ASSESSING THE EFFECT OF COMPUTERIZED BANKING SYSTEM ON THE FINANCIAL OPERATIONS OF SOUTH BIRIM RURAL BANK LTD

BY

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DECLARATION

I hereby declare that, this submission is my own work towards the Masters of Business Administration Accounting and that, to the best of my knowledge, it contains no material previously published by another person nor material which has been accepted for the award of any other degree of the University, except where due acknowledgement has been made in the text.

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DEDICATION

I dedicate work to my lovely wife Mrs Nana AmaSakumKoranteng and lovely daughters Abena TonkohKoranteng and Nana AkosuahBoahemaahKoranteng for their support and sacrifice they gave me throughout this programme. It also goes to my mother, Grace Tonkoh and my late father, Edward Nana Koranteng, my siblings and Festus AduAttafuah for their encouragement in further education.

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ABSTRACT

The study was motivated by the low performance of some rural banks which some suspect the high operational cost in computerization banking system as its cause. The study seeks to examine the effect of computerized banking System on South Birim Rural Bank Limited (SBRB) . The study examine whether computerized banking system is effective in delivering banking services and its challenges. Furthermore, it examines the effect of computerized banking system on the performance of South Birim Rural Bank Limited. Primary data was collected with the use of questioniarre and a sample of 100 respondents which includes 30 bank employees and 70 bank customers were interviewed. Secondary data on the performance of South Birim Rural Bank Limited was also collected from their audited accounts. The study revealed that computerized banking system in SBRB simplifies work, enables service delivery on time, reduces labour hours, reduces paper work, enables quick response to customer enquiries, reduces waiting time at banking premises and enableseasy reconciliation. In achieving all these benefits there were challenges like high maintenance and part replacement cost, installation cost, software licence fees, other service providers cost and network failure. One major aim of banks is to increase profit by ensuring high standard customer satisfaction.The study recommended SBRB to consider cost control measures, effective loan recovery plans and marketing strategies in order to increase profit. It was also recommended that creation of new branches and renovations should also be planned in budgets to avoid fluctuations in profit so as to reduce the high cost to income ratio.

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LIST OF ACRONYMS AND ABBREVIATIONS

AGM	-	Annual General Meeting
ARB	-	Association of Rural Banks
BoG	-	Bank of Ghana
BSD	-	Banking Supervision Department
CBRDP	-	Community Based Rural Development Project
e-FASS	-	Electronic Financial Analysis and Surveillance System
GEDP	-	Ghana Energy Development and Access Project
GHIPSS	-	Ghana Interbank Payment and Settlement Systems
GRBCIP	-	Ghana Rural Bank Computerization and Interconnectivity Project
ICT	-	Information and communication technology
IDA	-	International Development Association
IFAD	-	International Fund for Agricultural Development
LAN	-	Local Area Network
MASLOC	-	Microfinance and Small Loan Centre
MCC	-	Millennium ChallengeCorporation
MDA	-	Millennium Development Authority
RCBs	-	Rural and Community Banks
RFSP	-	Rural Financial Services Project
SBRB	-	South Birim Rural Bank
SIF	-	Social Investment Fund
VSAT	-	Very Small Aperture Terminal
WAN	-	Wide Area Network

CHAPTER ONE

INTRODUCTION

1.0 Background of the study

Most theses on rural banks focus on performing rural banks in the Ashanti region, less attention is given to other rural banks. The future of the Ghanaian economy is driving towards computerisation, particularly in the financial sector. Computerization of the activities of banking institutions is becoming popular worldwide. Furthermore, most rural and community banks in Ghana complains about the high computerisation cost which presents massive threat to their survival. This study focus on the effect computerized banking system have on the financial operation of South Birim Rural Bank limited, which is located at Akim Achiase in the Eastern region of Ghana.

Generally, banks are usually financial institutions that are created to provide customers with some specific services such as receiving deposits from customers for savings and onward money transfer as well as lending to its clients. In Ghana, rural banks have been given the basic responsibility of providing banking services to individuals in rural communities. These services include accepting deposits and generating interest for funds deposited, making loans available to qualified rural people especially those in agri-businesses, petty trading and small scale manufacturing (Bank of Ghana, 2000).

Accountants are hired by individuals and companies day by day to carry out the mathematical requirements of accounting and balancing of books. Before the introduction of information technology into accounting, these accounting protocols were being performed manually. Many accountants and non-accountants nowadays like to use computer software to perform these duties, (Osmond, 2011).

Business owners use accounting to record, report and analyze their company's financial information and in doing this, companies often generate several pieces of financial information from business transactions, and compile this information into general ledgers and journals, (Osmond, 2011).

Historically, accounting was a manual process using paper books and documents for financial information. Business technology has created significant advances in the area of financial management and banking software.

Moreover, banks are into safekeeping transaction and group management purposes with the intention of making profits and delivering best but affordable services to their customers. These customers may either be individuals or institutions which the bank serve in a more convenient, efficient and fastest possible way. The main aim of all banks is to derive utmost benefit from its customers.

In the 1990's through to early 2000's, the number of accounts holders in the various banks in Ghana both rural and commercial banks were very few. The use of manual banking system made it uneasy to serve customers in a more diverse ways as urgent demand for information coupled with reconciliation of financial statements of the various institutional customers were very hard to come by. But with the introduction of computerized banking system, the more tedious banking functions through the use of manual banking system have considerably been softened.

In Ghana, the use of computerized banking system in various banks is drastically changing the way banking activities are being organised. Electronic commerce is now regarded as the solution for the new commercial revolution that is taken place in the advance world which in one way or the other lacking in Ghana, and by offering reasonable banking products and services to customers, Ghanaian banks had to adopt computerized banking system. Moreover, considering the recent improvement in the country's infrastructure then one can say that the banks had nothing to say but to forcibly adopt this technology in order for them to improve their services for their customers.

The ARB Apex Bank limited which has been given the mandate by the Bank of Ghana to provide financial, managerial and technical support to rural and community banks in Ghana is responsible for managing the networking and computerisation of rural and community banks. ARB Apex Bank limited adopted the Temenos T24 banking software in the year 2010 for the computerisation of rural and community banks in Ghana.

The cost of managing rural bank computerisation is paid by rural banks to service providers through ARB Apex Bank limited. Since computerisation cost is mostly high, rural and community banks have to be efficient in order to be profitable. Rural and community bank that are unable survive due to their cost of operations need to merge with others in order to sustain in business.

1.1 Problem Statement

Computerization of banking operations and services as well as the introduction of banking software and automated teller machines by some multi-national banks has helped in improving the financial strength of Ghanaian banks. Various studies conducted by most scholars established that information technology has positive effects on banks productivity, cashier's duties, banking transaction, bank patronage, bank services delivery and customers' services. They concluded that, these have positive effects on the growth of banking industry.

The low performance of some computerised rural banks in Ghana after migrating from manual banking to computerised banking motivated the study. Some rural banks in Ghana seem to be performing below expectation and some susupect high computerisation cost as it cause.

The main research problem is to examine the effect computerised banking sysytem have on the financial operations of rural and community banks as well as the benefits and challenges rural and community banks encounter with the use of computerized banking sysytem.

1.2 Objectives of the Study

The primary purpose of this study is to examine the effect of computerized banking System on South Birim Rural Banks.

a. To examine whether computerized banking system is effective in delivering banking services.
b. To examine the effect of computerized banking system on the performance of South Birim Rural Bank Limited.
c. To examine the challenges of computerized banking system.

1.3 Research Questions

a. Is computerized banking system effective in delivery banking services to meet customers need after adoption in South Birim Rural Bank Ltd?
b. What are the effects of computerized banking system on the performance of South Birim Rural Bank Ltd?
c. What are the challenges of computerized banking system in South Birim Rural Bank Limited?

1.4 Significance of the Study

The study seeks to examine the effect computerised banking system have on Rural and Community Banks (RCB's) in Ghana and identify the benefits and challenges RCB's encounter with the use of computerised Banking system to aid them in decision making.

This research paper will also be of prime benefit to the management and staff of South Birim Rural Bank Limited, since it will enable them identify and understand the benefits and problems associated with computerized banking system adoption and how best to combat such problems. This work would also be crucial document to other Rural Banks in Ghana that have adopted and those that are yet to adopt the system of computerized banking in their operations knowing the challenging issues to be managed in order to pursue the system successfully.

1.5 Scope of the Study

The focus of this study shall cover the role computerized accounting system play on the operations of rural banks in Ghana, focusing on South Birim Rural Bank Limited. The study will cover all the seven (7) operational branches of South Birim Rural Bank Limited and will include branch managers, operations officers, tellers and customers of the bank.

The study will be carried out in the eastern region geographically within the operational areas of South Birim Rural Bank which includes the Birim Central Municipal, Birim South District, Birim North District, and Denkyembour District Assemblies.

1.6 Limitations

The researcher was optimistic that he would encounter the following challenges;

a. Cost of the research; costs are normally unavoidable and these may include, transport costs, airtime costs, typing, printing and binding costs among others that may come up unpredicted.
b. Time; Time required to carry out the research was limited due combination of academic work and office duties.
c. Availability of respondents to quickly respond to interviews and questionnaires was also a challenge

The above challenges might have influence on the quality of the research, but cannot degrade the quality of the research to a greater extent.

1.7 Organization of the Study

Chapter one deals with the background of the study. Chapter two focuses on literature review. The research methodology can be found at chapter three, which shows the method used to conduct this research. Chapter four focuses on data analysis and discussions of research findings. Chapter five shows the summary of findings, recommendations and conclusion.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

In this chapter, literature is reviewed on concept of banking, rural banking and its importance, challenges of rural banking as well as computerized banking software used in Rural Banks in Ghana.

2.1 History of Ghanaian Banking

In 1953 the Bank of the Gold Coast was set up by the then Government and with the passage of time, the Bank was split into two: the Bank of Ghana, operating as a bank of issue, to be developed into a complete central bank; and the Ghana Commercial Bank, to be developed into the largest commercial bank with a monopoly on the accounts of public corporation.

The Ghana Commercial Bank assumed the role and functions of Government bankers and began to take over the finances of most Government departments and public corporations. The Bank of Ghana quickly developed into a strong competitor of the expatriate banks by opening branches in most of the towns and centres in which they had been operating as well as moving into new areas such as the Ashanti and the Northern Regions.

Banks incorporated by legislation between the periods of 1957 to 1965 include: the Ghana Investment Bank as an Investment Banking Institution; the Agricultural Development Bank for the development of Agriculture; the Merchant Bank for merchant banking; and the Social Security Bank to encourage savings.

The Banking Law was enacted in 1989 to enable suitable locally incorporated bodies to file applications for licences to operate as banking institutions. The Financial Institutions (Non-Banking) Law 1993 (P.N.D.C.L. 328) also made provision for the licensing of non-banking financial institutions like discount companies, finance houses, building societies, or leasing and hire-purchase companies.

2.2 Rural Banking in Ghana

The first rural bank was established in 1976 at Nyakrom, a farming community in the Central region of Ghana. Capital contributions were mainly drawn from farmers in the community. A second bank was opened in the following year at Biriwa, a fishing village also in the Central region. By 1980 the number of rural banks had reached 20. Managers and directors of these rural banks founded the Association of Rural Banks (ARB) to promote the exchange of information and to improve the performance of rural banks as a whole. Over the period 1980–84 the number of rural banks rose rapidly and reached 106. This growth was driven by rising interest among rural communities in establishing their own banks and by the introduction of Akuafo Check operations in cocoa-growing areas in 1982.

As the network of rural banks grew, it was essential to provide a code for establishing new rural banks. The BoG developed and issued guidelines for the establishment of rural banks in 1985. The minimum paid-up capital required by BoG was old ₵1.5 million. Of this, shareholders were to hold 67 percent and 43 percent was to be contributed by the BoG. The maximum share that could be purchased by an individual shareholder was limited to old ₵10,000. This limit was intended to allow equal participation of all shareholders from the community and to mitigate the risk that a few shareholders would dominate the governance of the banks.

The rural banks provided mainly savings and credit services and products. With the increase in the number of rural banks, the number of individuals with bank accounts also increased. Salary and pension deposits for civil servants were transferred using rural bank networks.

Under the Banking Act, the Bank of Ghana (BoG) has overall regulatory and supervisory authority in all matters related to banking institutions in Ghana. Rural and community banks are incorporated as limited liability companies and licensed by the BoG within the framework of the Banking Act. The statutory role of the BoG in the operation of rural banks includes the licensing of new banks, supervision, and liquidation.

BoG insists RCBs to maintain primary and secondary liquidity reserve requirements to mitigate liquidity risk. As a primary liquidity reserve ratio, rural banks are required to maintain 8 percent of their deposits for daily business running and 5 percent of their deposits with the ARB Apex Bank. As a secondary liquidity reserve, rural banks are required to maintain 30 percent of their deposits as liquid investments such as BoG bonds, ARB Apex Bank Certificates of Deposits and Treasury bills. Treasury bills are purchased through the ARB Apex Bank. New rural banks have a 10-year tax holiday. During this period, however, they are not allowed to pay dividends and are expected to use the tax savings to strengthen their capital position.

2.3 Ownership and Governance of Rural Banks

Rural banks operates under the Companies Code 1963 (Act 179) of Ghana and incorporated aslimited liability companies which are required to be owned by shareholders from the local community inwhich they exist and operate.

The RCB governance structure comprises of a board of directors that represents shareholderswithin the bank and supervises the management of the bank. The Board of directors arenominated and elected by the shareholders from the communities where the banks exist and operates. Election of board members takes place during annual general meetings (AGMs). Directors areelected on the basis of their reputation in the community and professionalqualifications. The Bank of Ghana validates the individuals nominated by the shareholdersbeforethat individual can be accepted as a board member.

The board of directors elects a chairperson and a vicechairperson from among themselves. The chief executive of the bank in many cases serves asthe secretary to the board. Election for a board member is a three-year term but can be reelect for an unlimited number of terms by the shareholders. At each AGM, one-third of theboard members need to retire but areeligible for re-election, in accordance with theCompanies Code of Ghana.

The least size of a Board of Directors is five, and the maximum is 11. The number ofdirectors with voting rights although cannot exceed the maximum allowed size; additionalindividuals can participate as co-opted members. The board of community and rural bank hasthree to five supervisory subcommittees covering the main aspects of managing and operatingthe bank.

The supervisory subcommittee members areelected from the board base onspecialization and interest. According to Nair and Fissha (2010), the main subcommittees and their respective responsibilities areas follows;

Finance and audit subcommittee: monitors the financial performance of the bank; assessesthe liquidity position of the bank and makes decisions on advances; monitors the bank‘sinvestments; reviews the operational budget; ensures that accounts are prepared for audit;ensures that prudential returns are prepared and submitted; ensures provision for bad anddoubtful debts; and ensures that policies and manuals are updated and implemented.

Loans subcommittee:ensures that loan approvals are in accordance with the operatingpolicy of the bank and that loans disbursed are recovered; reviews and approves loanapplications; and follows up with delinquent clients and legal cases.

Disciplinary subcommittee: manages conflict among the staff and takes disciplinary actionin case of misconduct.

The boards typically meet once a month. In the cause of this meeting the board approvesloans above the approval threshold of the management of Rural and Commercial Banks; examines portfolio quality; follows up on previous meetingactions; reviews monthly reports from the internal auditor; reviews reports from supervisorysubcommittees of the board; and undertakes strategic decisions and guidance formanagement. The minutes of the meetings are recorded and submitted to the Bank of Ghanafor information purposes and monitoring.

Up to date many rural banks operate a system of equal voting rights for each shareholderirrespective of the number of shares owned, thus making no incentive for shareholders toincrease their shareholding. This situation is being change to voting rights base on thenumber of shares. Their difficulty in attracting and retaining qualified directors, governanceof rural banks is constrained, even though these positions are generally considered prestigious. The forgone alternative for professionals with the requisite knowledge and skills to function effectively as board members of financial institutions is often higher than what most rural banks can afford to pay as sitting allowances. Additionally, the total amount of time directors are required to spend appearing board meetings, subcommittee meetings, and other ad hoc engagements is normally higher than that in other organizations.

2.4 Products and Services of Rural Banks

As financial intermediaries, Rural Banks provide services consisting of savings, loans, and payments which can be grouped under deposit mobilization and credit creation. Several products are offered within each of these categories as discussed below.

Deposit mobilization

The rural banking industry mobilizes deposit through products like savings accounts, current accounts, time deposits and Rural Banks' frontline deposit mobilization (Susu collection). Typically, the largest share of the deposit portfolio is held in the savings account.

Credit Creation

The major credit products offered by the Rural Banks include microfinance loans, personal loans, commercial loans, salary loans, Susu loans, overdrafts, and others (funeral loans, wedding loans, church loans etc). The major Rural Banks loan comes in the form of:

Microfinance loans

These loans are provided to groups of individuals to finance small and micro income generating activities. For some Rural Banks, the group is the borrower, whereas for others, each member of the group is a borrower. In both cases, the group is jointly liable for the loan. The size of a microfinance loan ranges between GHS50 and GHS1,000 whereas most loans are between GHS100 and GHS500. The term of a microfinance loan is normally four to six months, and the interest rate ranges between

30 and 36 percent. However there are situations where the loans can be given for 12 to 24 months.

Susu loans

These loans are provided to individuals following three months of consistent smaller deposits. The size and term of Susu loans are similar to those of microfinance loans, but Susu loans are provided to individuals with the Susu deposit as the security for the loan granted.

Salary loans

These loans are provided to salaried individuals with secured salaries which are paid through the bank. The bank automatically deducts the loan repayment instalment from the salary payments. The size of the loan is determined by the salary of the borrower. The maximum term of a salary loan is 48 months, and the interest rate ranges are determined by the rates in the open market.

Commercial loans

These loans are provided to companies and individual entrepreneurs for working capital or fixed capital. The maximum loan size is normally GHS100,000 the maximum term is 36 months, and the interest rate ranges between 28 and 35 percent.

Money Transfers

The Rural Banks also provide payment through the Western Union and the Apex link money transfer system to the hinterlands.

Other Services

Rural and Community Banks (RCBs) offer special products and services for specific target groups on behalf of government and donor financed programs, such as

Microfinance and Small Loan Centre (MASLOC), the Social Investment Fund (SIF), the Community Based Rural Development Project (CBRDP), and the Millennium Development Authority (MDA). It should be noted that, the performances of the Rural Banks have not been without challenges.

2.5 Supervision of Rural Banks in Ghana

The BoG supervises rural banks through its Banking Supervision Department (BSD). The BSD supervises operations of rural banks through on-site and off-site inspection, issuance of administrative directives, and attendance of rural bank annual general meetings. Rural banks are required to submit monthly, quarterly, and annual returns on variety of financial and non financial indicators. The BoG can penalize rural banks for nonsubmission, incomplete submission, delayed submission, or inaccurate submission of any of these returns.

The BoG is expected to conduct an on-siteexamination of rural banks at least once a year. Annual on-site supervision takes about five days in each rural bank. The on-site supervision reviews various aspects of a bank's operations, including books, records, and use of fixed assets. During these visits, BoG supervisors also check physical cash, inspect the cash storage security system, verify compliance with the liquidity reserve ratio, check insurance policies, and examine customer turnaround time. Theexamination is carried out without prior notice to the rural banks. In the course of theexamination, inspectors may also interview staff, clients, and directors as necessary. The output of the examination is a report followed by a directive outlining actions that the bank must implement.

Based on the annual returns filed by rural banks and on-site inspections, BoG categorizes rural banks as satisfactory or mediocre. The key performance indicators used to arrive at this classification are paid-up capital, net worth, the capital adequacy ratio, loans and advances, investments, liquidity, deposits, and total assets. The BoG can revoke the license given to a rural bank if the capital base of the bank is significantly eroded and liabilities exceed assets; unless the shareholders are able to inject additional capital to restore the bank to normal operation within six months of the capital erosion.

Effective supervision of rural banks by the BoG is made difficult by the large number of rural banks spread over a large geographical area. Because of manpower constraints, the BoG has been unable to conduct regular on-siteexaminations of all rural banks annually. As a result, some poorly performing banks that need these on-siteexaminations the most do not receive them. Until recently, RCBs were required only to submit paper-based returns, and this situation often meant poor data quality because of missing data or data errors. To improve the quality of supervision and monitoring, the BoG recently introduced an electronic Financial Analysis and Surveillance System (e-FASS) that requires rural banks to send their periodic returns electronically.

2.5.1 The Association of Rural Banks (ARB)

In 1981 the 30 existing rural banks formed the ARB, with the support of the BoG, to serve as a forum for rural banks. The association has nine regional chapters. Initially, the ARB’s functions were primarily to provide training to different target groups. This role has been mostly taken over by the Apex Bank since its formation, however. The ARB continues to be responsible for providing Code of Conduct training for rural bank directors. The ARB played a key role in the formation of the Apex Bank. Although it was initially proposed that the ARB should cease to exist once the Apex Bank was formed, it was later decided that the ARB should continue to function, focusing primarily on advocacy with the government and conflict resolution among its members.

2.5.2 The ARB Apex Bank

The Apex Bank emerged as a result of the rural banks' felt need for an institution that could provide financial, managerial, and technical support. It was first recommended by a study commissioned jointly by the World Bank, the BoG, and the ARB in 1996. A subsequent feasibility study conducted in 1998 concluded that an apex bank could befinancially viable, and the ARB Apex Bank was incorporated in 2000 as a public limited liability company with rural banks as shareholders. It was licensed in 2001 and started operations in July 2002.The Apex Bank provides the following services to the rural banks;

Check clearing

The Apex Bank offers check-clearing services to the rural banks through Ghana Interbank Payment and Settlement System's automated clearinghouseplatform which is a computerized system that uses scanned check images. This system replaces theearlier system of manual check clearing.

Specie supply

Although the Apex Bank was initially fully responsible for the physical supply of specie to the rural banks, it has now moved to providing this service on a need basis. Most rural banks now use their own bullion vehicles to obtain cash from the Apex Bank branches. The role of the Apex Bank is now primarily to maintain adequate specie supply in collaboration with the BoG and, if necessary, to provide loans to the RCBs to purchase bullion vans.

Treasury management

The Apex Bank provides brokerage services to the RCBs to purchase and rediscount Treasury bills and bonds, purchase Apex certificates of deposit, and pay interest on clearing account balances.

Loan fund mobilization

The Apex Bank also facilitates RCBs' access to funds from donor projects such as SPEED and other government-led interventions like the Agricultural Credit and the Poverty Alleviation Loan, the Community-Based Rural Development Project (CBRDP), and the Ghana Energy Development and Access Project (GEDP).

Domestic and international money transfers

The Apex Bank operates Apex Link, an automated domestic fund transfer platform, which allows money transfers across Ghana through the RCB network. In 2008 the Apex Bank entered an agreement with Western Union to provide international money transfer services through RCBs and its own branches. Since then it has added VIGO as a partner and plans to add other remittance companies.

Information and communication technology (ICT)

The Apex bank's ICT department provides installation and support services for RCB computerization. It supported the full computerization of RCBs, maintenance and troubleshooting services to these banks. The Apex Bank also coordinated the implementation of GRBCIP, the US$20.3 million RCB computerization project which was funded by the Millennium Challenge Corporation.

Training

The Apex Bank provided training services to RCBs.

Inspection and audit

Given the lack of funding for this activity from either the government or the BoG, the Apex Bank currently restricts this service to “marginal” banks and to special assignments.

2.6 Accounting in Banking

Accounting provides financial information about a business or a not-for-profit organisation. Owners, managers, investors and other interested parties need financial information for decision making. Financial accounting is the art of systematically identifying, measuring, recording, classifying and summarizing in a significant manner and in terms of money, transactions and events which are, in part at least, of financial nature, and communicating, analyzing and interpreting the results there of (Woode& Sangster, 2008).

2.6.1 Purpose of Accounting

According to Sunder (1997), a business organization can be seen as a set of contracts among various participants: employees, shareholders, customers, vendors, managers, creditors, auditors, government, among others. Each party in the contract agrees to contribute resources. For example, employees and managers contribute skills, shareholders and creditors contribute capital, vendors provide machinery and materials, and customers provide cash. Each participant demands an inducement at least as large as the opportunity value of his contribution to the organization. For an organization to succeed, its production technology and set of contracts must satisfy each one of its participants. If he can get moreelsewhere, he will quit the organization. If enough people quit, the organization collapses. They therefore argued that, accounting is necessary to assemble, implement, enforce, modify, and maintain the contract set of organization.

Accounting therefore plays five main functions in an organization. The first requirement of control is to devise a system of measuring the contributions made by each agent. It should also determine the amount of incentive due them, and monitor the distribution of inducements so that each agent receives his/her due, no more and no less.   In addition, accounting helps compare the contributions made and the incentives received by each participant and distributing this information. Furthermore, accounting distributes information to various factor markets to keep them liquid and find replacements for participants who leave.

Finally, accounting makes some information available in the form of common knowledge or public disclosure to help reduce conflict among participants at the time they re-negotiate their contracts (Sunder1997).

In its second function, the accounting system measures, records, and controls the outflow of resources from the organization. Payroll and benefit accounts for employees, shipping to customers, accounts payable to suppliers, and tax accounts measure the out flow of resources to the government (Sunder1997).

In its third function, the accounting system compares the data on resource inflows and outflows to determine who has fulfilled his contract and to what degree. The accounting system prepares comparative reports on resource inflows and outflows related to various individuals in the organization. These statements are used to evaluate and adjust the contracts of these individuals (Sunder1997).

In a fourth function, accounting helps assemble and maintain the contract set by finding the appropriate participants in the factor markets for labour, managers, customers, suppliers, and investors among others. All these people must be convinced that participating in such an enterprise is in their own best interests. Financial statements, business plans, and budgets prepared by the organization before theenterprise starts functioning help agents assess the costs and benefits of participating in the proposed enterprise in various roles. When contractual slots fall vacant, they must be filled from the factor markets (Sunder1997).

Finally, when contract terms expire, they are often re-negotiated under changed circumstances. Agents are tempted to issue threats, to quit their position in the organization if their terms were not revised in their favour. Such bluff sand threats sometimes lead to deadlock in negotiations, strikes, and therefore dead weight losses to society. Accounting performs its fifth function by sharing at least a minimal set of information among the negotiating parties to make it common knowledge, and help

2.6.2 Computerized Banking

Before we can explore studies about computerized accounting, there is need to know what exactly a computer means. Waburoko, (2001) define computer as a general purpose machine, which can receive, store, manipulate and output information. It is therefore agreeable that a computer is an electronic device that operates and runs under the control of instructions or commands stored in its own memory unit, accepts data through input, stores it, processes the data and produces output.

Computerized accounting is defined by Sangster & Fwood (2005) as a total suit of components that together comprises all inputs, storage, transactions, processing, collecting and reporting of financial transaction data.

Individuals and companies both big and small manage their money and assets one way or another. They hire accountants to help them carry out the mathematical requirements of accounting and balancing their books. Before the introduction of information technology into accounting, these accounting protocols were performed manually. Today many accountants and non-accountants like to use computer software to perform these duties.

2.6.3 Financial Reporting

According to the Babylon dictionary (1997), financial reporting is the process of preparing and distributing financial information to users of such information in various forms. Emphasis is made that the most common format of formal financial reporting are financial statements, which are actually prepared in accordance with rigorously applied standards defined by professional accounting bodies developed according to the legal and professional framework of a specific locale.

A financial statement also known as a financial report is a formal record of the financial activities of a business, person, or other entity, Babylon dictionary (1997). A financial statement also often referred to as an "account"; expression of one's responsibility over a particular activity.

Financial reporting is largely an effort to assess financial performance, that is, how well or how poorly an entity performed with money entrusted to it, (Sacco, 1998). Financial decisions include raising and spending money as well as making promises that have financial consequences. Financial reporting is considered a part of accountability for financial decisions. Exactly, the quality of financial reporting depends upon how the financial data is handled right from the point of data collection to the processing stage that leads to the production of meaningful financial information in terms of reports. As noted by Sacco, (1998) two major models are considered in this context, manual or computerized accounting. With either system, many types of financial reports can be generated but a considerable amount of attention is given to the system that generates financial reports with the stated qualities below:

2.6.4 Manual Banking versus Computerized Banking

Accounting is an important part of every company. Businesses are required to keep books on their credits and debits. So which is best for your business idea - people or software? Well, Weber (2011) emphasizes that every company applies accounting because it is generally accepted that companies have to reveal certain financial and management information to the government and public users and of course because accounting is an indispensable tool in business decision-making process, it has led to the development of information technologies and many computer products (software in terms of accounting packages) that make accounting as easy as ABC for those who use them. From this point accounting can be divided into two basic categories: those which apply manual accounting and those which prefer computerized accounting systems. This topic therefore targets the main features of manual and computerized accounting, their benefits and shortcomings, and their comparison.

Whereas computerized accounting has been defined by Alan & Frank (2005) as a total suit of components that together comprises all inputs, storage, transactions, processing, collecting and reporting of financial transaction data, manual accounting on the other hand implies that employees perform the whole accounting cycle manually on a periodic basis: they calculate trial balances, journalize transactions, prepare financial statement reports and other routines. Whether manual or computerized, accounting in itself is known to have a cycle that includes the following steps: journalizing the transactions, posting them to ledger accounts, preparing trial balance, making adjustment entries, preparing adjusted to end-of-period trial balance, preparing financial statements and appropriate disclosures, journalizing and posting the closing entries, and preparing after-closing trial balance at last, Weber (2011).

From the first look, it is not very difficult and it is so indeed, but when there are thousands or millions of transactions to be handled, the situation dramatically changes. Lots of transactions that must be processed in the accounting cycle make this process routine and even a little mistake or inaccuracy can cause all the cycle from the very beginning to fail which will therefore require an extra effort to find and correct the mistake.

Manual accounting uses several paper ledgers and journals where accountants record financial information. The general ledger includes miscellaneous transactions and the aggregate balance of all subsidiary ledgers and journals. Whereas Manual accounting is very detailed, since accountants must carefully enter information into physical books, Computerized accounting uses software programs designed from traditional manual accounting systems and involves the use of computers, spreadsheets and programs designed to record and report financial information electronically, (Osmond, 2011).

2.6.5 Benefits of Computerized Banking over Manual Banking

Time

Paper works are involved in manual banking; all thebanking activities are carried out on paper manually and obviously, it takes much time and resources for the average business organization and most especially, a financial institution that still uses the manual system. Computerized banking saves a lot of time where in, theemployee has to record the transactions and all the other calculations would be carried out by the softwareeither automatically or by a request. Magdalene (2010)

Accuracy

Magdalene (2010) also indicated that computerized banking is not only speedy but also accurate. With a computer being used to collect data and change it into meaningful information that is used by management to make timely and effective decisions, the computer carries out theentire data processing through classifying, sorting, calculating, summarizing the data and production of reports, as stated by Birungi (2000). This entire process helps to minimize the risk of miscalculations and other human errors that could haveemerged as a result of manual data processing.

Security

With the manual accounting system, every record is on paper and in case of any uncertainties such as heavy floods, landslides and fire outbreaks, the useful data may all be lost, and yet with the computerized banking system and the introduction of internet and networks in the information technology world, an easy backup and restoration system as well as the use of passwords to avoid unauthorized parties from accessing the data, keeps the information secure.

Cost

Some arguments may stress that manual accounting can be handled with cheap work force and resources and that it is reliable as it is done manually with minutes of observations Magdalene (2010). However, the level of competition in the business world of today is tight and even growing tighter day by day and if a business with an aim of being successful does not consider the aspect of timeespecially as far as decision making is concerned, then that business stands to lose. Computerized banking in this case may be more costly than manual accounting in terms of cheap work force but its output actually overweighs its cost.

Level of output

Magdalene (2010) also argues that computerized banking can actually handle thousands of calculations simultaneously and accurately as compared to manual accounting where by transactions are handled one at a time and even needs much time to do that as well as being characterized by human errors and mistakes in calculations which may eventually affect the final output of information and hinder effective decision making.

2.6.6 Computerized Banking Packages

A number of Software packages have been developed to assist in the accounting field and some of such packages are QuickBooks, Mind Your Own Business (MYOB), Cash flow Manager, Attaché, Econet and Temenos T24. Even though some of this software mentioned hereis developed for small businesses, they are also designed specifically for accounting purposes in the banks, especially the Temenos T24 software which is currently in use by South Birim Rural Bank Limited. It functions in such a way that once a customer’s data is entered, the accounting records of that particular customer are updated automatically, and also customer's reports pop-up so easily. Links between the bank and its staff, as well as other information areeasily accessible and can be produced quickly, accurately and efficiently. These accounting packages that have been outlined hereearlier bring out transactions using accounting records such as the general ledger accounts. (ICT in Accounting, Simmons, Hardy 2011, 373)

Furthermore, if some of the customers have the same names or similar names it may be very difficult to identify which account they belong to. To tackle these issues, a bank or business can use a Chart of Accounts to arrange its ledger accounts. A chart of accounts is a catalogue of all the accounts, which detects and organizes each ledger account individually by assigning to it an account number or code. (ICT in Accounting, Simmons, Hardy 2011, 373)

2.6.7 TheEffect of Computerized Banking System on the Performance of Banks.

Tanenbaum (2010) states that manual processing of accounting data is too slow, and labour intensive in the banking industry. The speed at which computers can get according data processed cannot be matched. Computerized accounting system provides a means for those firms to record, very high volume of transaction with great speed and financial and prepare a wide range of detailed financial reports. Computerized accounting system affects strongly on the accounting work and on the performance of banking industry the computers can handle the recording process able to spend more time analyzing, planning and controlling financial operations for management, this can provide a greater amount of analytical information for use in decision making. Pandey (2007) adds that management is also in a better position to monitor the financial performance of all segments of the organization because a computerized banking system can produce a broad range of detailed reports at short interval. This is highly important for all branches of the South Birim Rural Bank used as a population in this research because of their separate location. Thus, computerized systems avoid the time lost in correcting common errors. Computerized banking system provides management with current accounting balance information since balance is posted as the transaction occur. This computerized accounting system provides management with current information to support decision making.

2.7 ARB Apex bank Ltd. AndRural Banks Computerization in Ghana

The International Fund for Agricultural Development (IFAD), the World Bank through International Development Association (IDA) and the African Development Bank initiated and funded a project (referred to as the Rural Financial Services Project (RFSP) in Ghana that sought to promote growth and reduce poverty in the rural areas. IFAD had its overall objectiveof rural poverty reduction through the broadening and deepening of financial intermediation in rural areas. The project had four major components which includes

a. institution building in the informal financial sector;
b. capacity building of rural banks;
c. institution building of the ARB Apex Bank; and
d. institutional support to the BoG's Banking and Supervision Department to enhance oversight of the rural financial sector.

A key component of the project was the creation of an apex bank that will be the "mini central bank" for the network of rural banks and provide financial, managerial and technical support to them. This led to the incorporation of the ARB Apex Bank in 2000, as a public limited liability company with the rural and community banks as its shareholders.

The ARB Apex Bank was set up to serve as a mini central bank for the rural banks because the central Bank of Ghana (BoG) realized the need to strengthen and monitor the rural banks. The Apex Bank's main role is to provide technical, financial and managerial support and ensureeffective supervision to the rural banks under the umbrella of the main central Bank of Ghana (Andah and Steel, 2003).

The Apex Bank has been assigned to perform certain specific functions which include:

- Serving as a mini central bank
- Providing cheque clearing services
- Providing specie movement/management services
- Providing inspection services
- Providing funds management services
- Providing support to deficient rural banks

Currently, the Bank of Ghana has implemented a clearing system which is computer-based over a Wide Area Network (WAN) through Ghana Interbank Payment and Settlement Systems (GHIPSS).Previously rural banks has to physically go to the nearest ARB Apex Bank Ltd. with cheques to do manual clearing, leading to late clearing and poor services to customers. In order for the Apex Bank to efficiently and effectively reach out to the rural banks, the RFSP project included a major component aimed at computerizing and interconnecting the Apex Bank headquarters, its regional branches and clearing agencies, as well as the all the member rural banks. This component also called for the installation of banking software, a funds transfer interface via swift and an electronic link between the Bank of Ghana and the Apex Bank headquarters under a subproject called the Ghana Rural Bank Computerization and Interconnectivity Project(GRBCIP).

GRBCIP was financed by the Millennium Challenge Corporation (MCC) which provides support for computerizing RCBs and savings and loans institutions. The program was built on the RCB computerization program initiated by the Rural Financial Services Project (RFSP).

GRBCIP represents an important aspect of strengthening and improving the capacity of the rural banks to deliver financial services. It allows the rural banks to offer and support new banking services, credit services and financial instruments. The project is to concentrate on building a technical infrastructure intended to open the door for a broad range of new financial services and capabilities that will directly benefit not only the small rural farmers but also most of the people of Ghana. The project is to train and assist the rural banks in transitioning to automated and standardized banking operations. It will also deploy and implement the necessary banking software and technical infrastructure that will interconnect the rural bank headquarters with corresponding branches and agencies and with the Apex Bank headquarters. It is also to provide some limited voice communications.

The objectives of the GRBCIP are as follows;

a. Continue and complete the computerization of rural banks in Ghana.
b. Install a WAN to link all rural bank headquarters and agencies.
c. Provide a reliable network for implementing electronic payments or funds transfer capabilities among the rural banks.

These three components areaccomplishing the following:

- **Strengthen the competency of rural bank staff:** This task is to focus on the change management or mindset required to transform the current manual operations of the rural banks into a consistent and automated process. This will involve data analysis and data conversion, computer literacy training and training in the use of computerized banking software.
- **Install computer hardware:** This will involve planning and installing the necessary servers, redundant storage, tape backup facility and corresponding uninterruptible power supplies at the Apex Bank

headquarters that will run the standardized banking software. It will also configure and install the LAN, workstations and printers at the rural banks.

- **Install banking software:** It is also necessary to configure and install banking software in the central server and the rural banks. One has to input the banks' data into the selected software. The installation and migration will be coordinated for specific rural bank headquarters and all of their branches and agencies.
- **Strengthen the technical skills of the Apex bank technical team:** This task is to strengthen the technical skills required by the Apex Bank technical team through a training programme. This training programme is needed to build up institutional knowledge and expertise on the hardware as well as on the selected banking software.
- **Design and implement a wide area network**: It is necessary to design and implement a WAN that will interconnect the rural banks with the Apex Bank using VSAT satellite network in a star topology. The VSAT network is also to provide voice communication interface to the rural banks.
- **Install a reliable secondary power source:** For back-up power, one would have to install standalone generators, if necessary, based on the availability and reliability of electrical power in each rural bank.

2.7.1 Project implementation challenges and issues

The computerisation of the rural and community banks under the Apex ARB was scheduled over a number of years and the project had its own challenges which if not managed properly will lead to implementation failure. Some of the issues and challenges include the following:

- **User participation:** Users of the computer systems need to be involved from the inception of the computerisation programme. They must be made aware that they own the system and that its successful implementation is their responsibility.
- **Stakeholder commitment:** Computerising the banks requires total commitment from every stakeholder, including top management, staff and users. Commitment from steering committees topush for the timely implementation of the computer systems is a key factor and lack of it could lead to system implementation failure.
- **Planning:** Failing to plan or poor planning often leads to system implementation failure and this need to be avoided by top management. Management must ensure that before deciding to implement the system, time has been spent on planning the process from start to finish.
- **Meeting key milestones:** In implementing computerized systems, top management must ensure that key deliverables specified are met. Keymilestones are critical phases of the system that must be attained for the successful implementation of theentire system.
- **Lack of resources and training:** Resources such as finances, human and other logistics are vital for the successful implementation of any system. Top management needs to ensure that resources neededare available and that appropriate training is given to staff that will operate the system so that, eventually, maximum benefits can be derived from the system.

- **Request for Proposal (RFP) requirements:** In many situations before computerized systems are implemented, management prepares documents, called RFP, detailing thefunctional requirements or specifications need for the system. Lack of adherence to these requirements could lead to failure.

2.7.2 GRBCIP programme Status

With proper implementation, computerization provides immediate access to accurate information that helps in making decisions, increasing efficiency, improving profitability and controlling costs. This is the basis for the Ghana Rural Bank Computerisation and Interconnectivity Project (GRBCIP). Its underlying objective is to strengthen and improve the capacity of rural banks to deliver financial services. In its first years, the following milestones have been achieved:

- The Globus banking software has been installed and is currently being used at Apex Bank headquarters and regional branches.
- eMerge banking software has been installed and is currently being used by most rural banks throughout the country.
- A swift interface has been implemented at the Apex Bank headquarters
- The Apex Bank has been linked electronically with the central Bank of Ghana.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter brings forward the methodology of the study and in doing this, the major discussion here involves the study design, area of study, the population studied, sample size and the selection method, the data collection tools or methods, way of data management, data processing and data analysis. The researcher also points out some of the challenges or limitations that may come up during the study process.

3.2 Study Design

As mentionedearlier, this study seeks to bring out theeffects of Computerized Accounting system on the operation of South Birim Rural Bank Ltd. To have a better view of theeffects and address our research questions, there was a need to hear from the stakeholders themselves. Accordingly, survey was conducted on some of the staffs and customers involved in the implementation process and their responses reported here. The study is both quantitative and qualitative in approach. Information generated from the survey is then collated, analysed and the outcome used for the research objectives (Zikmund, 2000).

3.3 Area of Study

The area of study will beSouth Birim Rural Bank Limited in thefollowing Districts; Birim Central Municipal, Birim South District, Birim North District, Denkyembour District.

3.4 Population

This encompassesbank staff and customers.Bank staff includes Branch Managers, Head of Departments, Tellers, and Operations Officers who uses computerized banking system in their daily activities.

3.5 Sample Size and Selection Method

The researcher used convenient sampling to come up with 100 respondents of the selected bank as broken down below.

Table 3.1 Showing the category and size of respondents used for the study

	Category	Size
1	Managers and Heads of Departments	11
2	Tellers	10
3	Operation officers	9
4	Customers	70
	Total	**100**

The purposive technique used above in selection of respondents is not only for its' time and money saving aspect, but also helps in selection of typical and relevant cases necessary to equip the study with the required information. Besides, the simple random sampling method was also used to select a sample of respondents without any bias from the accessible population. Each party of the target population in this case has an equal opportunity of independence as far as expression of their opinions is concerned.

3.6 Data Collection Instruments

This study based on data collected from two major categories of sources: primary and secondary. Where as the primary source of data used is the questionnaire, to collect more information and clarify on some information, it majorly constituted structured and open-ended questions focusing on the research objectives and control questions to check correctness and consistency.

The secondary data source involves mainly the organization audited financialstatements and management reports. This record inspection was carried out in relevance to the study objectives. Besides, the study employed the use of interviews, which involved talking or interacting face to face with the respondents sampled for the study and finding out issues concerning the research objectives.

3.7. Data Processing

Collection of data researched was followed by sorting, data arrangement and scrutiny for any arising inconsistencies, so as to obtain an objective and reasonable judgment.

3.7.1 Data Analysis

Data analysis in this case was done quantitatively with statistical techniques such as theStatistical data Package for Social Sciences (SPSS). The use of table, frequencies and percentages was employed in the analysis so as to ensure accuracy, adequacy and completeness of the study.

3.8 Study Area

South Birim Rural Bank is a limited liability company established in 1981 to give financial intermediation to rural dwellers in its catchment area. It was registered in accordance with the Banking Act, 2004(Act 673) and Companies Code, 1963, and operates under the L.I 1825 and the ARB Apex Bank Regulations. It was incorporated on 25th February, 1981 and commenced business on 1st July, 1981.The bank is headquartered in AkimAchiase, a busy and fast growing town in the Birim South District in theEastern Region of the Republic of Ghana. The bank offers its services and products at seven (7) branches located within two Municipal and three District Assemblies in theEastern Regionof Ghana as shown below.

Table 3.2 Study Area

Branch	Municipal/District Assemblies
AkimAchiase and AkimAperade	Birim South District Assembly
AkimOda and AkimAsene	Birim Central Municipal Assembly
Asamankese Branch	West Akyem Municipal Assembly
Akwatia Branch	Denkyembour District Assembly
New Abirem Branch	Birim North District Assembly

3.8.1 Vision Statement

Our vision is to be the best rural bank in Ghana in meeting theexpectations of the customer, the shareholder, the regulator and thecommunity.

3.8.2 Mission Statement

Weexist to offer banking services to our customers in such a manner as to demystify banking in order to make our customers see this bank as a friendly partner in development and in the process make profit for shareholders.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND DISCUSSION OF FINDING

4.0 Introduction

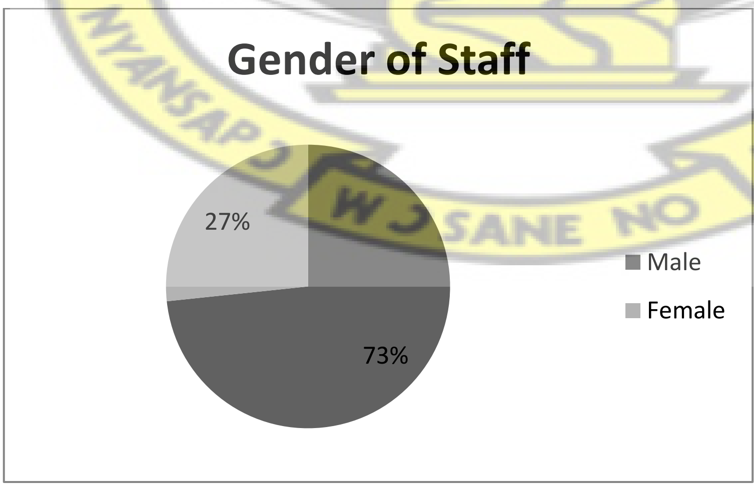
This chapter gives a detailed explanation about the findings at South Birim Rural Bank and also determines the type of Computerized Banking Software at their disposal. It examines customers' and staff responses in relation to the Computerized Banking System and Manual Banking Systemwith respect to the bank's daily activities or transactions.

The researcher used both primary and secondary data sources to obtain the findings below.Findings were presented and analysed using frequency tables and percentages.

4.1 Gender of Respondents

The total number of respondents interviewed for the survey was 100 and includes 30 staff as well as 70 bank customers. The figure below indicates that out of the 30 staff interviewed 73% were males while 23% were females representing 22 males and 8 females. This indicates that male staffs are more dominant than females.

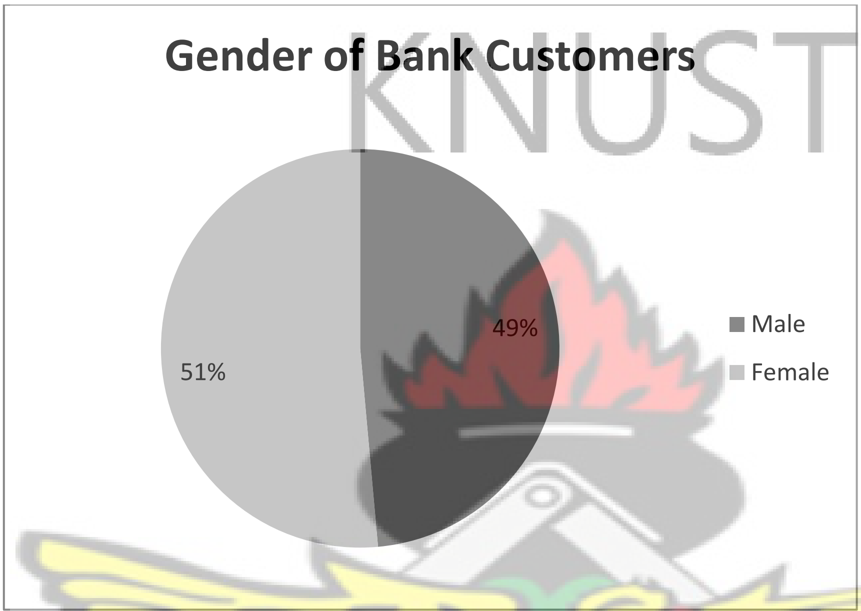
Figure 4.1: Gender of Staff Respondents



Source: Field Survey, 2016

The figure below also indicate that out of the 70 customers interviewed 49% were males while 51% were females representing 34 males and 36 females.It was observed that female participants dominated more than males in bank customer respondents.

Figure 4.2: Gender of Bank Customer Respondents



Source: Field Survey, 2016

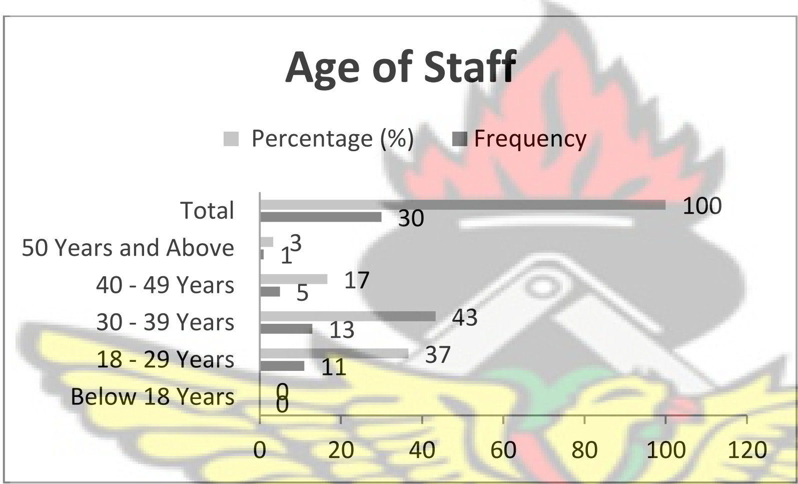
4.2 Age of Respondents

The age of staff respondents is indicated by figure 4.3. Clearly it can be seen that South haveenergetic staff between the ages of 18 years to 39 years, which represents 80% of total staff respondents with a record of 24 out of 30 staff respondents.

It can also be seen that age of 40 to 49 years recorded 5 staff and 50years and above also recorded one staff representing 17% and 3% respectively of the total number of staff respondents.

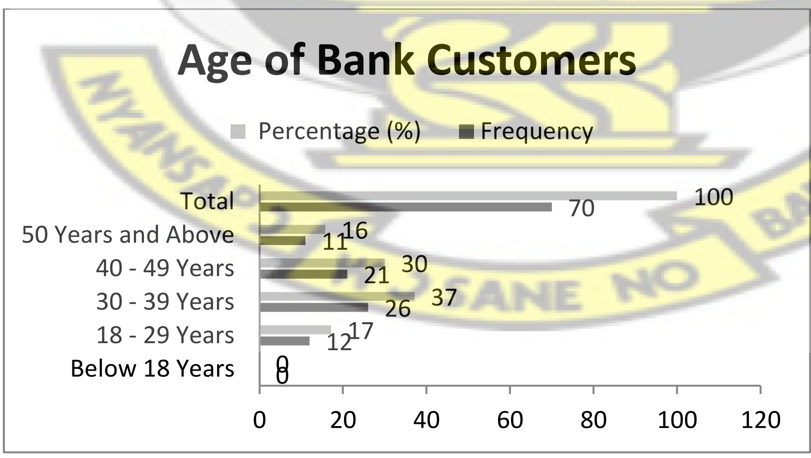
Figure 4.4 also exhibits the ages of bank customers interviewed. Out of the 70 bank customers interviewed 26 were between the ages of 30 to 39 years representing 37% of the total respondents, being the highest age group. The age group of 40 to 49 years recorded 21 respondents being the second highest and represents 30% of the total bank customer respondents. Moreover the age group of 18 to 29 recorded 12 respondents' whiles ages above 50years also recorded 11 respondents representing 17% and 16% respectively of the total bank customer respondents. It was observed that most bank customers within the ages of 18 to 49 years were traders and salary workers. Pensioners were dominant in ages above 50years.

Figure 4.3: Age of Staff Respondents



Source: Field Survey, 2016

Figure 4.4: Age of Bank Customer Respondents

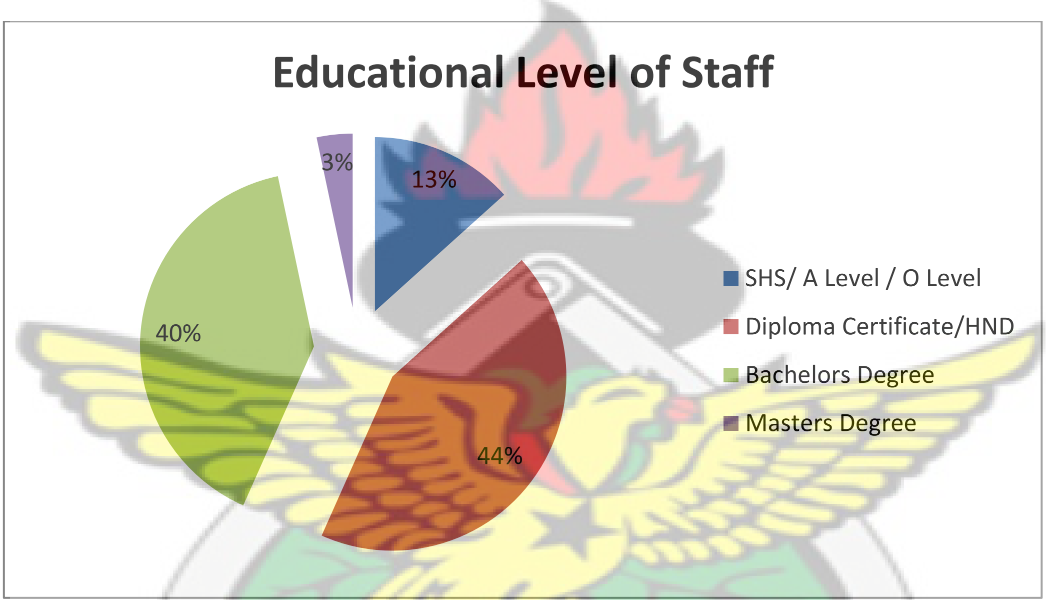


Source: Field Survey, 2016

4.3 Educational Level of Respondents

The study reveals that all the 30 staff interviewed was literate. The number of staff with Senior High School and Advance Level Certificates werefour which represents 13% of the total staff interviewed. The study also indicated that 13 staff respondents representing44% of thetotal staff interviewed hold Diploma Certificates and Higher National Diploma (HND) which is the largest share of staff educational level.

Figure 4.5: Educational Level of Staff Respondents

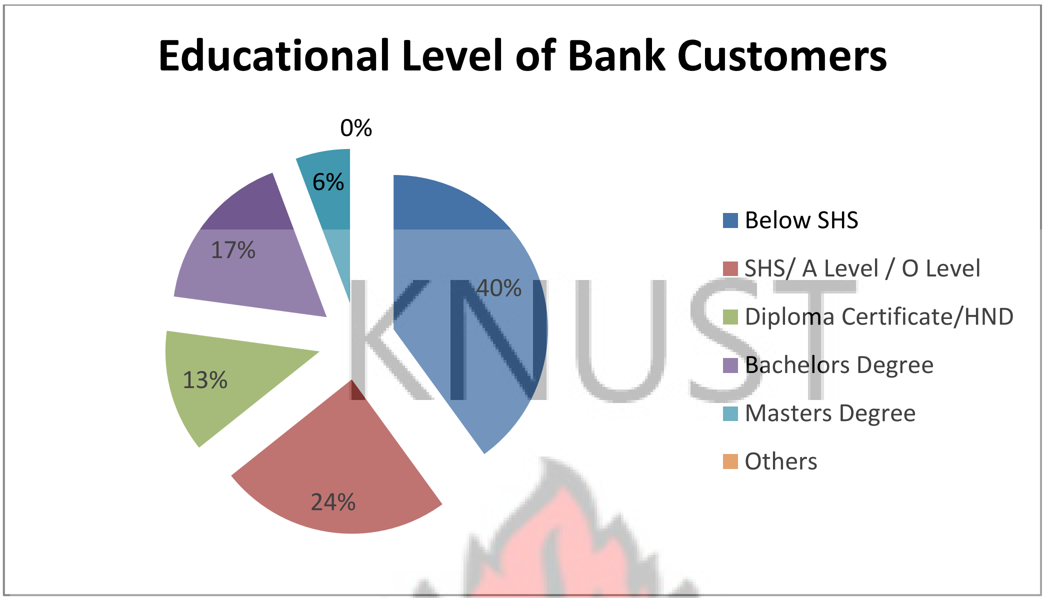


Source: Field Survey, 2016

The second largest share is Bachelors Degree with 12 staff representing 40% of total staff respondents. Figure 4.5 also indicates that only a few portions of the staff holds Masters Degree, with a record of one staff representing 3% of the total staff respondents.

The pie chart below also exhibits theeducational level of bank customers interviewed. Clearly, it can be seen from the pie chart that a larger share of bank customers interviewed were below Senior High School (SHS) with a record of 28 bank customers representing 40% of total customers interviewed.

Figure 4.6: Educational Level of Customer Respondents



Source: Field Survey, 2016

The pie chart also shows that 60% of bank customers interviewed have attained Senior High School Certificate and above. It was established that 24% of bank customer respondents have SHS, Ordinary Level and Advanced Level Certificates, 13% with Diploma Certificateand Higher National Diploma, 17% with Bachelors Degree and 6% with Masters Degree.

4.4 Preference of Computer Banking System over Manual Banking System

Table 4.1 indicates that all bank staff interviewed preferscomputerized banking over manual banking. This shows that bank staff accepts the use of computerized banking system in general.

Table 4.1 : Computerized Banking Preference

GENDER * COMPUTER BANKING PREFERENCE Crosstabulation

Count

		COMPUTER BANKING PREFERENCE		
		Computer Banking	Manual Banking	Total
GENDER	MALE	32	2	34
	FEMALE	34	2	36
Total		66	4	70

Source: Field Survey, 2016

The study revealed that sixty-six out of seventy bank customers interviewed preferred computerised banking over manual banking. Only four bank customers, consisting of two males and two females preferred manual banking. Further analysis indicated that the four bank customers were made up of one salary worker and three pensioners whose ages were 50years and above with their educational background below senior high school.

4.5 Examining theEffectiveness of Computerized Banking System

Theeffectiveness of the implementation of computerized banking system in South Birim Rural bank was achieved through the delivery of financial services. The responses to the questionnaires to achieve this objective could be seen in Table 4.

Table 4.2: Bank Staff Responses on Effectiveness of Computerized Banking

Question	Strongly AgreeN (%)	Agree N(%)	Undecided N (%)	Strongly Disagree N (%)	Disagree N (%)
Computerized Banking System Simplifies Work	28 (93%)	2 (7%)	0 (0%)	0 (0%)	0 (0%)
Easy tracking of transactions	18 (60%)	9 (30%)	0 (0%)	0 (0%)	2 (7%)
Enables service delivery on time	5 (17%)	14 (47%)	2 (7%)	0 (0%)	7 (23%)
Reduce Labour Hours	3 (10%)	16 (53%)	4 (13%)	1 (3%)	3 (10%)
Reduce paper work	2 (7%)	18 (60%)	6 (20%)	0 (0%)	2 (7%)

Theresponses from the bank staff on how computerized banking system simplifies work shows that 93% of the staff strongly agreed to the simplification of work through the use of computerized banking system whiles 7% also agreed to that assertion. The overall responsefrom all categories of staff indicates that computerized banking system in SBRB simplifies their day to day activities as anticipated before its adoption.

Theeasy tracking of transactions after the adoption of computerized banking system reveals that 60% of staff strongly agreed whiles 30% also agreed to how the system is helping in transaction tracking. However, 7% of the staff disagreed to this statement. The study revealed that staff who disagreed to this claim were tellers from Asamankese, Achiaseand New Abirem branches.It could be seen that more than half of therespondent agreed to easy tracking of transactions after the adoption of computerized banking system.

The responses to timely service delivery to clients shows that 17% of the staff strongly agreed to the fact, 47% also agreed that computerized banking enhance timely service delivery, 23% disagreed due to network failure and slow connectivity they sometimes experience, however 7% gave undecidedresponse. Generally it was observed that 64% of staff respondents appreciate the fact that computerized banking system enhances timely delivery of banking services.Managers and Operations officer at the head officewith high educational qualifications strongly agreed to this claim. SomeHead of Departments, Managers, operations Officers and Tellers also agreed to the claim.Those who disagreed to this claim were fewManagers, Operations Officers, and Tellers within the ages of 18 years to 49 years with. Managers who disagreed to this claim were highly dominated by femalewith bachelors degree and werewithin the age group of 30 years to 49 years.

Considering labour hours reduction in computerized banking system, 53% of staff respondents agreed and 10% strongly agreed. It can therefore be seen that 63% of staff respondents support the fact that computerized banking system has reduce labour hours. Furthermore these respondents explained that a lot of time was spent on calculations like interest on deposit liabilities, commission on turnover and interest charged on loans and overdrafts during working days and weekends which includes Sundays.

However, 3% strongly disagreed, 10% disagreed and 13% gave undecided response. Those who disagreed explained that slow network and network failure sometimes extend the number of working hours.

The responses toward the reduction of paper work in the day to day banking activities as far as computerized banking system is concerned was strongly agreed by 7% respondents and 60% agreed. The study also revealed that out of the thirty bank staff interviewed, two strongly agreed, eighteen agreed, six strongly disagreed, two were indecisive and there were two non-responses. Considering theeducational background of respondents, one degree holder who is an operations officer and one master's degree holder who is head of department with age ranges of 18 years to 29 years and 40 years to 49 years respectively strongly agreed to the fact.

The respondents explained that the use of computerized banking system has eradicated ledger books and cards that were used to record customer transactions in the manual era. They further explained that storage of ledgers and cards were very difficultespecially during search times.

However, undecided responses had a record of 20% whiles 7% respondents disagreed. Those who disagreed were of the view that thecomputerized system has not eradicated paper work totally; some aspects they handled like registers for cheques, receipts, account opening forms and vouchers were still done manually. This made them to disagree that computerized banking reduce paper work.

4.5.1 Customers response to theeffectiveness of computerized banking system

Thetable below shows bank customers responses to theeffectiveness of computerized banking system.

Table 4.3:Bank Customer Responses on Effectiveness of Computerized Banking

Question	Strongly AgreeN (%)	Agree N(%)	Undecided N (%)	Strongly DisagreeN (%)	DisagreeN (%)
Quick response to enquiries	11 (16%)	29 (41%)	3 (4%)	3 (4%)	23 (33%)
Reduces waiting time	9 (13%)	22 (31%)	4 (6%)	3 (4%)	31 (44%)
Easy reconciliation of transactions	3 (4%)	39 (56%)	20 (29%)		6 (9%)

Quick response to enquiries

When bank customers were asked about quick response to their enquiries, 41% agreed and 16% strongly agreed. Besides, 33% of the respondents disagreed and 4% strongly disagreed. Meanwhile the response of 4% was undecided. Those who supported the claim were of theview that their request for balanceenquiries, account statement was quickly responded as and when requested. Those who disagreed were also of theview that during bulk payments like pensions and salaries enquiries delays because of the large number of customerswho visit the banking hall.

Waiting time

Bank customers also responded as to whether computerised banking system reduces waiting time at banking premises. Out of the 70 respondents, 31 representing 44% disagreed and 3 respondents representing 4% strongly disagreed. Those who were not in support of the claim attributed it to times where banking halls get congested due to bulk payment periods.

Furthermore, 31% of the respondents agreed and 13% strongly agreed to the claim. Those who agreed to the claim were of the view that computerized banking system has reduced the waiting time for banking transactions. Out of the 70 respondents 4 of the representing 6% were uncertain about the claim.

Since 48% of the total respondents were not in support of the claim and 44% supported the claim, it can be concluded that computerized banking system does not reduce waiting time during bulk payment periods.

Easy reconciliation of transactions

Bank customers also responded to the claim that computerised banking system enables easy reconciliation of transactions. Out of the total respondents 56% agreed, 4% strongly agreed, 9% disagreed and 29% were uncertain.

Those who agreed explained that the computerized system has eradicated most human errors such as omissions, writing and calculation errors. Those who disagreed also explained that they sometimes experience omissions in their transactions due to wrong entries. However, 29% of the respondents were not certain and they explained that they always focus on their account balanceand does not bother much about reconciliation of their account.

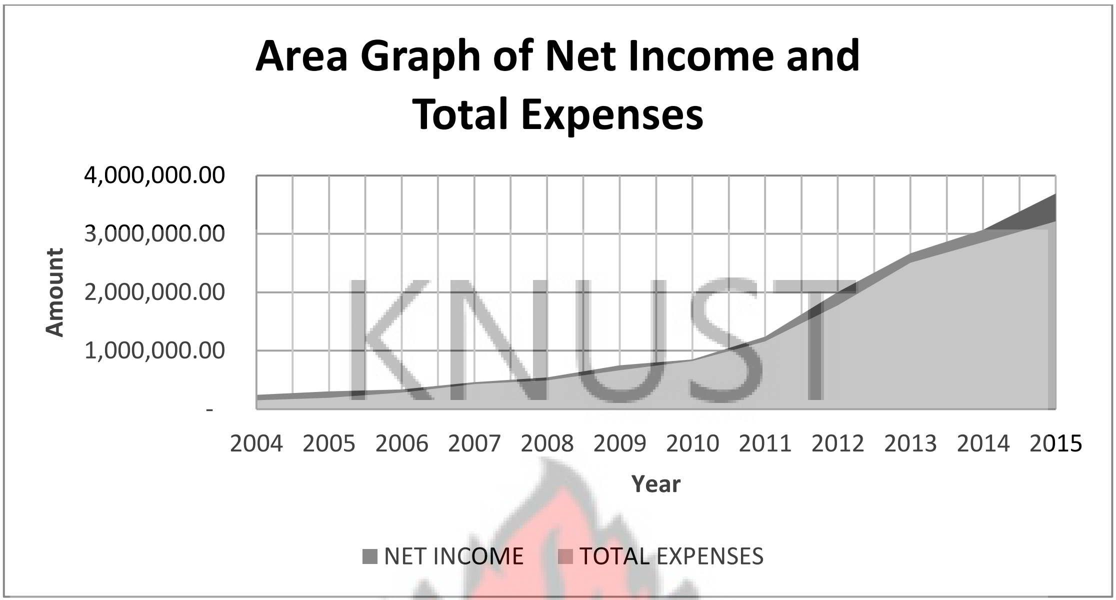
Since 60% of the respondents agreed to the claim, it implies that computerized banking system enables easy reconciliation of transactions.

4.6 Theeffect of computerized banking system onperformance of SBRB Ltd

The Audited Accounts of South Birim Rural Bank Limited for a period of twelve (12) years of which constitute seven (7) years of manual banking system and five (5) years of computerized banking system was used to examine theeffect of computerized banking system on the performance of the bank. Manual banking covered the year 2004 to 2010 whilecomputerized banking started fully from the year 2011 to 2015.

The graph exhibits the trend of net income and total expenditure. Net income from the audited accounts is the composition of interest income less interest expenses. Total expenditure also includes all operatingexpenses and provision for bad and doubtful debt. Operating expenses include staff salaries, depreciation, computerization expenses, director's remuneration, printing and stationery expenses, repairs and maintenance, utilities bill and all other expenses.

Figure 4.7: Area Graph of Net Income and Total Expenses



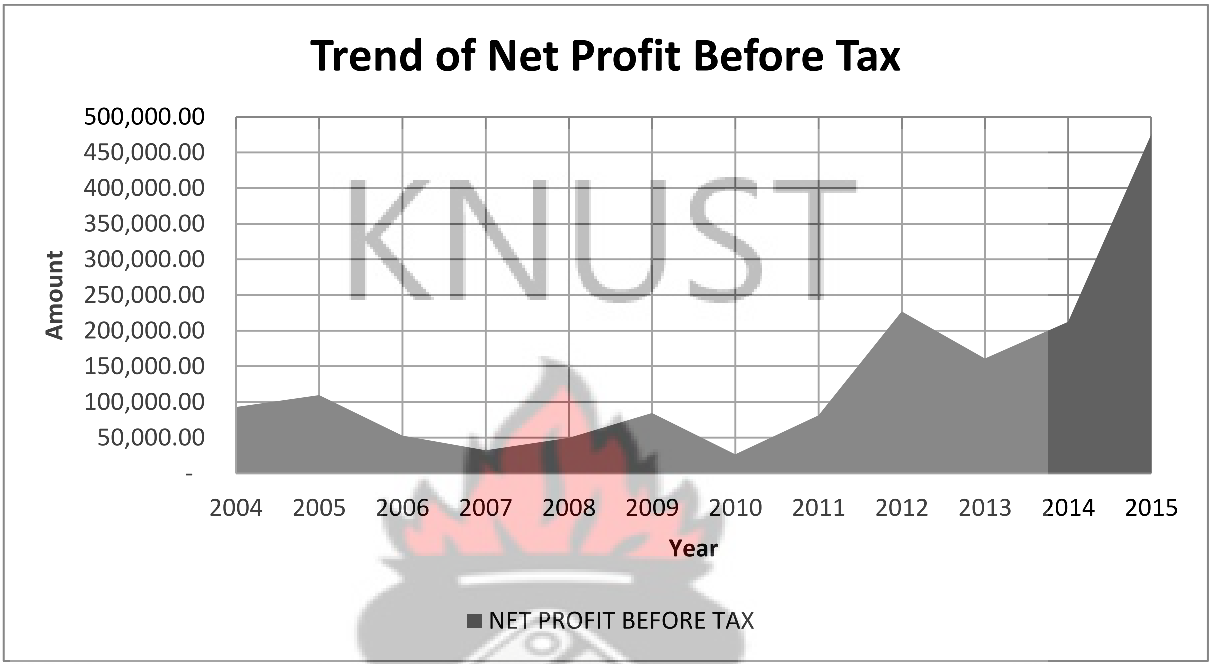
Source: Field Survey, 2016

Clearly, it can be seen that the margin between net income and total expenditure was not significant from the year 2004 to 2009; it almost flattened in the year 2010 when computerisation was migrated inthe last quarter. The marginstarted widening from the year 2012 to 2015which is within the computerization period.

It can also be seen from Appendix III, thatthe year 2011, where computerization was fully utilised recorded a significant change in net income from GHS 850,807.00 in the year 2010 to GHS 1,241,088.00 in the year 2011 which represents an increase of 45.87%. Similarly, total expenditure also recorded a change of 40.74% from an amount of GHS 824,093.00 in the year 2010 to GHS 1,159,807.00 in the year 2011

Net Profit before Tax

Figure 4.8: Trend of Net Profit before Tax



Source: Field Survey, 2016

4.6.1 Manual Banking System in SBRB (2004 - 2010)

The graph exhibits SBRB's net profit before tax (NPBT) from the year 2004 to 2015. Clearly it can be seen that NPBT was below GHS 100,000.00 during the manual banking system from the year 2004 to 2010, with theexception of 2005 with a record of GHS109,704.00whichis slightly above GHS100,000.00. The general manager explained that NPBT declined sharply from 2005 to 2006 due to renovation works at branches. He also emphasized that NPBT decreased further in 2007 due to trainings, logistics, and staff cost for the re-denomination of the Ghana cedi. NPBT started to rise in 2008 an 2009 and had a sharp decline in 2010 which the manager attributed to the cost involved in the major computerization exercise by ARB Apex Bank which started in October, 2010.

4.6.2 Computerized Banking System in SBRB (20011 - 2015)

Computerized banking system was fully utilised in the year 2011 and the graph clearly shows that NPBT started increasing at an increasing rate from 2010 to 2012 due to the computerization. The General Managerexplained that the computerized system helped toeradicate human interventions in the calculation of commissions, interest on deposit liabilities and loans which are sometimes full of omissions and miscalculations.

The trend was expected to follow in an upward direction, but it declined significantly in 2013, the General Manager explained in an interview that during the year 2013 a huge provision of GHS464,578.00 was made for bad and doubtful debt due to Non-Performing Loans (NPL). He further stated that a new branch was opened at New Abirem in May, 2013 which increased staff cost and other operating expenses. The facts given by the General Manager clearly shows that the sharp decline in NPBT in 2013 was not due to challenges in the computerized banking system.

NPBT started increasing slowly in 2014 and increased significantly in 2015. It is expected that NPBT will continue in an upward trend.

4.6.3 Cost to Income Ratio

Rural banks are required to maintain cost to income ratio of 70% as its industry benchmark.

Table 4.4 :Cost to Income Ratio of SBRB

Year	Net income	Total Expenses	Cost to Income Ratio	Industry Benchmark	Variation
Manual Banking Period					
2004	244,749.00	151,736.00	62	70	-8
2005	304,088.00	194,384.00	64	70	-6
2006	336,901.00	283,983.00	84	70	14
2007	461,750.00	429,401.00	93	70	23
2008	543,080.00	493,334.00	91	70	21
2009	750,340.00	665,749.00	89	70	19
2010	850,807.00	824,093.00	97	70	27
Computerized banking Period					
2011	1,241,088.00	1,159,807.00	93	70	23
2012	2,004,607.00	1,777,542.00	89	70	19
2013	2,667,290.00	2,506,236.00	94	70	24
2014	3,070,440.00	2,857,940.00	93	70	23
2015	3,691,575.00	3,215,868.00	87	70	17
YEars	**Mean**	**Stand Dev**			
2004 - 2010	82.80	14.10			
2011 - 2015	91.26	3.13			

Table4.4 shows the cost to income ratio of SBRB from 2004 - 2015. It was observed that, though the Net Profit Before Tax increased in the computerisation period it is associated with high cost to income ratio. The average cost to income ratio in the computerization period was 91.26% with a standard deviation of 3.13, which indicates

that the individual annual ratios were close to the average. The minimum cost to income ratio was 87% and was recorded in the year 2015.

During the manual banking period, the average cost to income ratio was 82.80% with a standard deviation of 14.10, which indicates that the annual ratios deviates more from the average. The minimum cost to income ratio was 62% and the maximum was 97% in the year 2010.

From the analysis, it can be stated clearly that computerized banking system have positiveeffect on the operations of South Birim Rural Bank Limited but it is associated with high cost to income ratio.

4.7 Challenges of Computerized Banking System

Network failure: One major challengefaced by SBRB after implementation of computerized banking system in its operation is clients or customers inability to access banking services as and when thenetwork fails. Customers sometimes find it difficult to withdraw their funds for their productive activities due to system or network failure. This system or network failure is inversely impacting on the productive activities of customers which in turn affect the productivity of the nation. Most customers get furious when they are delayed at the bank due to network failure and they sometimes disseminate bad information about the bank which affects banking patronage.

Maintenance cost: computerized banking system cannot continue to function without regular maintenance and replacement of parts.Although initial computerization process was funded, maintenance and part replacement cost are incurred by the bank.There were also other cost such as installation cost, software licence fees and other service providers cost. However, high maintenance, replacement cost and all other costs could affect the profitability of the bank as well as shareholder's return.

Unstable power supply:power fluctuations also affect computerised banking system as it destroys computer equipments. The bank also incurs high cost in generator running expenses because of power outages.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.0 Introduction

This chapter presents summary of findings, conclusions drawn and recommendations for the findings.

5.1 Summary of Findings

The purpose of this study was to determine theeffect of computerized banking System on South Birim Rural Banks in the areas of effective service delivery, performance and challenges.

5.1.1 Findings on whether computerized banking system is effective in delivering banking services.

It can thereforebe concluded that bank customers prefer computerised banking with theexception of some few pensioners and salary workers.

Considering theeffectiveness of computerized banking from staff perception, the study indicated that 93% of the staff supports the claim that computerized banking system simplifies work and therefore it enables easy tracking of transactions as it was supported by about 90% of the staff.

The study also discovered that computerized banking system enables service delivery on time as it was supported by about 64% of the staff. About 23% of staff was not in support of this claim due to some challenges they sometimes encounter, like slow network and system failure.

Considering labour hours, about 63% of staff supported the fact that computerized banking system has reduce labour hours, however 13% of the staff did not support this claim because of slow network and network failurewhich sometimes extend the number of working hours.

It was also established that computerized banking system reduces paper work in the day to day banking activities as the claim was supported by about 67% of the staff.It was revealed that the use of computerized banking system has eradicated ledger books and cards that were used to record customer transactions in the manual era. They further explained that storage of ledgers and cards were very difficult especially during search times.

However, about 7% of the staff disagreed to the claim and were of the view that the computerized system has not eradicated paper work totally; some aspects they handled like registers for cheques, receipts, account opening forms and vouchers were still done manually. This made them to disagree that computerized banking reduce paper work. Meanwhile, 20% of the staff was not certain about the claim.

When bank customers wereinterviewed, about 57% of them supported the claim that computerized banking system enables quick response to their enquiries, they were of the view that their request for balanceenquiries, account statement were quickly responded as and when requested. Besides about 37% of bank customers did not support the claim, they were of the view that during bulk payment (pensions and salaries) periods, slow network and system failure.Meanwhile theresponse of 4% was uncertain about the claim.

The study revealed that about 48% of bank customerswere not in support of the claim that computerised banking system reduces waiting time at banking premises. They stressed thatwaiting times areextendeddue to slow network, system failure and bulk payment periods.Furthermore, 44% of the respondents supported the claim, they were of the view that computerized banking system has reduced the waiting time for banking transactions. Meanwhile, about6% of bank customers was uncertain about the claim.

Bank customers also indicated that the computerized banking system has eradicated most human errors such as omissions, writing and calculation errors which enables easy reconciliation. About 60% of customers supported this claim due to real time postings by the computerized banking system. Contrary,about 9% customers disagreed to the claim and explained that they sometimes experience omissions in their transactions due to wrong entries. However, 29% of the respondents were not certain and they explained that they always focus on their account balance and does not bother much about reconciliation of their account.

5.1.2 Findings on theeffect of computerized banking system on the performance of South Birim Rural Bank Limited.

The Audited Accounts of South Birim Rural Bank Limited for a period of twelve years (2004-2015) of which constitute seven years (2004 - 2010) of manual banking system and fiveyears (2011 - 2015) of computerized banking system was used to examine theeffect of computerized banking system on the performance of the bank.

The study revealed through graphical presentation that the margin between net income and total expenditure was not significant from the year 2004 to 2009; it almost flattened in theyear 2010 when computerization was migrated in the last quarter. The margin started widening from the year 2011 to 2015 which was within the computerized banking period.

Further analysis on Net Profit Before Tax (NPBT) indicated records below GHS100,000.00 during the manual banking system from the year 2004 to 2010, with theexception of 2005 which recordedGHS109,704.00 which was slightly above GHS100,000.00.

Variations in NPBT from the year 2004 to 2010 were attributed to renovation works at branches, staff cost and trainings, logistics for the re-denomination of the Ghana cedi and major computerization exercise by ARB Apex Bank in October, 2010.

When computerized banking system was fully utilised in the year 2011, graphical representation revealed that NPBT started increasing at an increasing rate from 2010 to 2012 due to the computerization. An interview revealed that the rise was due to theeradication of human interventions in the calculation of commissions, interest on deposit liabilities and loans which were sometimes full of omissions and miscalculations.

The trend declined sharply in 2013, and it was attributed to a huge provision of GHS464,578.00made for bad and doubtful debt due to Non-Performing Loans (NPL) and the opening of new branch at New Abirem in May, 2013 which increased staff cost and other operating expenses. The sharp decline in NPBT in 2013 was not due to challenges in the computerized banking system.NPBT started increasing slowly in 2014 and increased significantly in 2015. NPBT is expected to follow the upward trend, ceteris paribus.

The average cost to income ratio in the computerization period was 91.26% with a standard deviation of 3.13, which indicates that the individual annual ratios were close to the average. The minimum cost to income ratio was 87% and was recorded in the year 2015.

During the manual banking period, the average cost to income ratio was 82.80% with a standard deviation of 14.10, which indicates that the annual ratios deviates more from the average.

5.1.3 Challenges on computerized banking system.

The study discovered that network failure was a challenge in using computerised banking system. Both staff and customers complained that network failure delay their daily activities.

High maintenance and part replacement cost, installation cost, software licence fees and other service providers cost which were incurred by thebank affects profitability of the bank as well as shareholder's return.

Furthermore, power fluctuations also affects computerised banking system as it destroys computer equipments. Thebank also incurs high cost of generator running expenses because of power outages.

5.2 Conclusions

From the observations and interviews made during the study, it was clear that SBRB is using computerized banking system as a means of delivering banking services to their customers. It was concluded that Bank staff and customers prefer computerized banking over manual banking as it was supported by all staff of SBRB and about 94% of SBRB customers.

The computerized banking system was to improve the standard of services by delivering effective customer services to satisfy customer needs. From the findings, it can be concluded that computerized banking system simplifies work and therefore it enables easy tracking of transactions.

Furthermore, it can be concluded that the computerized banking system in SBRB enables service delivery on time, reduces labour hour, reduces paper work, enables quick response to customer enquiries,reduces waiting time at banking premises and enables easy reconciliation notwithstanding some few challenges.

The margin between net income and total expenditure widened within the computerized banking period and from the findings it can be concluded that computerized banking system has improved Net Profit Before Tax margin.

Computerised banking system in SBRB has its own challengessuch as high maintenance and part replacement cost, installation cost, software licence fees,unstable power supply, network failure and other service providers cost. Nonetheless, the benefits that can be derived from the use of computerized banking system revealed by the study surpass its disadvantages.

In conclusion, it can be stated clearly that computerized banking system have positiveeffect on the operations of South Birim Rural Bank Limited.

5.3 Recommendations

South Birim Rural Bank should consider the installation of Automated Teller Machines in their budget for its branches with large customer base in order to reduce the number of queues in their banking halls.

ARB Apex Bank and Rural Banks should engage experts in the field of information technology to manage any unforeseen circumstances that can interrupt the effective flow of the banking services. Such future eventualities can be frequent power failure, which can create software problems. The experts should help to reduce the effect of maintenance and part replacement cost, installation cost,unstable power supply and network failure on the banks operations.There should also be standby computers or other related facilities as well as other software backups that can be used in times of an urgent need for such replacement.

Finally, SBRB should consider cost control measures, effective loan recovery plans and marketing strategies in order to increase profit. Creation of new branches and renovations should also beplanned in budgets to avoid fluctuations in profit so as to reduce the high cost to income ratio.

I believe this recommendation will be given the needed attention it deserves in order to help the smooth operation of rural banking.

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APPENDIX I

QUESTIONNAIRE FOR BANK STAFF

KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY

SCHOOL OF BUSINESS (COLLEGE OF ART AND SOCIAL SCIENCE)

MASTERS OF BUSINESS ADMINISTRATION

The objective of this questionnaire is to assess theeffect of computerized accounting system on the operation of South Birim Rural Bank Ltd. The study is purely for academic purposes and it will be highly appreciated if you would take some time to complete it. The answers provided will be treated with utmost confidentiality and only for academic purposes. I therefore kindly request you to respond appropriately to the following questions.

Please tick where applicable

SECTION A : Demographic Information

1. Gender: Male☐ Female☐

2. Age: Below 18 years☐ 18 – 29 ☐ 30 – 39 ☐ 40-49☐ 50 and above☐

3. Academic Qualifications: Below SHS☐ SHS/ A Level / O Level ☐

Diploma Certificate/HND ☐ Bachelors Degree☐

Masters Degree ☐ Others (Please Specify).............

4. How long have you worked in this Institution?

5 years and below☐ 6 -10 years☐ 11 – 15 years☐

16 – 20 years ☐ Above 20 years ☐

5.What is your current job title? ....

SECTION B : Computerised Banking System

6. Does your organisation/company employ the use of a computerised accounting system?

Yes ☐ No ☐

7. What would you prefer; Computerized Banking ☐ Manual Banking ☐

Question: 8.Does computerized Banking System	**Strongly Agree**	**Agree**	**Undecided**	**Strongly Disagree**	**Disagree**
Simplifies Work					
Enables easy tracking of transactions					
Enables service delivery on time					
Reduces Labour Hours					
Reduces paper work					

Please tick(√) where applicable

9. What are thechallenges of computerized banking systems to your work schedule?

a) ....
b) ....
c) ....
d) ....

APPENDIX II

QUESTIONNAIRE FOR BANK CUSTOMERS

KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY

SCHOOL OF BUSINESS (COLLEGE OF ART AND SOCIAL SCIENCE)

MASTERS OF BUSINESS ADMINISTRATION

The objective of this questionnaire is to assess theeffect of computerized accounting system on the operation of South Birim Rural Bank Ltd. The study is purely for academic purposes and it will be highly appreciated if you would take some time to complete it. The answers provided will be treated with utmost confidentiality and only for academic purposes. I therefore kindly request you to respond appropriately to the following questions.

Please tick where applicable

SECTION A : Demographic Information

1. Gender: Male☐ Female☐

2. Age: Below 18 years☐ 18 – 29 ☐ 30 – 39 ☐ 40-49☐ 50 and above☐

3. Academic Qualifications: Below SHS☐ SHS/ A Level / O Level ☐

Diploma Certificate/HND ☐ Bachelors Degree☐

Masters Degree ☐ Others (Please Specify)..........

SECTION B : Computerised Banking System

4. Does your bankemploy the use of a computerised accounting system?

Yes ☐ No ☐

5. What would you prefer; Computerized Banking ☐   Manual Banking ☐

Question: **6.Does computerized Banking System**	**Strongly Agree**	**Agree**	**Undecided**	**Strongly Disagree**	**Disagree**
Enables quick response to enquiries					
Reduces waiting time					
Easy reconciliation of transactions					

Please tick(√) where applicable

7. What are thechallenges of computerized banking systems to your work schedule?

a) ....
b) ....
c) ....
d) ....

....
....

APPENDIX III

YEAR	NET INCOME	%AGE CHANGE	OPERATING EXPENSES	NET PROFIT BEFORE TAX & PROV FOR DOUBTFUL DEBT	PROV FOR DOUBTFUL DEBT	TOTAL EXPENSES	%AGE CHANGE	NET PROFIT BEFORE TAX
2004	244,749.00		128,731.00	116,018.00	23,005.00	151,736.00		93,013.00
2005	304,088.00	24.24	180,196.00	123,892.00	14,188.00	194,384.00	28.11	109,704.00
2006	336,901.00	10.79	246,339.00	90,562.00	37,644.00	283,983.00	46.09	52,918.00
2007	461,750.00	37.06	395,065.00	66,685.00	34,336.00	429,401.00	51.21	32,349.00
2008	543,080.00	17.61	440,708.00	102,372.00	52,626.00	493,334.00	14.89	49,746.00
2009	750,340.00	38.16	612,337.00	138,003.00	53,412.00	665,749.00	34.95	84,591.00
2010	850,807.00	13.39	824,093.00	26,714.00		824,093.00	23.78	26,714.00
2011	1,241,088.00	45.87	1,159,807.00	81,281.00		1,159,807.00	40.74	81,281.00
2012	2,004,607.00	61.52	1,726,069.00	278,538.00	51,473.00	1,777,542.00	53.26	227,065.00
2013	2,667,290.00	33.06	2,041,658.00	625,632.00	464,578.00	2,506,236.00	40.99	161,054.00
2014	3,070,440.00	15.11	2,662,973.00	407,467.00	194,967.00	2,857,940.00	14.03	212,500.00
2015	3,691,575.00	20.23	3,101,257.00	590,318.00	114,611.00	3,215,868.00	12.52	475,707.00

Source: SBRB Audited Accounts (2004-2015)