products created by relying on technology are:

- Electronic Payment Card Systems
- Automated Teller Machines (ATM)
- Point of Sale Terminals (PoS)
- Internet Banking
- Mobile Banking

Such innovative banking products supported by automation can reduce the time, energy and labor required to provide banking service to customers. Additionally, technology will enable firms to lower down the cost incurred by customers while accessing the products or services of the Bank. Today banks are able to offer Internet Banking, without the need to physically

visit the bank, has become popular as customers are able to access their accounts or process their loan through the Internet 24 hours a day and 7 days a week. For example, most foreign banks offer online loan application systems through the Internet where loan seekers can forward their loan proposal and application without the need to physically submit their initial loan proposal in person.

Banks can also use Technology, Information and communication technology, to manage branches found regionally and globally through telephone, video conferencing, e-mail, fax and so on. Through such technologies Central Management of the bank can conduct virtual meetings with branches dispersed geographically.

Automation and Banks

Automation requires computerization of tasks, processes, and/or procedures that used to be performed manually. Automation is conducted with the sole purpose of bringing efficiency to firms as it will reduce the time, labour and other resource sacrificed to provide service to customers.

Banks need to perform two basic types of automations

a) Back Office Automation. The key motivation is to reduce operational costs and administrative overhead in conducting banking operations by relying on computers and software programs.
b) Front Office Automation. To enable personnel dealing with external parties (customers or other stakeholders) to access centrally-held information responsively by relying on computers and software programs.

According to David (2006, p. 146), Michael Porter's value chain concept can be used by firms to determine which services to automate and the type of automation required. Porter's value chain model views a firm as a series, chain, or network of basic activities that add value to its products and services both to the firm and its customers, and thus add a margin of value both to the firm and its customers. The value chain conceptual framework categorizes some of the business activities as primary activities or processes and others as support activities or processes.

The Primary activities are those that are directly involved with the physical creation and delivery of the product or service. Support activities are not directly involved in the production of goods and/or services, but have the potential to increase effectiveness and efficiency of operations. Support activities are those that provide support for both primary and other support activities.

O'Brien and Marakas (2008, p. 49) have also highlighted the significance of Porter's value chain analysis framework to determine how and where technological competitive strategies can best be applied in a business. The framework will also help to determine the type of Information System and Technology that need to be developed for each process, activity or functional area.

2.6. Cost of Information Technology

Developing, acquiring and integrating Information Systems and Technology requires huge financial investment. The various information technology components such as hardware, Software, telecommunication, people, etc are costly.

Banks have to invest a very high investment to acquire the required technology. According to a survey conducted by Data monitor the overall spending on information technology in financial services in Europe is estimated at 19.1 billion Euro in the year 1997.

2.7. Technology Utilization and Attainment of Strategies

High technology spending will not by itself ensure profitability or the achievement of the overall business strategies of the bank. Survey conducted by Data Monitor has shown that banks with a very high technology spending have reported a lower profitability than those with a lower technology spending.

Table 2.20: IT Spending and Profitability (A-Z order based on technology Spending)

Banks	(Figures in millions of Euros)	
	Profit	**Technology Spending**
Banco Centrale Hispanoamericano SA	320	174
Standard Chartered Ltd	1294	191
Swiss Bank Corporation	-1003	219
Abbey National	1735	273
Société Générale	1081	293
Bayerische Vereinsbank AG	795	318
Commerzbank AG	898	322
Paribas SA	1201	350
Dresdner Banks AG	1409	390
Lloyds TSB	4099	481
National Westminster Bank plc	1669	545
Deutsche Bank	2595	740
ABN Amro Bank NV	2262	944
ING Group NV	2152	1187
Union Bank of Switzerland	-54	1233
Barclays plc	3505	1338
HSBC Holdings plc	8144	1500

Source: Data Miners, 1997

From the table above one could observe that high IT spending alone will not ensure profitability. Though HSBC Holdings PLC and Barclays PLC, the two highest Technology spenders, with 1.5 billion Euros and 1.338 billion Euros technology spending respectively have achieved a higher profitability and revenue, there are also banks that have performed unequal to their technology spending. In fact some have reported much lower profitability than their respective European banks with a much lower Technology spending. Swiss Bank Corporation with technology spending of 2.19 billion Euros has reported a net loss of 1.003 billion Euros. In contrast to Swiss Bank Corporation, Banco Centrale Hispano-American SA

and Standard Chartered Ltd that have a lower technology spending of 1.74 million Euros and 191,000,000 million Euros have a better profitability. Additionally, Union Bank of Switzerland, the third highest technology spender, has a negative profitability 54 million Euros. Also Deutsche Bank with a technology spending of 740 million has reported a higher profitability than ABN Amro Bank NV and ING Group NV that have a higher technology spending of 944 million Euros and 1,187 million Euros respectively.

The technology has to be utilized efficiently and effectively so as to generate an attractive return on investments. The technological assets have to also be utilized so as support the attainment of the banks strategies. To utilize the technology infrastructure commitment of employees, management and other stakeholders is very critical.

2.8. Assessing the Impact of Technology

According to Watson (2007) the impact of information systems or technologies on firms need to be assessed through measurements. Measuring the impact of an information system gives managers guidelines to assess the value of information systems. Without these measures, managers may be misled and make wrong decisions when investing in new technology or expanding it. If the value of the technology is underestimated, managers may cut back the allocated resources, which will result in foregoing the benefits of the new system. If the value of the technology is overestimated, managers will waste resources which could be used in other projects with higher returns.

Therefore, assessing the impact of information system is mandatory before making investments in technology. Among the measurements Watson has suggested are:

2.8.1. Impact on the Efficiency of Operations

According to Watson (2007, p. 20), “efficiency is the ratio of output to input. In other words, a firm is more efficient when it produces more with the same amount of resources, produces the same amount of output with a lesser investment of resource, or – even better – produces more output with less input. The firm achieves efficiency improvements by reducing resource waste while maximizing productivity.”

He further continues that one of the main objectives of any firm is to attempt to control costs and reduce the investment necessary to produce its output. In other words, firms can become more efficient by way of cost reductions. Computer based information systems can help in this regard by lowering down costs, for example through a reduction in labor, human hour required, or by eliminating mistakes in operations.

If the income (taken as output) of a firm increases with a constant or decreasing operational expense (taken as input), efficiency of services can be claimed achieved. If the operational expenses increase at a decreasing rate while income increases at an increasing rate, efficiency can also be claimed achieved.

Therefore, to determine the impact of technology to the efficiency of operations or services, trend in the income and expense pattern of the firm need to be studied by taking years before and after the implementation of the technology.

2.8.2. Impact on the Effectiveness of Operations

According to Watson (2007, p. 20), effectiveness is often referred to as "doing the right thing." He defines effectiveness as the ability of an organization to achieve its stated goals and objectives. Typically, a more effective firm is one that makes better decisions and is able to carry them out successfully.

He has further noted that effectiveness can be achieved by relying on technology by:

- Responsiveness to the needs of customers
- Providing customized service
- Better communication and flow of information
- Employee empowerment

Responding better to the needs of different customers an organization can create or refine its products and services based on data collected from customers as well as information accumulated from its operations.

In other words, information systems help organizations to understand their customers better, and provide products and services customers desire. Doing so even helps organizations to provide personalized service if the organization collects customer data at the individual level. Another often overlooked opportunity to use information systems to fulfill the needs of employees is through empowerment. Empowerment represents the notion that the organization's employees can be trusted to take on more responsibility and make more independent decisions when they are given the information necessary to do so. Consider, for example, the employees of a large grocery store who typically receive and stock goods to be inventoried. If they have access to the appropriate information, such as original order forms and the invoices, they could be given responsibility to check, accept and even pay for the goods.

Better communication and coordination. Coordination is rooted in the ability to share information so that different individuals, different departments within an organization, or different organizations are brought together to pursue a common goal. Information systems support communication and coordination by better managing the distribution of information. Communication consists in the exchange of information between two points, with the goal of having the recipients understand the sender's message. Communication is essential to every organization, as communication among employees ensures that they work together to carry out internal activities; communication between an organization and its suppliers ensures the suppliers provide correct materials for the organization to generate products and services to sell; and communication between an organization and its customers ensures that customers understand the products and services they are buying, receive confirmation when transactions occur, and are able to resolve problems that may occur encounter purchasing – the after-sale service.

Technology can enhance communication by providing for more, and at times superior, channels. For example, the invention of electronic mail (e-mail) has reduced the use of memos and written correspondence within an organization. As a consequence, the speed at which communication takes place improves. Multimedia communication elements, including images, sound and video files that employ a combination of presentation formats (text,

graphics, animation, audio, and video) have also improved the richness of communication. These multimedia elements can be attached to an email and the e-mail can be sent to suppliers or clients to better present or describe the parts wanted or the products and services provided.

2.8.3. Regulatory Compliance

At times an organization will introduce information systems that may not improve the organization's efficiency, effectiveness, or enable it to communicate and coordinate better. This happens when regulations and laws require the organization to perform certain tasks – for example, recurrent maintenance on the machinery they use – or produce some information – for example, tax reports.

Regulatory compliance typically requires the organization to be able to create, manage, store or produce information – for example, maintenance logs or financial reports to compute taxes. In theses situations the firm will introduce an information system.

2.8.4. Financial Measures

A number of financial metrics have been proposed and used over the years to evaluate the costs and benefits associated with information systems implementation.

Return on Income

According to Gallinger and Poe (1995, p. 702), return on income is the ratio of monetary benefits or income gained (net of expenses) to income generated.

The return on income will mainly rely on two factors: operating costs and pricing policies. Decrease in return on income can be due to lower price or higher operational costs. This measurement can be used to analyze the return earned by using the technology as opposed to the cost incurred.

Return on Investment

Accocring to Gallinger and Poe (1995, p. 703), return on investment measures the earning power of assets. ROI looks at how the introduction of the technology enables the usage of

resources to contribute to the organization. The organization can benefit from the introduction of the new technology in various ways.

First, a new technology can reduce the costs of current operation by increasing efficiency. For example, a business can implement a new system which stores transactional information automatically, therefore saves the labor costs of data entry. Therefore, the estimated benefit in the above equation will be the differences in labor costs.

Second, a firm may modify the current system to take advantage of newly developed technology. For example, a bank which offers online banking can reduce the cost of mailing monthly statements to clients. Therefore, the estimated benefit will be the differences between the cost of mailing the statements before and after the installation of the system.

Finally, a new information system may also support growing business transactions. For example, a retail store may switch to an Internet ordering system from a call center to be able to serve more customers. Doing so enables the business to respond to more customers at the same time by letting customers browse products and services online and enter ordering information by themselves. The estimated benefit is the extra revenue generated from online ordering.

In all three examples, the initial investment is the cost of bringing in the technology, setting up the new business processes, training the employees, and organizing the reporting and reward structures. In other word, it is the cost of designing, building and implementing the appropriate technology (as defined above). With this information, ROI can be computed. An information system with a positive ROI indicates that this system can enhance efficiency and/or improve effectiveness of the organization.

The advantage of using financial measures is that we can explicitly quantify the costs and benefits associated with the introduction of technology. The disadvantage of using financial measures is that it may be difficult to justify the causal link between the investment in technology and the gained benefits. For example, the extra revenue generated from online

ordering may not be due solely to the introduction of the new technology. It may be because the product is in the growing phase and rapidly increasing in popularity. As a result, the benefits of the technology may be over-estimated.

2.9. People and Structure

People

According to Watson (2007, p. 19), the people component of an information system encompasses all those individuals who are directly involved with the system. These people include the managers who define the goals of the system, and the users. For example in an automated payroll system, the people component of the system includes the human resources director who wants to enhance an efficient and effective payroll process, the human resources staff who maintain the correct employee account information, and the employees whose salaries will be deposited directly into their account.

The individuals involved in the information system come with a set of skills, attitudes, interests, biases and personal traits that need to be taken into account when the firm designs the information system. Very often, an information system fails because the users do not have enough skills, or have a negative attitude toward the system. Watson suggests that, there should be enough training and time for users to get used to the new system.

For example, when implementing the automated payroll system, training on how to enter employees' account information, how to correct wrong entries, and how to deposit the salaries into each account should be provided to the human resources staff. The benefits of the system should be communicated to both the human resources staff and the employees in order to build up positive attitudes towards the new system.

Structure

According to Watson (2007, p. 20), the structure (or organizational structure) component of information systems refers to the relationship among the individuals in the people component. Thus, it encompasses hierarchical and reporting structures, and reward systems. The structure component plays a critical role in an information system, simply because

systems often fail when they are resisted by their intended users. This can happen because individuals feel threatened by the new work system or because of inherent human resistance to change. When designing a new information system the organization needs to be aware of the current and future reward system in order to create incentives to secure its success.

2.10. Banking Technology in Ethiopia

According to Dr. Fisseha Mekuria (2005), development of information and communications technology (ICT) has become one of the strategic priorities of government. He has indicated that though Ethiopia is lagging behind in technology, the Ethiopian Telecommunication Corporation (ETC) has purchased and deployed communication technology infrastructure for wired and wireless communication system, broad-band internet and multimedia communication to serve millions. According to him ETC is offering virtual private networks (VPN) for corporate customers, such as banks, to satisfy their high speed and secure communication need.

He further pointed out that the corporation has future plans to connect each and every regional state, important civil, governmental and private business institutions with high-speed fiber-optic communications link.

From the private business sector in Ethiopia, Banks are investing high amount of finance to acquire and put in operation banking technology to make their banking service more accessible, convenient and efficient to their clients. But their effort to integrate banking technology is affected by the low level of ICT development in the country. Among the challenges are:

- Limitations in telecommunications network, which is mainly designed for voice grade communication, and limited numbers of both fixed and mobile telephones.
- Lack of skilled technology human resources coupled with low ICT literacy.
- Low level of Internet service and poor connectivity.
- Underdeveloped physical and telecommunications infrastructure.
- Underdeveloped market for computer hard- and software products aggravated by high cost of acquisition usually in foreign currency.

- Limited awareness on the role and potential of ICT by the society.
- Very low technology infrastructure access and usage by the rural population.
- Very high telecommunication cost as opposed to other nations.
- The under-development of the telecommunication system and the above mentioned challenges puts local businesses at a disadvantage in the global market competition (Berhane Mewa, 1999)

Dr. Fisseha Mekuria (2005) suggests that the banking sector has to take the initiative to work with the government, partners and other stakeholders (such as local software companies, local technology providers, and education institutions) to overcome the technological challenges.

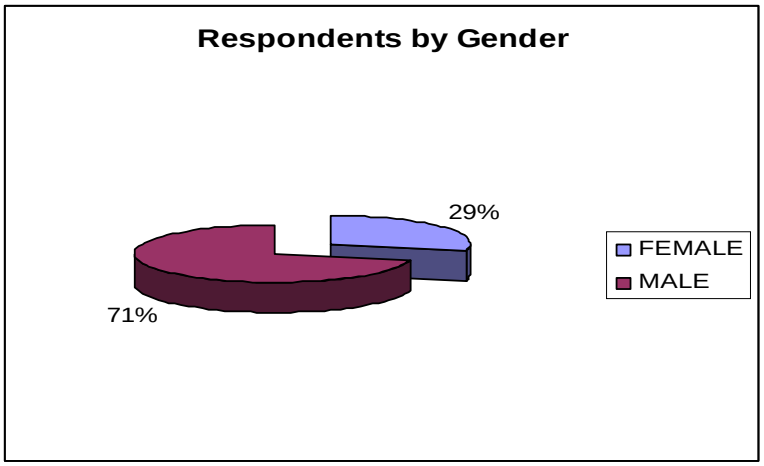
CHAPTER THREE

DATA PRESENTATION, ANALYSIS AND INTERPRETATION

3.1. Background Characteristics of Respondents

Respondents Demography and Number of Years Respondents have been using the *Services of Dashen Bank*

Figure 4: Respondents by Gender



Source: Data collected through Questionnaire and Observation, 2010

The figure above shows that 71% (213) of the respondents were male while 29% (87) were female.

Table 2: Number of years respondents have Used the service of Dashen Bank

Response Options	Number of Responses	Percentage
1 year and less	40	13.33%
1 to 2 years	70	23.33%
2 to 3 years	80	26.67%
3 to 4 years	60	20.00%
4 to 5 years	50	16.67%
Above 5 years	-	-
TOTAL	300	100%

Source: Data collected through Questionnaire and Observation, 2010

From Table 2, it can be observed that only 13.33% of the respondents have used the service of the bank for less than a year. 23.33% of the respondents have used the service of the bank from 1-2 years. 26.67%, 20% and 16.67% of the respondents have been using the service of the bank for 2 to 3 years, 3 to 4 years and 4 to 5 years. It can be observed that a total of 87% of the respondents have been using the service of the bank for more than one year.

The questionnaire distributed to the clients of Dashen Bank requires the respondents to have an experience and good observation of the service of the Bank. Their observation can be made objective depending on the number of years they have experienced the Banks service. As a higher percentage of the respondents (87% of them) have used the service of the Bank for more than a year, He or She can therefore respond to the questionnaire with some level of objectivity based on their experience and observation over the years they have used the service of the bank.

3.2. Experience of Respondents with Other Banks

Having an experience with other banks will give the respondents the ability to compare the service of Dashen with that of others and give an objective response based on their own experience and observation.

From table 3 bellow it can be observed that in addition to Dashen Bank 94% of the respondents have experiences with other Banks in the Ethiopian commercial banking industry and the service they offer. From the total respondents only 6% (18 in number) have not experienced the service of other Banks.

Table 3: Number of Respondents using the Service of Other Banks

Response Options	Number of Responses	Percentage
Yes	282	94.00%
No	18	6.00%
Total	**300**	**100%**

Source: Data collected through Questionnaire and Observation, 2010

Therefore, almost all the respondents can give an objective response to the questionnaire regarding the service offered by Dashen Bank in contrast to the service they have experienced with other Banks in the Ethiopian commercial banking industry.

3.2.1. Factors that Make Dashen Banks Service Different

Dashen has invested millions in information technology and electronic payment system to differentiate its services from those in the industry. From the data presented in table 4 bellow, 7.09% of the respondents differentiate the bank based on its technologically supported innovative, convenient, responsive and accessible banking service. 21.28% of the respondents differentiate the bank based on its customer centered banking service and banking product. From the respondent 46.10% of them believe that technologically supported innovative, convenient, responsive and accessible banking service together with customer oriented banking service and product have made Dashen Bank different from other banks. 14.98% of the respondents have responded that factors other than the ones mentioned differentiate Dashen Bank.11.35% of the respondents have responded that the service offered by the bank is not different from other banks.

Table 4: Factors that make Dashen Bank different

Response Options	Number of Responses	Percentage
Its technologically supported innovative, convenient, responsive and accessible banking service	20	7.09%
Its customer centered service and product offered	60	21.28%
The above two factors together make it different	130	46.10%
Factors Other than the mentioned	40	14.18%
Its no different than other banks	32	11.35%
Total	282	100 %

Source: Data collected through Questionnaire and Observation, 2010

N.B.: Only those respondents who have experience with other Banks in addition to Dashen Bank have responded to this question. From the total 300 respondents, 282 of them have responded to this question.

From the Ethiopian commercial banking industry, Dashen Bank has taken the lead to highly rely on banking technology to support its basic banking services. As it can be seen from the findings, the technology has enabled the bank to offer responsive, accessible, and convenient banking service to its customers.

3.3. Satisfaction of Customers on the Timely and Responsive Service

The technology aims to provide timely and responsive service to customers satisfying their expectations. The data presented in table 5 bellow indicates that, 53.33% of the respondents (the highest percentage) are highly satisfied by the timely and responsive service offered by the bank. While 23.4% of the respondents are moderately satisfied, 13.33% of the respondents are not satisfied by the timeliness and responsiveness of the service offered by the Bank. From the respondents 6.67% of them have not seen any difference in the timeliness and responsiveness of the service in contrast with other banks.

Table 5: Response on Dashen Bank's Timely and Responsive Banking Service

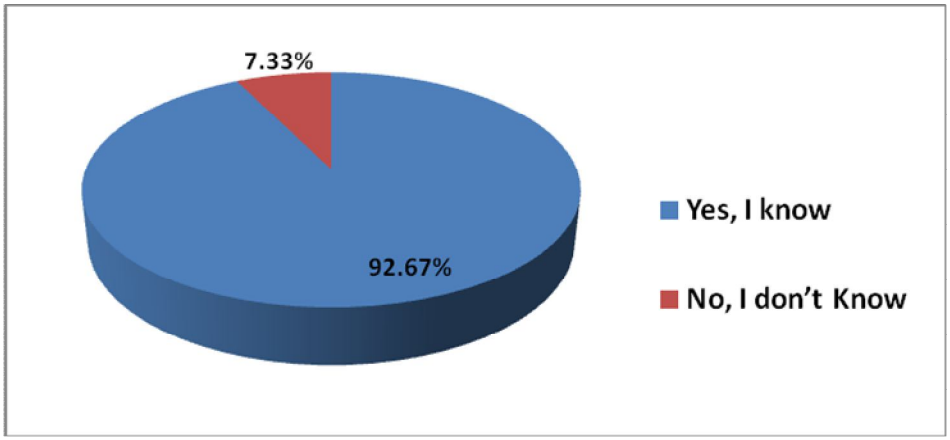
Response Options	Number of respondents	Percentage
Highly Satisfied	160	53.33%
Moderately Satisfied	70	23.4 %
Not Satisfied	40	13.33%
Not different from other banks	20	6.67%
No opinion	10	3 %
Total	300	100%

Therefore, it can be inferred that Dashen Bank has succeeded satisfy its customers by offering timely and responsive service by relying on technology.

3.4. Awareness of Bank's Electronic Payment Card System by Customers

The customers of the banks have to be aware of electronic payment card system offered by the bank so that they can subscribe for the service. As it can be seen from the chart in figure 1 bellow, 92.67% of the respondents are aware that Dashen offers electronic payment card system. Only 7.33% of the respondents are not aware of the electronic payment card system offered by Dashen Bank.

Figure 2: Respondents Aware of Dashen Bank's Payment Card System



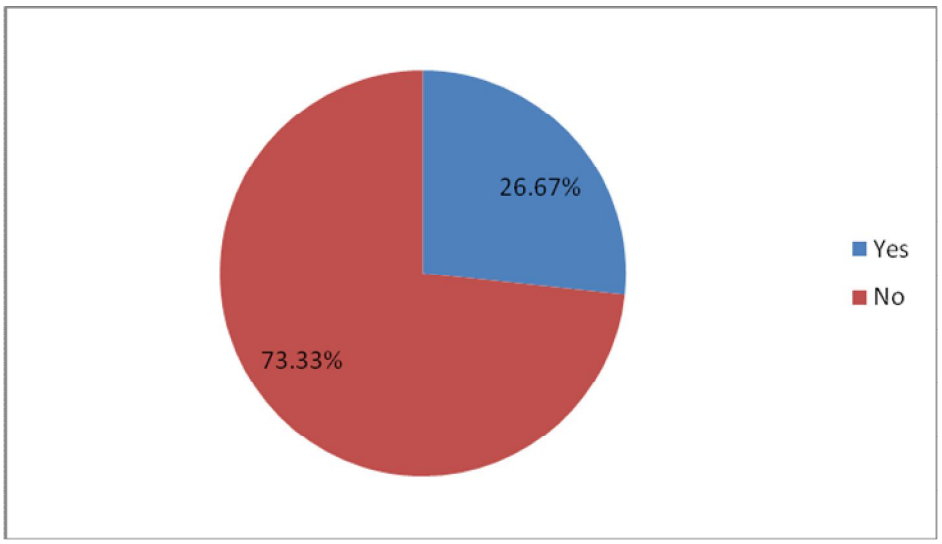
Source: Data collected through Questionnaire and Observation, 2010

It can be implied that a higher percentage of Dashen Bank customers are informed of the payment card banking service. This might be due to the Bank's effective marketing and promotion of the ATM and PoS technologies in various Medias, publications, banners, and so on.

3.5. Users of Payment Card System

The number of customers (Cardholders) who use the electronic payment system has to increase so as to utilize the technology to support the banks strategies and to generate an attractive income in the form of service charge. The higher the number of users the higher will be the utilization. The chart in figure 2 bellow indicates 73.33% of the respondents are not using the electronic payment card system though they are informed of the service. Only 26.67% of the respondents have acquired Dashen Bank's electronic payment card system to use the ATM and PoS systems.

Figure 3: Respondents Using Dashen Bank's Payment Card System



Source: Data collected through Questionnaire and Observation, 2010

The total number of cardholders and depositors of the bank has increased to 24,267 and 487,410 consecutively at the end of the 2008 fiscal period. The percentage of depositors to whom the bank has payment cards is only 4.97% from the total number of depositors.

Considering the total number of depositors of Dashen Bank (487,410) and the number cardholders (24,267) at the end of 2008, the percentage of users of the technology is about 4.9% which is too low. Therefore, though Dashen Bank is promoting payment card system and the number of cardholders increasing each year, the electronic payment card system is still highely under utilized.

N.B.: Questions from 3.5.1 to 3.5.5 are only filled by those respondents who have acquired Dashen Bank's Visa or Master payment cards. From the total respondents only 80 of them have acquired Dashen's Visa Card.

3.5.1. Contribution of Payment Card System to the Bank's Service

The technology has to support the strategy of the Bank to make the switching cost of its customers or depositors to other banks more costly. The raise the switching cost of its

customers the technology has to create convenient, accessible, and responsive banking service.

Table 6 bellow will show that from the total payment Cardholding respondents 28.75% of them have responded that the electronic payment system has made the Dashen's service highly convenient, accessible, and responsive. While only 15% of them have seen slight contribution, 56.25% of the payment Cardholding respondents have responded that the system has made Dashen Bank's service moderately convenient, accessible, and responsive. The arithmetic mean computed also shows that a higher percentage of the respondents feel that the payment card system has made the service of the Bank moderately convenient, accessible, and responsive.

Table 6: Convenience, Accessibility and Responsiveness Contributed by P. Card System

Responses	Number of respondents	Rate	Arithmetic Mean	Percentage
Highly	**23**	**4**	**92**	**28.75%**
Moderately	**45**	**3**	**135**	**56.25%**
Slightly	**12**	**2**	**24**	**15.00%**
Not at all	**0**	**1**	**0**	**0.00%**
Total	**80**		**3.14**	**100%**

Source: Data collected through Questionnaire and Observation, 2010

The payment card system has enabled Dashen to offer a moderately convenient, accessible and responsive banking. The technology has contributed moderately to raising the switching cost of its customers to other banks as they would lose the convenient, accessible and responsive banking service they are enjoying at Dashen. But more needs to be done to increase the convenient, responsive and accessible service to a higher level and thus to raise the switching cost of its customers higher.

Additionally, the technology has to contribute to making the service of the functional units more responsive, accessible, convenient and standardized. This will enable to make the

operations of the bank more efficient and effective which will support the lower cost strategy of the bank.

From the data presented in table 7 bellow regarding the technologies support to the *responsiveness* of the banks' service (table 7: column 2) and the average response (table 7: column 7, row vi) indicates that the technology supports the bank's effort to offer responsive service to its customers. Also, the response presented (table 7: column 3 & 4) on the technologies support to *accessibility* and *convenience* of service and the average result (table 13: column 8, row vi & column 9, row vi) indicates that the technology supports the banks' effort to offer accessible and convenient service to its customers. Additionally, the response presented (table 7: column 5) and the average result (table 7: column 10, row vi) indicates that the technology supports the banks' effort to offer *standardized* service to its customers.

Table 7: Convenience, Accessibility and Responsiveness of Operations Contributed by IT

No	Response Options (1)	Number of Respondents				Rate (6)	Arithmetic Mean (AM)				Total AM (11)
		R (2)	A (3)	C (4)	S (5)		R (7)	A (8)	C (9)	S (10)	
i	Highly Supports	4	2	2	5	5	20	10	10	25	65
ii	Supports	3	2	2	3	4	12	8	8	12	40
iii	Slightly supports	1	4	4	-	3	3	12	12	-	25
iv	Not satisfactory	-	-	-	-	2	-	-	-	-	-
v	Not at all	-	-	-	-	1	-	-	-	-	-
vi	Total	8	8	8	8		4.375	30	30	37	4.06

Source: Data collected through Questionnaire and Observation, 2010

Where, R: Responsive

A: Accessible

C: Convenient

S: Standardized

Therefore, the computer technology and information systems have supported Dashen Bank's functional units to offer responsive, accessible, convenient and standardized banking service to their customers.

3.5.2. Contribution of the P. Card Tech. to Differentiation Strategy of Bank

The technology has to differentiate Dashen Bank's products and services from its competitors' or to reduce their differentiation advantages.

The data presented in table 8 bellow indicate that 53.75% of the respondents feel that the payment card system has highly differentiated Dashen Bank from other private commercial Banks in Ethiopia. While 31.25% of the respondents have felt that the payment card system has moderately differentiated the Bank's service, 10% of the respondents feel that contribution to differentiation is slight. And only 5% of the respondents have felt that the payment card system has not differentiated the Dashen Bank's service from other private commercial Banks in Ethiopia. A higher percentage of the respondents (53.75%) have highly differentiated Dashen Bank's service.

Table 8: Response on the Contribution of P. Card System to the Differentiation Strategy

Responses	Number of respondents	Percentage
Highly Differentiated	43	53.75%
Moderately Differentiated	25	31.25%
Slightly Differentiated	8	10.00%
Not at all	4	5.00%
Have not observed	0	0.00%
Total	80	100%

Source: Data collected through Questionnaire and Observation, 2010

Therefore, the payment card system which makes use of ATMs and PoS terminals has highly supported the differentiation strategy of Dashen Bank. In addition to differentiating its

services, the technology has enabled Dashen to minimize the electronic payment card system offered by the government owned Commercial Bank of Ethiopia.[1]

3.5.3. Fairness of the Cost of Acquiring and Using the P. Card System to Customers

The cost of acquiring payment cards (Visa or Master Cards) and the service charge paid by the cardholders while using the payment system has to be viewed as fair. The cardholders might weigh their own varaibles against the service charge they pay to conclude the payment system as fair. If the cost is viewed to be fair, it will attract more Cardholders and the usage of the technology will improve.

Table 9 bellow shows that 66.25% of the respondents perceive that the cost incurred to acquire and use the service is highly fair. 27.5% of the respondents have perceived that the cost is moderately fair and 6.25% have perceived slight fairness. The arithmetic mean shown in table 9 also shows that the cost of acquiring and using the payment system is highly fair to the payment cardholders.

Table 9: Fairness of the Cost of Acquiring and Using the Payment Card System

Responses	Number of respondents	Rate	Arithmetic Mean	Percentage
Highly Fair	53	4	212	66.25%
Moderately Fair	22	3	66	27.50%
Slightly Fair	5	2	10	6.25%
Not Fair at all	0	1	0	0%
Total	80		3.6	100%

Source: Data collected through Questionnaire and Observation, 2010

The cost of acquiring the Visa or Master payment Cards issued by Dashen and the service charge paid to the bank by the Cardholders while making payments or withdarwing money viewed as highly fair by the Cardholders. The fairness of the cost of aquiring and using the electronic payment card system has to attract increased number of payment cardHolders. But

[1] CBE is the first commercial bank in Ethiopia introducing the payment card system

as stated in the previous findings the number of payment of cardholders is only 4.97% from the total depositors of the bank which is too small.

It can be concluded though the cost of acquiring Dashen's Visa or Master payment cards and the service charge paid to the bank by the cardholders is highly fair, the number of cardholders using the system is too low.

3.5.4. Availability of the Technology to Users

The technology has to be available when and where it is required to the users. The technology has to be free from different system failures that will make it unavailable to users. High level of availability will contribute to the utilization of the technology and increase its reliability.

As it can be seen from the data presented in table 10, 20% of the respondents are highly satisfied by the availability of the ATM and PoS systems. While 23.75% of the respondents are moderately satisfied, 35% of them are slightly satisfied by the availablity of the ATM technology for use. 21.25% of the respondents are not at all satisfied by the availability of the ATM and PoS systems. A higher percentage of the Bank's customers are slightly satisfied by the availability of the ATMs.

Table 10: Response on the Availability of Dashen's Payment Card System

Responses	Number of respondents	Percentage
Highly Satisfied	16	20.00%
Moderately Satisfied	27	33.75%
Slightly Satisfied	29	36.25%
Not Satisfied	8	21.25%
Total	80	100%

Source: Data collected through Questionnaire and Observation, 2010

The ATMs at times fail to provide service due to different factors. For instance, ATM's who have run out of money notes and have not been replinshed on time, telecommunication or

network problems, and maintainance problems. There are also occassions where the ATMs run out of paper and fail to print receipt after money has been withdrawn by the Cardholder. The system failure will make the system unavailable for use which will negatively affect the Cardholders impression and reliance in the electronic payment technology. The inconvinience created on Cardholders as a result of system failures will be aggravated during non-banking hours such as holidays, Sundays and during closing hours.

Therefore, more work has to be done by the bank to make the elctronic payment technology more available by significantly reducing system failures.

3.5.5. Security Provided by the Electronic Payment Card System to the Cardholders

One of the major advantages of electronic payment cards as oppossed carrying large amount of cash is security from loss or theft. As it can be seen from the data presented in table 11, 72.5% of the Cardholders feel that the system is highely secured. While 22.5% of the respondents feel that the security of the system is moderate, 5% of them feel that the security is slight. The arithmetic mean indicates that the electronic payment card system offers high level of security to the Cardholders as oppossed to carrying large amount of cash on themselves or at home.

Table 11: Security of the Dashen's Payment Card System

Responses	Number of respondents	Rate	Arithmetic Mean	Percentage
Highly secured	58	4	232	72.50%
Moderately secured	18	3	54	22.50%
Slightly secured	4	2	8	5.00%
Not secured	-	1	-	-
Total	80		3.675	100%

Source: Data collected through Questionnaire and Observation, 2010

As stated above one of the cotributions made by payment card system is security from theft and lose of hard cash. Therefore, the payment card system is more secure to Cradholders than carrying large amount of cash on them.

3.6. Information Technology and its Support to Functional Units

The technology has to be viewed from the functional angle in addition to strategic or operational to better utilize its capabilities. The various functional departments need to be automated so as to improve the operations of their units efficiently and effectively.

According to the data presented in table 12 bellow, three of the departments which make up 27.27% of the departments surveyed have their full operations supported by computer technology and information system. And the departments are *Fund Management and Account, International Banking Division, and Payment Card Department*. Five of the departments making up 45.45% have their operations partly supported which are, *Controller Department, Credit, Corporate Planning, Main Area Bank, and Principal Risk Management Departments*. The operations of three of Dashen Bank's departments are not yet supported by computer technology and information system and currently the Information Technology department is in the process of developing a computer technology and information system for one of the departments namely, *Human Resources and Logistics Department*.

Table 12: Departments supported by Information Technology

Responses	Number of respondents	Percentage
Fully Supported	**3**	**27.27%**
Partly Supported	**5**	**45.45%**
Not supported but in the Process	**1**	**9.09%**
Not Supported at all	**2**	**18.18%**
Total	**11**	**100%**

Source: Data collected through Questionnaire and Observation, 2010

Dashen Bank has prioritized on fully or partly automating it's various departments with direct and/or high interaction with the banks customers depending on the nature of their operation. Such type of operation is known as Front Office Automation. It can be seen from table 12 that 72.7% of the departments surveyed have their operations supported by computer based information system and from the percentage 27.27% of them are fully supported.

Nevertheless, a higher percentage of the departments and the banks operations that are responsible for rendering the banking service to the banks customers are supported by computer based information system. There is also a clear indication that Dashen is on the verge of automating its supportive departments such Human Resources and Logistics which is also referred as Back Office Automation.

N.B: The Data presented from points 3.7 to 3.9 are responded by those departments supported by computer based information system. Therefore, from the 11 departments the responses of 8 of the departments are presented.

3.7. Reliability of the Report Generated by IT to Corporate Managers

One of the contributions of information system and technology is the reliability of the report generated in satisfying the information need of its recipients. The quality of planning, forecasting, and decision made by the managers will primarily depend on the quality of information they have at hand. Managers need relevant (in content and format), accurate and timely report to carry out their duties.

Table 13 shows that, the computer based information system generates highly relevant reports to three of the departments. The system generates relevant report to only one of the departments and four of the departments are getting reasonably relevant report. The arithemetic mean presented in table 14 indicates that the reports generated by the computer based information system are relevant, accurate and timely to the information needs of the functional managers to carry out their duties.

Table 13: Reliability of report generated by Information Technology

Responses	Number of respondents	Rate	Arithmetic Mean
Highly Relevant	3	5	12
Relevant	1	4	4
Reasonably Relevant	4	3	12
Not satisfactory	0	2	0
Not Relevant	0	1	0
Total	8		3.5

Source: Data collected through Questionnaire and Observation, 2010

Therefore, the information system generats relevant, accurate and timely reports that satisifies the information need of corporate managers.

3.9. Dashen Bank's People factor

Among the components of an information system are people, users of the information system, who come with a set of skills, attitudes, interests, biases and personal traits that need to be taken into account when the designing the information system. The commitment of the 'people' component of Dashen bank has crucial impact on the success of the technology. Very often, an information system fails because the users do not have enough skills, or have a negative attitude toward the system which could be overcome through training and support for users to get used to the new system. Dashen Bank may also fail to utilize the information system because resistance by the intended users or employees of the bank.

Sufficient and relevant training has to be provided to those employees, usually regarded as "end users", who use computer system and its associated software to execute their daily tasks[2]. The training should aim at providing the necessary skill and competence regarding the computer system and software thus building up the end users confidence. In addition to the

[2] The term "end user" refers to the final users of the information system to support their daily tasks or the users for whom the system was initially developed for.

training, support has to be provided to the end users when they encounter problems with the system.

Table 14 bellow shows that five of the corporate managers have responded that the training and support to their department is sufficient while three of them have responded that training and support is slightly sufficient.

Table 14: Sufficiency of Training & Support Provided for End Users

Responses	Number of respondents	Rate	Arithmetic Mean
Highly Sufficient	0	5	0
Sufficient	5	4	20
Slightly Sufficient	3	3	9
Unsatisfactorily Sufficient	0	2	0
Not Sufficient	0	1	0
Total	8		3.625

Source: Data collected through Questionnaire and Observation, 2010

Therefore, it can be said that the training and support provided by the Information technology department to the employees of the bank who use the technology on a daily basis is sufficient.

3.10. Impact of Technology on the Efficiency of Dashen Bank's Operations

Efficiency is, the ratio of output to input, is one of the measurements used to evaluate the impact of technology. In order for Dashen to be more efficient it has to generate more income with the same amount of resources sacrificed, or earn the same amount of income with a lesser resources sacrificed, or earn more income with fewer resources sacrificed. The technology has to contribute to the efficiency of the bank by lowering down its operational expenses.

The trend in the interest income, non-interest income, service charge income and income after tax are presented for the years 2004 to 2008. In addition to other factors beyond the scope of the study, the findings suggest that Information Technology has contributed to the efficiency of Dashen Bank. The data presented in table 15 show that**:**

Total Interest Income:

It has increased by 174.29% in the year 2005 compared to 2004 and a decline by 24.39% in the year 2006 compared to 2005. It has increased by 31.48% and 32.08% in the fiscal years 2007 and 2008 as compared to the years 2006 and 2007 respectively.

Non-Interest Income:

It has declined by 3.63% in the fiscal year 2005 compared to 2004 and increased by 71.68% in the year 2006 compared to 2005. In the fiscal years 2007 and 2008, non-interest income has increased by 32.15% and 51.53% consecutively.

Service-charge Income:

It has increased by 22.49% in the fiscal year 2005 as compared to 2004 and by 75.23% in the fiscal year 2006 as compared to 2005. In the fiscal year 2007, service charge income has increased by 3.17% (at a decreasing rate) as compared to 2006 which is the lowest increase from the previous two consecutive years (2005 and 2006). It has increased by 28.33% in the fiscal year 2008 as compared to 2007.

Net-Income before Tax:

It has increased by 24.25% in the fiscal year 2005 as compared to 2004 and by 89.92% in the fiscal year 2006 (the highest percentage increase) as compared to 2005. In the fiscal years 2007 and 2008, service charge income has increased at a decreasing rate by 39.8% and 28.33% consecutively.

Table 15: Trend in Total Interest Income, Non-Interest Income, and Service Charge Income

Items	Fiscal Years				
	2004	2005	2006	2007	2008
Total Interest Income	116,637,552	319,927,692	241,893,298	318,044,666	420,074,747
Total Non-Interest Income	75,385,780	72,653,056	124,730,354	164,825,978	249,753,411
Service Charge Income	11,284,629	13,822,754	24,221,209	24,988,268	30,301,885
Net Income Before tax	78,552,352	97,603,572	185,367,401	259,147,659	332,570,355
Trend					
Trend in Total Interest Income	-	174.29%	-24.39%	31.48%	32.08%
Trend in Non-Interest Income	-	-3.62%	71.68%	32.15%	51.53%
Trend in Service Charge Income	-	22.49%	75.23%	3.17%	21.26%
Trend in Net Income Before Tax	-	24.25%	89.92%	39.80%	28.33%

Source: Dashen Bank Annual Report for the years 2004 to 2008 (Annex 1)

Service charge income, among the items categorized as non-interest income, has increased at varies percentage rates in the five consecutive years (2004 to 2008). Income from money transfer and the electronic payment system services that rely highly on computer technology have increased over the years (sources of service charge income) which contribute to the increase in service charge income. The findings also have shown that non-interest income is increasing each year which contributes to the increase in net-income before tax thus contributing to the increase in the bottom line of the bank.

Therefore, it can be seen from the findings that the technology has contributed to the increase in the service-charge income, non-interest income and net-income before tax. Among the item contributing to the total general and administrative expenses of Dashen bank are:

- Telecommunications
- SWIFT and bank charges
- VISA charge
- Annual hardware and software service fee
- Cost of debit card
- Telecommunication DDN

These are expenses that are directly related with technological infrastructure used by Dashen.

Table 16: Trend of Total Technology Expense and Computer-Software Depreciation Expense

Items	Fiscal Years				
	2004	2005	2006	2007	2008
Total Visa, IS and Telecom. Cost	7,815,250	17,912,822	17,229,474	21,266,331	12,198,531
Total General and Admin. Expenses	18,272,877	22,346,662	32,841,576	39,267,852	44,616,595
Trends					
Total Visa, IS and Telecom. Expense	-	129.20%	-3.81%	23.43%	-42.64%
Total General and Admin. Expenses	-	22.29%	46.96%	19.57%	13.62%

Source: Dashen Bank Annual Reports for the years 2004 to 2008

Table 16 above shows that total Visa, IS and Telecommunication cost has increased by 129.20% in the year 2005 since it is in this year the bank has incurred huge expense for the procurement, preparation and installation of the ATM technology. The expense has dropped by -3.81% in the year 2006 and increased by 23.43% in the year 2007 as the bank has been expanding the service of the technology. The expense has decreased by -42.64% in the year 2008.

Table 16 shows that total general and administrative expense has increased by 22.29% and 46.96% in the fiscal years 2005 and 2006. In the fiscal years 2007 and 2008 table 16 show that general and administration expense has been increasing at a decreasing rate, 19.57% and 13.62% respectively.

The findings indicate that the technology has contributed to the decrease in the general administrative expenses over the years. Besides operational efficiency created by the technology, the increase in general administrative expenses at a decreasing rate is due to the fact that decrease in technological expenses that has occupied a higher percentage of the total general and administrative expense. Table 17 bellow shows that, in the year 2004 the technology to total general expense percentage was 42.77% and has increased to 80.16% in the year 2005. The technological expenses coverage has reached a little over 50% in the years 2006

and 2007. But the percentage to total general expense percentage has dropped by half to 27.34% in the year 2008.

Table 17: Technology to Total General and Administrative Expense Percentage

Items	Fiscal Years				
	2004	2005	2006	2007	2008
Total Technology Expense	7,815,250	17,912,822	17,229,474	21,266,331	12,198,531
Total General and Admin. Expenses	18,272,877	22,346,662	32,841,576	39,267,852	44,616,595
Percentage of Technology exp. to Total general and adm. Exp.	**42.77%**	**80.16%**	**52.46%**	**54.16%**	**27.34%**

Source: Dashen Bank Annual Reports for the years 2004 to 2008

One of the opportunities of technology is to lower down operational expenses or costs enabling firms to become lower cost producer of services or products in the industry. Dashen Bank has managed to control its total general and administrative expenses while still increasing its Interest and Non-Interest income over the years by relying on technology.

Therefore, it can be said that the technology is contributing to the efficiency of the bank by contributing to increase in the income of the bank and by lowering down the banks cost of operations.

3.11 Utilization of the Technological Asset by Dashen Bank

Asset management ratios will reveal the asset utilization ability of a firm and are also known as activity ratios. In order for Dashen Bank to fully exploit the benefits and potential of the technology, it has to utilize its technological infrastructure (computer systems, software, ATMs and PoS terminals).

Therefore, from the items listed as fixed asset in the Banks Balance sheet statement only Computers and Software are extracted and tasted using different ratios. To study the utilization of computer and software assets the following ratios will be presented:

- Ratio of Interest Income to Computer and Software Assets
- Ratio of Non-Interest Income to Computer and Software Assets

- Ratio of Service Charge to Computer and Software Assets
- Ratio of Net-Income Before Tax to Computer and Software Assets

Table 18: Technological Asset Management Ratios (2004-2008)

Items	2004	2005	2006	2007	2008
Total Interest Income	116,637,552	319927692	241,893,298	318,044,666	420,074,747
Total Non-Interest Income	75,385,780	72,653,056	124,730,354	164,825,978	249,753,411
Service Charge Income	11,284,629	13,822,754	24,221,209	24,988,268	30,301,885
Net Income Before tax	78,552,352	97,603,572	185,367,401	259,147,659	332,570,355
Computer Hardware & Software	15617950	21798985	56146807	64156872	71277460
Ratios					
Total Int. Income to Comp. HW & SW	7.47	14.68	4.31	4.96	5.89
Total Non-Int. Income to Comp. HW & SW	4.83	3.33	2.22	2.57	3.50
Service charge Income to Comp. HW & SW	0.72	0.63	0.43	0.39	0.43
NI Before Tax to Comp. HW & SW	5.03	4.48	3.30	4.04	4.67

Source: Dashen Bank Annual Reports for the years 2004 to 2008

Except for service charge income to computer system and software ratio the other ratios presented in table 18 indicate that Dashen Bank has better technological asset utilization. The bank has managed to earn a return of more than 100% for every Birr invested in the technology in the fiscal periods 2004 to 2008. For instance 2008, the ratios of Interest-Income, Non-Interest Income, and Net-Income before Tax to Computer and Software assets reveal that the Dashen has earned a return of 5.89, 3.5, and 4.67 birr respectively for every birr invested in the technology.

The Service Charge to Computer and Software Assets ratio presented in table 18 also shows that utilization of the technology to earn more service charges is much lower. For instance at the end of the fiscal years 2004, 2005, 2006, 2007, and 2008 for every birr invested in computer hardware and software the service income generated 0.72, 0.63, 0.43, 0.39, and 0.43 respectively. This indicates that for every birr invested in technology the service charge income generated is less than a birr.

3.12. Return on Income

Dashen Bank has invested millions to install the necessary computer hardware and software infrastructure to offer its Visa and Master Card services to its customers. The technological infrastructure put in place also have operational expenses in addition to the high initial investment cost.

The Cardholders pay service charge while making transactions using their card to Dashen Bank. The service charge earned by Dashen from the Cardholders has to cover the technologies operational expenses and generate an acceptable return or margin.

Table 19: Service-Charge Margin Ratio

	2004	2005	2006	2007	2008
Service Charge	**11,284,629**	**13,822,754**	**24,221,209**	**24,988,268**	**30,301,885**
Total IS and Technology Cost	**7,815,250**	**17,912,822**	**17,229,474**	**21,266,331**	**12,198,531**
Service-Charge Margin	**0.444**	**-0.228**	**0.406**	**0.175**	**1.484**

Source: Dashen Bank Annual Reports for the years 2004 to 2008

As it can be seen from table 19, the service charge margin is much lower and can't cover its technologies operational expenses sacrificed to earn the income. For the fiscal periods 2004 to 2008 the bank has earned a margin of 0.307, -0.296, 0.289, 0.149 and 0.597 sacrificing a birr for its operating expenses.

This indicates that the technology is not yet utilized to earn an attractive margin by increasing service charge income. This is directly attributed to the small number of users of the technology as seen previously.

3.13. The Technologies Contribution to the Market Growth of Dashen Bank

The technology also has contributed to the *growth strategy* of the bank by enabling the bank to extend its products and services to a new and existing market segment. The fiscal years 2004 to 2008 are characterized by high technology investment and expansion.

- In the fiscal year 2005 Dashen Bank has been completing all preparation for the implementation of the Dashen ATM Machines and Visa branded electronic debit card system.
- In the fiscal year 2006, Dashen Bank procured and placed five ATMs in different parts of Addis and started issuing Visa debit cards to its customers. In that same fiscal year Dashen Bank procured 300 Point-of-Sale (PoS) Terminals and started distributing to Merchants. In the fiscal year 2007, the number of Visa card has exceeded 10,000 and the number of ATMs has increased to 10.
- In the fiscal year 2008, PoS Terminals have been distributed to more than 250 merchants. Agreement has also been reached for the ATMs and PoS Terminals to accept Master Card holders which will increase the use of the machines.
- In the Fiscal year 2008, the number of ATMs has reached to 20 and PoS Terminals distributed to merchants has increased to 408. The number of Visa card holders has also increased to 24,267.

In line with the technological expansion made in the years 2004 to 2008 Dashen Bank has managed to extend its innovative electronic payment system to its new and existing customers located in Addis Ababa, Awassa, Nazareth, Bahir Dar and Mekelle. As a result of which, the number of Visa or Master Cardholders has increased to 24,267 at the end of the fiscal year 2008.

Adding to Dashen Banks growth strategy, the electronic payment technology has enabled it to attract an international market segment to use its electronic payment systems locally. As a result of which the bank has collected 31.7 million USD from international Visa Cardholders enhancing adding to its profitability.

Therefore, the findings show that the technology has contributed highly to the growth strategy of the Dashen Bank by defining and attracting a new market segment served by it.

CHAPTER FOUR

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

4.1. Summary and Conclusion

4.1.1. Summary

Today, technology has become equivalent to the biological concept of the "survival of the fittest" as it supports firms efforts and strategies to effectively and efficiently serve the needs of their customers and/or stakeholders. Technology has enabled banks to offer innovative, convenient, responsive and accessible products or services.

The Ethiopian private commercial banking industry is making huge financial investment in technology to support their strategies and withstand competitive pressures. From the sector Dashen Bank has taken the lead introducing new banking technologies. Among the major technological milestones achieved by Dashen Bank are:

- It has implemented a wide area network connecting its various branches and has automated its banking operations.
- It has implemented the more advanced banking software package "Flex Cube" capable of handling the payment card systems.
- It has established collaboration with VISA and Master International to issue Visa and Master Debit cards.
- It has installed ATMs and PoS terminals for the payment card system. At the end of 2008 fiscal period Dashen Bank has installed 20 Automated Teller Machines (ATMs) and 409 Point of Sale (POS) Terminals.

To attain the above mentioned technological milestones Dashen Bank has made a total investment of 26,310,362 Birr which is 28% of the banks total fixed assets (93,848,772 Birr).

Accordingly the findings of the research indicate that:

1. Dashen has succeeded in aligning technology with its strategies at the corporate, functional, and operational levels. As a result, the findings suggest that:
   1.1 The technology has contributed to the growth strategy of the bank by creating a new market to be served. The electronic payment system introduced by Dashen Bank that

makes use of Payment Cards (Visa and/or Master), ATM and PoS merchant terminals has made it possible for the Bank to attract new and existing customers. The electronic payment system has also extended the banks services to international Visa or Master Cardholders and has collected 31.7 million USD, at the end of 2008 fiscal period, which would not have been realized with out the technology.

1.2 The new electronic payment system has contributed to the profitability of the bank by increasing the service charge income.

1.3 The payment system has enabled Dashen Bank to form strong alliance with foreign Banks that have made use of Visa and/or Master. Such an alliance has made it possible for International Cardholders to make use of the Dashen payment system to access their foreign accounts.

1.4 The highly innovative Dashen Bank's payment card system has enabled local and international Visa and/or Master Cardholders to access their accounts 24 hours a day and 7 days a week. The payment card system has made the service of the bank accessible, responsive and convenient.

1.5 The accessible, convenient, and responsive service offered by the bank to its customers has contributed to raising the customers switching cost.

1.6 The innovative electronic payment card system has differentiated the banks service from other private commercial banks in Ethiopia.

1.7 The electronic payment card system and the banking automations have contributed to the low cost strategy of the bank by lowering down its operational expenses. The technology has also contributed to lowering the cost of its customers in accessing the service of the bank.

2. The findings show that Dashen Bank has managed to increase its efficiency by relying on technology. The technology has contributed to the increase in the non-interest income, service charge income and net-income before tax of the Dashen while reducing its operational general administrative expenses.
3. The findings have also shown that Dashen Bank is far from utilizing the technological assets to get the best of the technology. The findings of the research indicate that :

3.1 The electronic payment Cardholders percentage compared to the total number of depositors is only 4.97% which is too small. As a result of which the tecnological asset utilization is too low.

3.2 The return on service charge income generated which makes use of the technology asset is not sufficient to cover the technologies operational expenses.

4. The technologies used to offer the payment system (ATMs and PoS terminals) have to be available or operational for use so as to generate an attractive service charge margin. In this regard, the research findings indicate that:

   4.1 System failures occur rarely disrupting the Bank's services and operations.

   4.2 Electronic payment system technologies, ATMs and PoS terminals, are not 100% available. Failure of the machines due to telecommunication, electrical, technical problem, etc as well as ATMs insufficient or zero money note balance have made the system unavailable for use.

5. The findings of the research show that the training and support provided by the Information Technology department to the end users is sufficient to develop their skill to use the technology efficiently and effectively.
6. The technology, particularly the payment card system, has contributed to the growth in the market segment of the bank by defining new market segment both from its existing customers and from new customers as well.
7. The technology has contributed to the effectiveness of the bank by making its services responsive and accessible to its customers and employees.
8. The technology also supports the corporate managers' duty by generating relevant information or report on time to carryout their managerial and administrative duties.

4.1.2. Conclusions

Dashen Bank has made high investment in technology to support its various strategies and to gain competitive advantage and to withstand the competitive forces that shape the structure of competition in the commercial banking industry. It can be concluded that information technology has enabled Dashen to be competitive in the banking industry. Dashen Bank has managed to align the technology with its overall strategy at the corporate, functional and

operational level. It has also managed to get the commitment of its employees and managers at various levels.

Dashen Bank has not yet utilized the technology efficiently and effectively and has not so far exploited the technologies opportunities fully to gain an attractive margin.

4.2. Recommendations

In order to improve the contribution of the technology towards the attainment of the banks strategies the following recommendations are made:

1. To increase the availability of the technology, especially the payment card system, the bank has to consider the following recommendations:
   - 1.1 Phone numbers printed on the ATMs for customers to forward their comments and/or complaints have to be open 24 hours of the day and 7 days of the week to receive complaints.
   - 1.2 The maintenance team has to be available 24 hours of the day and 7 days of the week to provide responsive maintenance and get the machines operational.
   - 1.3 The bank should create a mechanism to regularly survey the machines for failures and replenishment.
   - 1.4 The bank should inform the payment Cardholders the locations of ATMs or PoS terminals that are still running and those that are under maintenance through mobile text messaging or by providing a call line that provides customers with such information.
2. To increase the usage and utilization of the technology, particularly the payment system, Dashen will have to consider the following recommendations:
   - 2.1 It should motivate its depositors to use the payment system by issuing the payment cards for free whether they have requested or not.
   - 2.2 It should offer its payment cards instantly to new customers/depositors for free along with their bank book without waiting for their request.
   - 2.3 It should significantly minimize the time it takes to issue Visa or Master Cards to customers, which is currently 15 to 30 days, to few minutes.

3. Dashen Bank has to collaborate and work together with the government, competing banks, education institutions, local technology solution providers and other concerned stakeholders for the development and wide use of technology. In this regard the following recommendations are made:
   3.1 Creating awareness to the public regarding the technology and electronic payment system.
   3.2 Work closely with the government to set standards for the technology based financial services (e-banking). Also support the government's effort to increase computer access and internet usage.
   3.3 Work together to spread technology utilization in the country by participating and taking roles in information technology education.
   3.4 Support the growth and development of the local technology market by considering outsourcing or acquisition of software products from the local market.
   3.5 Support educational institutions by collaborating and suggesting relevant research and development areas.
   3.6 The bank should open its door and develop the knowledge of information technology students on banking technology through apprenticeship, trainings and so on.

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APPENDIXES

A. Questionnaire [English Version]

Survey on t Challenge and Opportunity of Technology in Relation to the Effectiveness and Efficiency of the Banking Sector: The Case of Dashen Bank

Addis Ababa, 2010

For Employee Use only

Informed Confidentially and Consent

Dear Respondent,

This questionnaire is prepared to conduct research paper entitled 'Challenges and Opportunities of Technology in relation to the Effectiveness and Efficiency of the Banking Sector: The Case of Dashen Bank S.Co." as a partial fulfillment of a Bachelor Degree in Management from St. Mary's University College. As the title implies the research paper will focus on presenting the opportunities or contributions of information Technology to the efficiency, effectiveness and attainment of the banks strategies and also identifies the challenges that limit the sector from fully exploiting the potential presented by the technology.

Your objective response to the questions presented in the questionnaire will determine the successful completion of the research paper and its findings. You are assured that your response will be kept highly confidential and would be used for research purpose only. Therefore, I would like to thank you cooperation in filling up and returning the questionnaire. You are kindly required to provide your responses by making a tick mark [✓] in the box provided and by writing your comments in the space provided.

As you response is kept confidential, you don't need to write your name on the questionnaire.

I would like to thank you in advance for your kind cooperation.

Genene Getachew

1. Sex: □ Male □ Female

2. Are your departmental operations supported by information Technology?

□ Yes □ No

If your answer is YES to Question number 2, answer the question from 2.1 to 2.9 only

2.1 Has the information system contributed to standardizing your departmental tasks

□ Highly □ Moderately □ Not so far

Any comments,

_____

_____

2.2 Does the information Technology support your department's effort to become more responsive by reducing the time and effort required to process or execute tasks?

□ Highly □ Supports □ Supports

□ Slightly □ Not Satisfactory □ Not at all

Any comments,

_____

2.3. Has the information Technology Supported your department's effort to make its services more accessible to its customers (both internal and external) ?

□ Highly Supports □ Supports

□ Slightly □ Not Satisfactory

□ Not at all

Any comments,

_____

2.4. Has the information Technology supported your department's effort to make its services more convenient to its customers (both internal & Eternal) ?

□ Highly Supports □ Supports

□ Slightly □ Not Satisfactory

□ Not at all

Any comments,

_____

2.5. Are the reports generated by the information Technology relevant to your information need in content and format

□ Highly Relevant □ Relevant

□ Reasonably Relevant □ Not at all Satisfactory

Additional comments,

_____

2.6. Is the information Technology reliable in producing the reports or information required your department on time?

- □ Highly Reliable
- □ Reliable
- □ Reasonably Reliable
- □ Not at all Satisfactory

Additional comments,

_____

2.7. Do you encounter technology or system failures that disrupted your department operations?

- □ Highly frequent
- □ Frequent
- □ Rarely
- □ Not at all

Additional comments,

_____

2.8. In Recovering system failures how responsive is the IT department?

- □ Highly Responsive
- □ Responsive
- □ Not satisfactory
- □ Not at all

Additional comments,

_____

2.9. Is training and support offered to your department sufficient to improve enhance the department's capacity in using the technology to execute its daily roles and responsibilities?

- □ Highly sufficient
- □ Sufficient
- □ Unsatisfactory
- □ Not sufficient

Additional comments,

_____

3. Do you believe that information technology will contribute significantly to the efficiency and effectiveness of your department?

- □ Highly
- □ Moderately
- □ Slightly
- □ Not at all

4. Have you requested the IT department for the development and implementation of an information system to support your department operations and information processing needs?

□ Yes □ No

If your answer is YES,

5. How long has it been since your last request in month or years?

_____

6. What is the status of your system development request made for this department?

□ Rejected □ Still Pending

□ On the process of system development □ Don't know

If you have additional comments, opinions or suggestions please specify.

_____

_____

DECLARATION

I, the undersigned, declare that this senior essay is my original work, prepared under the guidance of Ato Daniel Meread. All sources of materials used for the manuscript have been duly acknowledged.

Name:	Genene Getachew
Signature:	_____
Place of submissions:	St. Mary's University College
	Faculty of Business
	Department of Management
	Addis Ababa
Date of submission:	_____

SUBMISSION APPROVAL SHEET

This Senior Research Paper has been submitted to the Department of Management in partial fulfillment for the requirement of BA Degree in Management with my approval as an advisor.

Name: Daniel Meread

Signature: _____

Date: _____