

KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY

COLLEGE OF ART AND SOCIAL SCIENCE

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KNUST

**AUTOMATION AND FINANCIAL EFFICIENCY.A CASE STUDY OF
PROCREDIT SAVINGS AND LOANS COMPANY LIMITED**

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AUGUST 2009

**AUTOMATION AND FINANCIAL EFFICIENCY.A CASE STUDY OF PROCREDIT
SAVINGS AND LOANS COMPANY LIMITED**

By

KNUST

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BA (Economics)

**A Thesis submitted to the department of Accounting and Finance, Kwame Nkrumah
University of Science and Technology in partial fulfillment of the requirements for the
degree of**

MASTER OF BUSINESS ADMINISTRATION

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COLLEGE OF ARTS AND SOCIAL SCIENCES

AUGUST 2009

DECLARATION

I hereby declare that except for specific references which have been duly acknowledged, this work is the result of my own field research and has not been submitted either in part or whole for any other degree elsewhere

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DEDICATION

This work is dedicated to my family



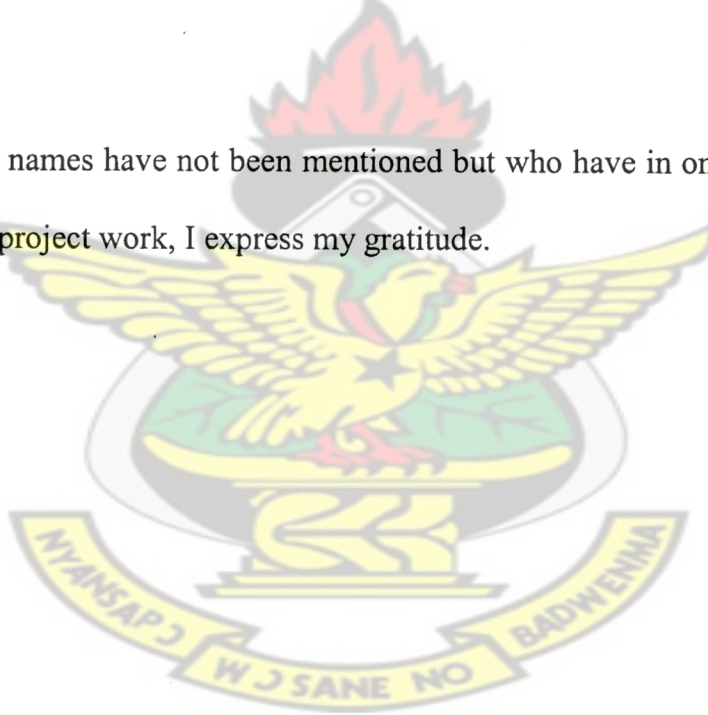
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LIST OF ABBREVIATIONS

OECD – Organization for Economic Co- operation and Development

MFI – Microfinance Industry

ATM – Automated Teller Machine

I C T – Information and Communication Technology

P2P - Peer to Peer

PNDC – Provisional National Defense Council

ROSCA – Rotating Savings and Credit Association

ACSA- Association of Small Collectors of Antiques

CUA- Credit Union Association

GCSCA- Ghana Cooperative Susu Collectors Association



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ABSTRACT

This study aimed at examining the impact of automated services on financial efficiency and customer satisfaction for ProCredit savings and Loans company limited.

Purposive sampling technique was adopted to access first hand information that was of relevance to the study. To test customers' satisfaction with automated products, a simple random sampling method was employed. A sample size 240 customers from eight branches of ProCredit in Accra was used.

The findings of the study were that, the impact of the adoption of automated services on financial efficiency was negative in the short run, especially profitability, due to capital investment on infrastructure and training but would be positive in the long run because technology had come to stay and not a trend.

The research also revealed that, majority of customers were satisfied with the automated products of ProCredit although the level of patronage was not particularly impressive.

It is recommended that ProCredit would embrace the use of rigorous promotional tools to create awareness. Also loan monitoring and recovery techniques should also be revised to reduce the rate of write- offs.

CHAPTER ONE

1.0 INTRODUCTION

The world witnesses an information and technological revolution. This revolution has touched every aspect of people's lives including banking. This motivates banks to spend more on technology and information to achieve maximum returns and attract large number of clients. Thus, the issue of automated banking has become one of the most important modern directions which have witnessed a substantial expansion during the last years in almost all societies including Ghana (Siam 2006)

One of the biggest challenges of Savings and Loans Companies in Ghana has been the quest to find the most cost effective way to serve a large market of low income clients. Because MFIs only reach a small percentage of all possible clients, the question of how to cost effectively expand outreach is of paramount significance in the industry today.

Automation is one way to speed services and increase output, which can easily lead to greater outreach. The two most important reasons to automate are to increase efficiency and to improve customer satisfaction. Automation can also expedite service delivery and offer customers more flexibility and convenience. Together, these improvements allow microfinance institutions to remain competitive in the industry

1.1 STATEMENT OF PROBLEM

Until recently, the Ghanaian savings and loans industry has been characterized by high interest rates coupled with little or no innovation in financial products especially the automated ones. The industry is now synonymous with intense competition, emergence of new entrants, serious poaching of highly talented personnel from one institution to another, very strong marketing efforts, introduction of more consumer friendly products etc.

The introduction of automated services by ProCredit leaves many questions to be asked especially in this cut throat competition era. The desire to be innovative and competitive is very much upheld but the need to measure the contribution of these innovations on financial efficiency and customer satisfaction is also of prime importance hence the need for this write up.

The research and marketing expenditures of savings and loans companies are on the rise every now and then to design attractive packages, all focused on meeting the needs of customers.

Customers in this respect cannot be swept away. After all, they are the end users of these innovative automated products.

1.2 RESEARCH QUESTIONS

The study will answer the following among other research questions

1. What are the major automated products being provided by ProCredit savings and Loans Company limited?
2. Does the introduction of automated products make ProCredit more competitive?
3. Are the customers satisfied with the automated products being provided by ProCredit?

4. What ProCredit could do better in terms of product and service delivery?

1.3 OBJECTIVES OF THE STUDY

The study will specifically seek to

1. Find out whether customers are satisfied with the automated services Pro Credit has introduced.
- 2 .Determine the impact of the introduction of automated services on financial efficiency
- 3 .To identify the major automated products/services provided by ProCredit savings and loans company limited.

1.4 METHODOLOGY

Two types of data were gathered for the study and both were organized accordingly. Secondary data was obtained from ProCredit annual reports, Parliamentary acts and the internet. Primary data was collected through a survey instrument consisting of 7 items (Appendix) which were identified after a comprehensive preliminary research on ProCredit and its automated services. The questionnaires were scrutinized by the research supervisor before administration.

A total of 240 customers from eight branches in Accra were sampled. The views of these customers were sought to ascertain their perception about automated services and the level of customer satisfaction. Cross tabulations, pie charts and bar charts of the various variables were obtained, analyzed and discussed.

1.5 SCOPE OF THE STUDY

The study covered only Pro Credit since it is a case study. The survey questionnaires covered the following branches; Abeka- Lapaz, Airport, Dansoman, Dome, Kaneshie, Madina, Kantamanto and Kokomlemle. Although ProCredit has been in existence since July 2002, the study covered the period 2006 to 2008 when most of the automated products were introduced. Financial efficiency and customer satisfaction were the main variables for this research.

1.6 LIMITATIONS

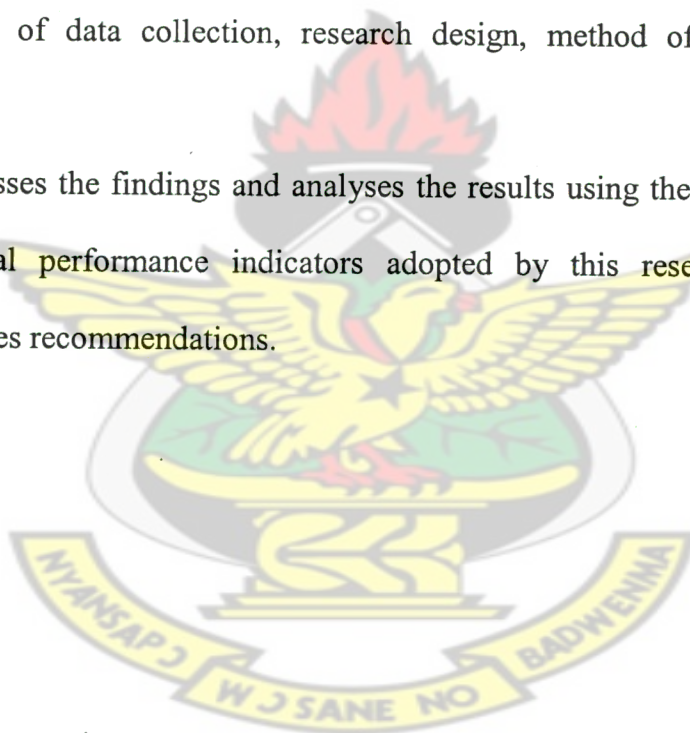
The researcher encountered some constraints which might have some effects on the results. Month to month data on the performance of each of the automated products could not be made available as agreed for the research owing to unwillingness on the part of management to give out data despite introduction from school and a clear definition of intent. Also due to time and financial constraints not all branches could be covered with the questionnaires.

The researchers also had problems with administering questionnaires. Since some of the customers were semiliterate and were not too comfortable with answering questionnaires. The researcher had to read and explain each of the questions and sometimes translate into the local dialect.

1.7 ORGANIZATION OF THE STUDY

The research is organized into five chapters. Chapter one is the introduction which provides a background to the study, statement of problem, research questions, objectives of the study, scope and organization of the study. Chapter two reviews the relevant literature in the field of automated services. It also examines the microfinance industry in Ghana and the laws that govern the adoption of some automated services. Chapter three describes the methodology used for the study. This takes a look at population, sample and sampling technique, method of data collection, research design, method of data analysis and company's profile.

Chapter four discusses the findings and analyses the results using the key financial ratios and other financial performance indicators adopted by this research. Chapter five concludes and makes recommendations.



CHAPTER TWO

LITERATURE REVIEW

2.0 INTRODUCTION

Automated services are being introduced into Ghana at an increasing rate. Forecasts indicate that this trend will continue for foreseeable future. Early work by Abor (2004) was concerned with technological innovations and banking in Ghana. Additional work by Vartanian (2000) and Birch (1998) looks at the future of electronic payments.

Several researchers have addressed the problem of retail payment .Malek (2001), Bank for International Settlements (2000), and OECD Information Technology Outlook (2000) studied various aspects of this subject.

The work carried out by Abor analyses the perception of bank customers pertaining to the effect of technological innovations on banking services in Ghana. A number of studies have also concluded that information technology has appreciable positive effects on bank productivity, cashiers' work, banking transaction, bank patronage, bank services delivery, and customers' services (Balachandher et al, 2001 and Yasuharu, 2003). In effect, it enhances savings mobilization and financial intermediation. Efficient payment systems rely on non-cash payments, and that an efficient and reliable payment system facilitates economic development. (Annon, 2003)

2.1 TECHNOLOGICAL HISTORY OF GHANAIAI BANKS

According to Abor (2004), technology has increased in importance in Ghanaian banks. Traditionally, banks have always sought media through which they would serve their clients more cost effectively as well as increase the utility to their clientele. Their main concern has been to serve clients more conveniently, and in the process increase profits and competitiveness. Electronic and communications technologies have been used extensively in banking for many years to advance the agenda of banks.

In Ghana, the earliest forms of electronic and communications technologies used were mainly office automation devices. Telephones, telex and facsimile were employed to speed up and make more efficient, the process of servicing clients. For decades, they remained the main information and communication technologies used for transacting bank business.

Later in the 1980s, as competition intensified and the personal computer (PC) got proletarian, Ghanaian banks begun to use them in back office operations and later tellers used them to service clients. Advancements in computer technology saw the banks networking their branches and operations thereby making the one branch philosophy a reality.

Arguably, the most revolutionary electronic innovation in this country and the world over has been the ATM (Automated Teller Machine). In Ghana, banks with ATM offerings have them networked and this has increased their utility to customers. The Trust Bank Ghana, in 1995 installed the first ATM. Not long after, most of the major banks began their ATM networks at competitive positions. Customers consider it as important in their choice of banks, and banks that delayed the implementation of their ATM systems, have suffered

irreparably. ATMs have been able to entrench the one-branch philosophy in this country so people do not necessarily have to go to their branch to do some banking.

Another technological innovation in Ghanaian banking is the various electronic cards, which the banks have developed over the years. The first major cash card is a product of Social Security Bank, now Socete Generale SSB, introduced in May 1997. Their card, 'Sika Card' is a value card, onto which a cash amount is electronically loaded. In the earlier part of year 2001 Standard Chartered Bank launched the first ever debit card in this country. Its functions have recently been integrated with the customers' ATM cards, which have increased its availability to the public since a separate application process is not needed to access it. Though ATMs have enjoyed great success because of their great utility, it has been recognized that it is possible for banks to improve their competitive stance and profitability by providing their clients with even more convenience. Once again ICT was what saved the day, making it possible for home and office banking services to become a reality. In Ghana, some banks offer PC banking services, mainly to corporate clients. The banks provide the customers with the proprietary software, which they use to access their bank accounts, sometimes via the World Wide Web.

Banks have recognized the internet as representing an opportunity to increase profits and their competitiveness. Currently, Ecobank, Barclays and Merchant bank are among other banks that have the internet banking facility.

Telephone banking, has also taken a big leap with its convenience and time. Barclays Bank (Gh.) launched its telephone banking services in August 28, 2002. SSB Bank also launched its "Sikatel" or "SSB Call Centre" (telephone banking) in September 19, 2002.

The Chronicle that the sector is a very viable but untapped revenue generating avenue for most banks in the country. (<http://www.ghanabusinessnews.com/2009/01/15>)

2.2 TYPES OF AUTOMATED SERVICES

2.2.1 AUTOMATED TELLER MACHINE (ATM)

ATM is a combined computer terminal with cash vault and record keeping system in one unit, permitting customers to enter the bank's book keeping system with a plastic card containing a Personal Identification Number (PIN). It can also be accessed by punching a special code number into the computer terminal linked to the bank's computerized records. (Rose, 1999) Mostly located outside of banks, it can also be found at airports, shopping malls, and places far away from the home bank offices, and offering several retail banking services to customers.

First introduced as cash dispensing machines, it now provides a wide range of services, such as making deposits, funds transfer between two or more accounts and bill payments. (Abor, 2004)

A major advancement in the electronic aspect of the payment systems was the introduction of automatic teller machines (ATMs). The goal is to reduce over the counter workload of human tellers. Banks in Ghana, providing this service are currently engaged in finding ways whereby banks could have reciprocal use of each other's ATMs. This would imply that customers would not be limited to the use of their bank's ATM, thus providing greater convenience for their customers. (Abor, 2004)

The first bank to introduce this service in Ghana was The Trust Bank, which has installed ATMs since 1995 that allow customers 24-hour access to their funds. According to Abor

(2004), Ghana Commercial Bank (GCB) in collaboration with Agricultural Development Bank started to offer ATM in 2001. Today, majority of the banks operate ATMs in Ghana and it has been the most successful in the country.

2.2.1.1 BENEFITS AND COSTS ASSOCIATED WITH ATMs

Croft et al (2003) outlined the benefits associated with the use of ATMs. Among them are the following

- To increase their share of the retail banking market and to attract new customers by offering more flexible and convenient services.
- They could act as surrogate branches and decrease the number of hours the regular branches needed to be open.
- They could be used for marketing purposes to test the demand for a service in a particular area before a regular branch is established
- It is envisaged that these machines could perform many deposit, withdrawal and transfer operations at a lower cost than human tellers
- It saves time that would otherwise have been wasted in long queues in banking halls

On the cost side, besides the expenses of setting up and maintaining an ATM system, the banks have to deal with the problems of malfunction, fraud, robbery and vandalism .ATM systems typically require high capital investments and have high fixed cost.

2.2.2 BRANCH NETWORKING

Networking of branches is the computerization and inter-connecting of geographically scattered stand-alone bank branches, into one unified system in the form of a Wide Area Network (WAN) or Enterprise Network (EN); for the creating and sharing of consolidated customer information/records.

It offers quicker rate of inter-branch transactions as the consequence of distance and time are eliminated. Hence, there is more productivity per time period. Also, with the several networked branches serving the customer populace as one system, there is simulated division of labour among bank branches with its associated positive impact on productivity among the branches. Furthermore, as it curtails customer travel distance to bank branches it offers more time for customers' productive activities.(Abor 2004)

In the late 1990s, the branch office was considered by some to be all but obsolete. Closures were widespread and the only thing required to transform retail banking into a largely online affair, it seemed, was greater availability of high bandwidth connectivity for users.

Today, we know that this prediction of the future simply wasn't correct. The branch office remains as important and viable a channel to market as ever. And while online banking has certainly gone from strength to strength, the pressure today for cost efficiency, greater regulatory compliance and better customer service is equally placed on modernizing the branch office environment. The requirement now is for a centralized, consolidated IT architecture that connects business processes across branches to support new ways of working and greater customer focus. This means an end to the costly proliferation of

discrete equipment and devices within the individual branch and the introduction of new applications based around ubiquitous Internet technologies.

2.2.3 ELECTRONIC FUNDS TRANSFER AT POINT OF SALE (EFT/POS)

EFT/POS is an online system that involves the use of plastic cards in terminal on merchants' premises and enables customers to transfer funds instantaneously from their bank accounts to merchant accounts when making purchases. It uses a debit card to activate an EFT process. (Chorafas, 1988)

2.2.3.1 VULNERABILITIES OF THE ELECTRONIC TRANSFER SYSTEM

EFT systems have many points of access where transactions can be affected in unauthorized ways because of direct customer involvement with the dynamics of the systems, the use of telecommunication lines, and the ways in which data are aggregated and transmitted among and between sites and institutions. EFT crime is often difficult to detect because funds/data can be removed or manipulated by instructions hidden in complex computer software. The dynamics of the criminal action may be understood by only a few experts within the institution.

EFT crime offers a sporting element, or intellectual challenge, that perhaps is as enticing to some as the opportunity for financial gain. It is possible, in theory, for large banks of data to be destroyed by remote agents, creating the opportunity for maliciousness, extortion and blackmail.

While there is a danger that giving these problems higher visibility through public discussion may at first exacerbate them, the public is entitled to know what risks they are exposed to in using EFT services. Furthermore, both law enforcement agents and financial institutions would benefit by sharing information about vulnerabilities, defense strategies, and security enhancing technologies.

2.2.3.2 TECHNOLOGY AND TECHNIQUES FOR INCREASED EFT SECURITY

Good management requires strictly limiting access to funds and data, and keeping full records of who has access and at what times. Personnel must, of course, be carefully selected and judiciously supervised. They can be rotated in their jobs to limit the time they have to experiment with EFT systems and probe for vulnerabilities.

It may be possible to divide critical data, such as a transmission encryption key, between two or more people. In some cases, it is possible to divide processing duties so that few people know all of the procedures and programs. However, this is often difficult since EFT by its nature integrates the flow of processing.

Audit trails can be established and transaction logs carefully isolated and physically protected. Account activity can be reviewed regularly to detect unusual increases in frequency or size of withdrawals or account balances. (Chorafas 1988)

2.2.4 CREDIT CARDS

This is a plastic card that assures a seller that the person using it has a satisfactory credit rating and that the issuer will see to it that the seller receives payment for the goods or

items delivered. This represents the automated capture of data about purchases against a revolving credit account (Pierce, 2001).

Major international credit cards such as Visa, MasterCard, American Express and others such as Maestro are accepted as a medium of payment in major shops, hotels, restaurants, supermarkets and travel agencies in Ghana. Most of these cards may be also used at ATMs belonging to some of the banks to collect small amounts of local currency (Ghana web, undated).

2.2.5 DEBIT CARDS

These were a new form of value transfer where the card holder after keying of a PIN, uses a terminal and network to authorize the transfer of value from their account to that of a merchant. Introduced more recently, debit together with credit cards represent the most rapidly growing method of payments in several OECD countries. (Pierce, 2001)

When a payment is made through a debit card, the funds are immediately withdrawn from the purchaser's bank account. The advantage is that the buyer has the funds to make the purchase and paid for right away, so there's no credit card shock when the statement arrives in the mail. (Pierce, 2001)

A smart card is a plastic card with a computer chip inserted into it and that store and transacts data between users. (Smart Card Basics, 2004) The data, in a form of value or information is stored in the card's chip, either a memory or microprocessor. "Smart card-enhanced systems are in use today throughout several key applications, including healthcare, banking, entertainment and transportation." (Smart Card Basics, 2004) One of the features of this card is that it improves the security and convenience of transactions.

The system works in virtually any type of network and provides security for the exchange of data. (Smart Card Basics, 2004)

Standard Chartered Bank was the first bank to launch debit card in Ghana in 2001. This has been incorporated with the ATM cards, which have increased its availability to the public. The card gives customers access to their funds through SCB ATMs or any VISA branded ATM throughout the world. In 2004, the First Atlantic Merchant Bank (FAMB) introduced the widely regarded American Express into the Ghanaian market. Most of the categories of the Express card, the Basic Green Card, the Golden Card, and the Platinum Card are on offer to its customers with appropriate credit rating.

SG-SSB introduced the first major cash card in May 1997. This card is known as 'Sika Card', onto which a cash amount is electronically loaded (Abor, 2004). Transaction Management Services (TMS) based in Ghana introduced a domestic online debit card POS (point of sale) services in June 2002 that allows consumers to effect immediate payment for goods and services from their accounts through the online electronic transfer of funds with banks connected to TMS inter-bank switch. Three banks Ecobank, Cal Merchant Bank and The Trust Bank with their domestic debit card "E-Card" were the first to utilize the system in 2002. The card is online in real time, and permits holders to instantly purchase goods and services without paying cash but simultaneously debiting the cardholder's account and crediting the merchant's bank account. Barclays Bank Ghana launched another unique product called Travelex Cash Passport. It is a card that enables customers to carry funds easily and access the Visa ATM machine with a PIN. The cash is loaded with US dollars but can be withdrawn in local currency from any of Visa

ATM machines worldwide. The bank has also partnered with VISA and Trevelex World Wide Money (Wildcard) to make the product accessible in all countries. (Accra Daily Mail, 2004)

2.2.6 TELEPHONE BANKING

Telephone banking or telebanking is a form of virtual banking that deliver financial services through telecommunication devices. Under this mechanism, the customer transacts business by dialing a touch tone telephone connected to an automated system of the bank. This is normally done through Automated Voice Response (AVR) technology (Balachandher et al, 2001) Telebanking has numerous benefits for end users. For the customers, it provides increased convenience, expanded access and significant time saving. Instead of going to the bank or visiting an ATM, retail banking serves the same purpose for customers to get the services at their offices or homes. This saves customers time and money, and gives more convenience for higher productivity. (Leow, 1999)

It has almost all the impact on productivity of ATMs, except that it lacks the productivity generated from cash dispensing by the ATMs. For, as a delivery conduit that provides retail banking services even after banking hours (24 hours a day) it accrues continual productivity for the bank. It offers retail banking services to customers at their offices/homes as an alternative to going to the bank branch/ATM. This saves customers time, and gives more convenience for higher productivity.(Leow,1999)

In Ghana, Barclays Bank (Gh.) launched its telephone banking services in August, 2002. SSB Bank also launched its “Sikatel” or SSB Call Centre telephone banking in 2002. The services available with this system are to ascertaining credible information about the

bank's products, the customers' complaints, bank statements and cheque book request and any other complaints and inquiry. (Abor, 2004)

2.2.7 INTERNET BANKING

This term is used for a variety of related methods whereby a payer uses an electronic device in the home or workplace to initiate payment to a payee. In addition to computer technology, it can be performed using the telephone (Chorafas 1988)

PC Banking is a service which allows the bank's customers to access information about their accounts via a proprietary network, usually with the help of proprietary software installed on their personal computer. (Abor 2004). It is used to perform a variety of retail banking tasks, and offers the customer 24-hours services. PC-banking has the advantage of reducing cost, increasing speed and improved flexibility of business transactions. (Balachandher et al, 2001)

Some banks have started to offer PC banking services, mainly to corporate clients, to initiate a range of automated transactions from their own offices or homes. The banks provide the customers with the proprietary software, which they use to access their bank accounts, sometimes via the World Wide Web. This is on a more limited scale though, as it has been targeted largely at corporate clients. (Abor, 2004) .Standard Chartered Bank started the first Internet Based On-line Banking Service in Ghana. SSB Bank Ghana is one of the three banks in Ghana to offer Internet banking services via the installation of the state of the art software called Flexcube. Twelve (12) branches of the bank have already gone live on Flexcube. (Mishra 20002)

2.2.8 DIGITAL P2P (PEER TO PEER) PAYMENTS

Bank based P2P system allows users to send money from bank accounts and credit cards electronically. It employs electronic mail services to notify recipients of an impending funds transfer.

Most bank based P2P requires the sender to register with the P2P site. Most of the providers allow users to move a limited amount of money around the world. (Rudl, undated) .P2P e-mail payments are offered mainly through Yahoo!, the Postal Service, and some banks. Example of companies that offers P2P payment services is MasterCard which enable users to use digital wallet to make payments from a credit or debit account to any person in the world, in their local currency, directly into their bank account or as a check mailed to that person. (Rudl, undated)

2.2.9 MOBILE BANKING

Currently, Standard Chartered Bank and CAL Bank provide active mobile banking services known as SMS Banking. This allows customers to do some banking enquires on their mobile phones. Customers do not need to go to their branch to do the following transactions: balance enquiry, transaction enquiry, cheque book request, statement request, and payment of utility bills.SG-SSB Bank also launched a product called Sikatext. This is a smart banking service that enables customers' access to their financial information by a text message via their MTN mobile phone any time in the day. With this product, customers can easily check their account balance. Although, the services this offered do not include payment services, the bank has indicated to include such service in future. (SG-SSB, undated)

2.2.10 PERSONAL DIGITAL ASSISTANTS

Personal digital assistants (PDAs) allow a loan officer to virtually bring the MFI's management information system out into the field. A PDA is a small computer with limited memory that can download a loan officer's daily information requirements, so that she no longer must carry a stack of unwieldy papers to the field. PDAs, which run on batteries, commonly measure 3 by 5 inches and are about a half-inch thick. Personal digital assistants can support loan analysis software, employee timesheets, and mathematical functions, all of which reduce risks associated with computational errors.

Perhaps most importantly, PDAs support software that allows loan officers to conduct quick, automated credit analysis in the field, using a decision tree to reach credit decisions. This way, loan officers can collect information, conduct loan analysis, and disburse funds all in one day, instead of having to make a separate trip to disburse funds after a lengthy and often loosely-structured analysis back at the branch. The time savings presents an opportunity to sell products and services to other potential customers, and ultimately, to increase capacity. High loan officer capacity is one of the leading indicators of high efficiency, and this efficiency translates into higher returns. Some industry forecasts say that within three years, information will come web-based through wireless connections, allowing loan officers to be constantly connected.

A PDA is not a stand-alone efficiency solution. Successful incorporation requires integration with the MFI's central management information system, because this technology relies on access to customer information. Full integration also allows loan officers to generate credit reports and other statements directly from PDA based software.

In sum, the PDA streamlines the loan officer's job by concentrating data in one small device that has the capability to manage and analyze customer data.(Campion et al 2001)

2.3 NEW EVOLUTION IN AUTOMATION IN GHANA

2.3.1 CREDIT SCORING

Credit scoring is one of the techniques employed by transactional lending. Credit scoring has the potential by enabling large banks to boost their number of loans. Credit scoring is a process of assigning a score to a borrower based on the previous financial behaviour of the borrower

A credit score, in the United States, is a number representing the creditworthiness of a person, or the likelihood that that person will pay his or her debts. A credit score is primarily based on a statistical analysis of a person's credit report information, typically from the three major American credit bureaus: Equifax, Experian, and TransUnion. Lenders, such as banks and credit card companies, use credit scores to evaluate the potential risk posed by lending money to consumers and to mitigate losses due to bad debt. Using credit scores, lenders determine who qualifies for a loan, at what interest rate, and to what credit limits.

The Fair Isaac Corporation created the first credit scoring system in 1958. Although the exact formulas for calculating credit scores are closely-guarded secrets, the Fair Isaac Corporation has disclosed the following components and the approximate weighted contribution of each:

- 35% — punctuality of payment in the past (only includes payments later than 30 days past due)

- 30% — the amount of debt, expressed as the ratio of current revolving debt (credit card balances, etc.) to total available revolving credit (credit limits)
- 15% — length of credit history
- 10 % — types of credit used (installment, revolving, consumer finance)
- 10% — recent search for credit and/or amount of credit obtained recently

Credit scores are not the sole underwriting factors used by lenders. Other loss mitigation tools and data are used in addition to a score to gauge an individual's creditworthiness. For instance, current income and employment history, which are not part of a score, are weighed when applying for credit, along with tenancy status in some cases. An unemployed individual with no sources of income will not usually be approved for a home mortgage, regardless of his or her FICO score. There are other special factors which can weigh on the FICO score.

- Any money owed because of a court judgment, tax lien, or similar carry an additional negative penalty, especially when recent.
- Having more than a certain number of consumer finance credit accounts also carries a negative weight
- The number of recent credit checks also can weigh down the score, although credit agencies usually claim to allow for credit checks made within a certain window of time.

(<http://www.myfico.com/Products/FICOOne/Description.aspx>.)

2.3.1.1 CREDIT REPORTING IN GHANA

According to Kwaku Kwarteng (2001) The Credit Reporting Bill received Presidential Assent on April 27, 2007 after its passage by Parliament. The purpose of the Credit

Reporting Act (Act 726) is to provide a legal and regulatory framework for credit reporting in Ghana. The availability of credit information is generally accepted to be crucial for the development and maintenance of an effective financial sector. Borrowers tend to have a natural incentive not to reveal negative information about themselves. The lack of a credit information system therefore increases the risks of lending, and causes financial institutions to provide less credit. A credit reporting system in Ghana would provide timely, accurate, and up to date information on the debt profile and repayment history of borrowers and would lead to a number of benefits.

This Credit Reporting Act is designed to promote the orderly development of a credit reporting system for Ghana and to promote public trust in credit bureau operations. Specifically, the Act provides for the licensing of private credit bureaus (and gives the Bank of Ghana the authority to set up a public credit bureau), regulates the activities of credit bureaus, establishes guiding principles for the conduct of the credit reporting system, and provides for credit data submission, data management, protection and dissemination. It seeks to strike a balance between the rights of borrowers on the one hand, and the need to share credit information effectively, on the other.

Access to credit reports prepared by a credit bureau is restricted under the Act. In accordance with the principle of reciprocity, only financial institutions who submit credit information to a credit bureau and who show evidence of the customer's consent to the issuance of a credit report will be eligible to access a credit bureau's data. Financial institutions that are eligible to access a credit bureau's database may only do so for credit risk management purposes including the assessment of a credit application.

Credit scoring creates efficiencies by reliably categorizing customer risk, thereby cutting

costs by precluding unqualified applicants from borrowing, as well as improving allocation of loan loss provisions.

2.4 BENEFITS OF AUTOMATION

2.4.1 COST REDUCTION

According to Anita Campion and Sahra Halpern (2001), automating operations incurs substantial start-up costs. After a year or more of successful implementation, however, the cost savings can be dramatic. Technology, when successfully put to use, reduces time spent on everyday loan officer transactions and enhances ease of communication, which also saves staff time. Time saved is money earned, because the extra time allows staff members to service more customers per day, which can lead to increased income.

An ATM that can handle multiple transactions can be installed instead of opening up a satellite office in a remote area, which reduces the need for extra infrastructure and staff. These benefits can be passed on from the institution to the customer in the form of reduced interest rates and enhanced customer satisfaction. Achieving best results requires institutions to set goals for increased loan officer portfolios, time required to make loan decisions, as well as other measures of success, and attempt to reach these goals by a specific date.

2.4.2 CUSTOMER SATISFACTION

A smart card, with its capacity to handle multiple transactions, allows customers to manage many accounts with just one card. Furthermore, when an institution can pass on its cost

savings to its customers, the traditionally high cost of micro lending is lowered, which can improve customer loyalty (provided that overall customer service is excellent as well).

Customers appreciate a shorter lending process. When customers receive speedy service, along with reduced risks from automated services, they are less likely to defect to other institutions that may not have the same level of service automation.

Micro entrepreneurs are busy and often drop out from institutions precisely because of the high time commitment involved. Promoting the time savings and security features associated with technology grabs attention and can be an effective advertising mechanism, improving brand recognition and reinforcing customer loyalty (Anita Campion and Sahra Halpern (2001)

2.4.3 INNOVATIONS GIVE MICROFINANCE INSTITUTIONS A COMPETITIVE EDGE

Reduced costs and fewer customer exits result in a competitive edge for institutions that successfully introduce innovative technology into their operations. In general, customers perceive an MFI that is the first in a country to introduce new technology as an innovator and leader in the field. This image leads to greater publicity and attracts new customers. But once this image is cemented, institutions must do their best to uphold it. Technology requires increased controls to ensure that one glitch does not bring down all systems. (Anita Campion and Sahra Halpern (2001)

2.5 DISADVANTAGES OF AUTOMATED SYSTEMS

2.5.1 DISINTEGRATION OF LOAN OFFICER-CLIENT RELATIONSHIP

When customers visit ATM machines instead of human beings to withdraw money and pay back loans, the human element of microfinance lending conceivably begins to dissolve. That human element; the relationship that is forged between loan officer and client is often a powerful force that compels customers to repay their loans. In microfinance, the human element traditionally has been used to enhance accountability in the lending process.

For many institutions, technology cannot replace the relationship between loan officers and customers. In general, automation merely reduces the time spent servicing each customer; the face to face interaction still takes place, which makes it possible to maintain this relationship. In some instances, however, technology reduces the loan officers' time spent on paperwork and actually allows them more time with customers. (Anita Campion and Sahra Halpern (2001))

2.5.2 RESISTANCE TO CHANGE

According to Campion et al (2001), most people have a natural resistance to change, which can inhibit the introduction of a new technology regardless of the potential benefits. For MFIs, fear of automation is most likely based on unfamiliarity with technology and consequent mistrust.

Legitimate concerns expressed by microfinance practitioners include the fear that automation may harm the loan officer-client relationship, cost more than it is worth and scare away customers.

2.6 FACTORS AFFECTING THE USAGE OF AUTOMATED SERVICE

2.6.1 CUSTOMERS' LEVELS OF INCOME

Consistent with Kwast and Kennickell (1997) research, wealth has an important role to play in terms of consumer's decisions on the choice of automated systems. Consumers' wealth may influence payment choice and the availability of payment instruments that one can choose.

For instance, while wealthy consumers may be able to fund their obligations generally, consumers that experience brief financial shortfalls may not find electronic bill payment desirable as a payment instrument. (Mantel, 2000)

2.6.2 CUSOMERS' LEVEL OF EDUCATION

Kwast and Kennickell (1997) have illustrated how education play important role in determining household use of e-money products. Kwast and Kennickell concluded that the US market for such products is still highly specialized, with the demand coming almost entirely from higher income, younger and more educated households that have accumulated significant financial assets. Educational levels of customers determine whether consumers will adopt automated services or not. Studies have shown that highly educated people patronize electronic payment products than less educated people.

2.6.3 EMPLOYMENT LEVEL

Those employed who receive their pay through the banks are more likely to use automated systems. Employees, through their constant contacts with banks are more exposed to automated products, and are therefore, likely to patronize the products .More than half of

the workers in the US, in 2000 receive a direct deposit of their pay through the Automated Clearing House (ACH).(Ferguson 2000)

2.7 GUIDELINES FOR THE OPERATION OF PLATFORMS FOR ATMs AND POS SYSTEMS IN GHANA

1. The Bank of Ghana's responsibility with regard to platforms for Automated Teller Machines (ATMs) and Electronic Funds Transfer at Point of Sale Systems (EFTPOS) is to ensure an appropriate legal and regulatory environment, competitive market and high standards for cards, ATMs and ATM platforms. The Bank of Ghana shall also ensure that suppliers have the technical and financial capacity to deliver and support their systems.

2. In granting permission for the setting up of a platform and/or its operation, the Bank shall be guided by the need for an orderly development of the payment system. The following conditions shall apply:

i. The provision of ATM and EFTPOS services shall be limited to banks and consortiums of banks and other corporate bodies;

ii. The card technology must be ISO 8583 and EMV compliant while the platform/ATM system should be able to support different card types including smart cards, ATM cards, common credit and debit cards such as VISA, MasterCard, Euro pay, American Express, Diners Club etc.

iii. Platforms must be interoperable with international ATM and EFTPOS networks

operated by companies with international reputation. To satisfy this requirement, the switching companies must be operating in North America or Europe.

iv. Banks applying for a domestic platform must meet the following requirements with regards to the number of banks, ATMs and the networking of a bank's branches.

(a) More than four banks, minimum of 20 ATMs and 50% of the branches of each bank networked.

(b) Four banks, minimum of 30 ATMs and 50% of the branches of each bank networked.

(c) Three banks, minimum of 50 ATMs and 50% of the branches of each bank networked.

vi. Domestic platforms must ensure interconnectivity and interoperability with existing domestic platforms within twelve months of commencement of operations. A programme for interfacing with other domestic platforms must be incorporated into the agreement of the banks.

vii. In the absence of a national domestic switch the number of domestic switches shall be limited to three. It is expected that the establishment of a national switch jointly owned and/or used by all banks will eliminate the need for other domestic switches.

Oversight and Public Policy Goals

3. The Bank will monitor and review ATM and EFTPOS services from time to time and ensure that:

i. the legal and regulatory environment is appropriate and keeps pace with domestic and international developments

- ii. market structure remains satisfactory and the markets are functioning adequately with healthy competition among service providers
- iii. international standards are complied with in respect of infrastructures and cards to reduce risk and increase safety and efficiency; and
- iv. The provision of services by the central bank is fair and based on objective criteria.

Consideration of Proposals For Operation of an ATM Platform/Switch

4. A formal proposal to establish and operate a switch shall be submitted to the Bank by three or more banks acting alone or in conjunction with a system supplier. Consideration of the proposal shall include but not be limited to the following processes:

- i. Assessment and evaluation of the following:

technical feasibility and financial viability of switch

quality of risk management and measurement techniques

existence of fraud and forgery prevention mechanisms

quality of security infrastructure

appropriateness of system rules and regulations

- ii. Participation in the pilot project;

- iii. Planning and testing of some of the system processes; and

- iv. Any other issues the Bank may consider pertinent to the establishment and operation of the switch or platform. (<http://www.bog.gov>)

2.8 MICROFINANCE

Microfinance creates access to productive capital for the poor, which together with human capital, addressed through education and training, and social capital, achieved through local organization building, enables people to move out of poverty. By providing material capital to a poor person, their sense of dignity is strengthened and this can help to empower the person to participate in the economy and society (Otero, 1999). The aim of micro-finance according to Otero (1999) is not just about providing capital to the poor to combat poverty on an individual level, it also has a role at an institutional level. It seeks to create institutions that deliver financial services to the poor, who are continuously ignored by the formal banking sector. Littlefield and Rosenberg (2004) argue that the poor are generally excluded from the financial services sector of the economy so MFIs have emerged to address this market failure. By addressing this gap in the market in a financially sustainable manner, an MFI can become part of the formal financial system of a country and so can access capital markets to fund their lending portfolios, allowing them to dramatically increase the number of poor people they can reach (Otero, 1999). More recently, commentators such as Littlefield, Murdugh and Hashemi (2003), have commented on the critical role of micro-credit in achieving the Millennium Development Goals(MDGs).

According to Simanowitz and Brody (2004, p.1), micro-credit is a key strategy in reaching the MDGs and in building global financial systems that meet the needs of the most poor people. Littlefield, Murdugh and Hashemi (2003) state "micro-credit is a critical contextual factor with strong impact on the achievements of the MDGs. Micro-credit is unique among

development interventions. It can deliver social benefits on an ongoing, permanent basis and on a large scale”.

However, some schools of thought remain skeptical about the role of micro-credit in development. For example, while acknowledging the role micro-credit can play in helping to reduce poverty, Hulme and Mosley (1996) concluded from their research on micro-credit that most contemporary schemes are less effective than they might be (1996, p.134). The authors argued that micro-credit is not a panacea for poverty alleviation and that in some cases the poorest people have been made worse-off.

2.8.1 EVOLUTION OF THE MICROFINANCE SUB-SECTOR IN GHANA

The concept of microfinance is not new in Ghana. There has always been the tradition of people saving and/or taking small loans from individuals and groups within the context of self-help to start businesses or farming ventures.

For example, available evidence suggests that the first credit union in Africa was established in Northern Ghana in 1955 by Canadian Catholic missionaries. However, Susu, which is one of the microfinance schemes in Ghana, is thought to have originated from Nigeria and spread to Ghana in the early twentieth century.

Over the years, the microfinance sector has thrived and evolved into its current state thanks to various financial sector policies and programs undertaken by different governments since independence. Among these are:

- Provision of subsidized credits in the 1950s
- Establishment of the Agricultural Development Bank in 1965 specifically to address the financial needs of the fisheries and agricultural sector
- Establishment of Rural and Community Banks (RCBs), and the introduction of regulations such as commercial banks being required to set aside 20% of total portfolio to promote lending to agriculture and small scale industries in the 1970s and early 1980s.
- Shifting from a restrictive financial sector regime to a liberalized regime in 1986
- Promulgation of PNDC Law 328 in 1991 to allow the establishment of different categories of non-bank financial institutions, including savings and loans companies, and credit unions.

The policies have led to the emergence of three broad categories of microfinance institutions. These are:

- Formal suppliers such as savings and loans companies, rural and community banks, as well as some development and commercial banks;
- Semi-formal suppliers such as credit unions, financial non-governmental organizations (FNGOs), and cooperatives;
- Informal suppliers such as Susu collectors and clubs, rotating and accumulating savings and credit associations (ROSCAs and ASCAs), traders, moneylenders and other individuals.

In terms of the regulatory framework, rural and community banks are regulated under the Banking Act 2004 (Act 673), while the Savings and Loans Companies are currently regulated under the Non-Bank Financial Institutions (NBFI) Law 1993 (PNDCL 328)

Programmes currently addressing the sub-sector in Ghana include the Financial Sector Improvement Project, Financial Sector Strategic Plan (FINSSP), the Rural Financial Services Project (RFSP), the United Nations Development Programme (UNDP) Microfinance Project, the Social Investment Fund (SIF), the Community Based Rural Development Programme (CBRDP), Rural Enterprise Project (REP), and Agricultural Services Investment Project (Asiamah et al 2007)

2.8.2 MICROFINANCE AND DEVELOPMENT

According to Asiamah et al (2007), Microfinance encompasses the provision of financial services and the management of small amounts of money through a range of products and a system of intermediary functions that are targeted at low income clients. It includes loans, savings, insurance, transfer services and other financial products and services. Microfinance is thus one of the critical dimensions of the broad range of financial tools for the poor, and its increasing role in development has emanated from a number of key factors that include:

- The fact that the poor need access to productive resources, with financial services being a key resource, if they are to be able to improve their conditions of life

- The realization that the poor have the capacity to use loans effectively for income generation to save and repay loans
- The observation that the formal financial sector has provided very little or no services to low income people, creating a high demand for credit and savings services amongst the poor
- The view that microfinance is viable and can become sustainable and achieve full cost recovery
- The recognition that microfinance can have significant impact on cross cutting issues such as women's empowerment, reducing the spread of HIV/AIDS and environmental degradation as well as improving social indicators such as education, housing and health.

Studies have shown that micro-finance plays three broad roles in development:

- It helps very poor households meet basic needs and protects against risks
- It is associated with improvements in household economic welfare
- It helps to empower women by supporting women's economic participation and so promotes gender equity.

CHAPTER 3

METHODOLOGY

3.0 INTRODUCTION

This chapter presents an outline of the methods and techniques used for the design and data collection for the research. This includes the research design, Choice of Research Method, Research Strategy, Data collection procedures and method of data analysis

3.1 STUDY DESIGN

To find real answers to the research questions, the concept of paradigm in social science was adopted. Hart (2003) defines paradigm as the progress of scientific practice to describe how scientists work within accepted ways of defining, assigning categories, theorizing and procedures within disciplines. According to the concept, paradigm is based on scientists' assumptions about the world. Different research paradigm implies different methodology and different research methods to collect data and finding solution to problems. This research adopted triangulation approach in the process of collecting and analyzing data.

The triangulation approach in this research consists of three methods of data collection and analysis: survey questionnaires, semi-structured interview and document analysis. Denzin (1970) reveals that the use of triangulation approach leads to greater validity and reliability than a single methodological approach. Hussey and Hussey (1997) state that once the paradigm was established, it is not unusual in business to take a mixture of approaches,

particularly in the methods of collecting and analyzing data because they give a broader and often complementary view of the research problem. Dixon et al. (1988) assert that most hypotheses and research objectives can be researched using more than one technique of data gathering. Yin (1994) also supports that the different data collection methods can provide more detailed data about phenomenon under investigation. Moreover, it helps to obtain different perceptions of the phenomena which are useful for researchers to understand what is happening in a situation and looking for patterns which may be repeated in other similar situations. The semi-structured face-to-face interview is designed to qualitatively analyze respondents' free-format comments on the main subject.

3.2 CHOICE OF RESEARCH METHOD

Two different approaches can be used in writing a thesis of this nature, inductive or deductive. Deductive approach generates hypotheses from a particular theoretical framework and then tests these by observing reality. It is concerned with developing propositions from existing theory and making them testable in the real world. (Dubois & Gadde 2002).

An inductive approach identifies a real phenomenon from which patterns are identified and described, and appropriate theories selected to explain and interpret the phenomenon. It starts with empirical observations, translated into generalizations that are in turn serving as a foundation for developing theories or models. (Carneiro&Merzoug,2001). A deductive approach is more appropriate when performing a research of this nature.

3.3 ORGANIZATIONAL PROFILE

ProCredit Savings and Loans Company Ltd (ProCredit SLC) is a member of the ProCredit group, which is led by its Frankfurt-based parent company, ProCredit Holding. ProCredit Holding is the majority owner of ProCredit SLC and now holds 94.6% of the shares.

Other major shareholders include the DOEN Foundation, the International Finance Corporation (IFC) and the Netherlands Development Finance Company. Over the years, ProCredit Holding, working closely with the consulting company IPC, has consolidated the ownership and management structure of all the ProCredit banks and financial institutions to create a truly global group with a clear shareholder structure and to bring to each ProCredit institution all the synergies and benefits that this implies. Its current share capital is USD 7.85 million.

ProCredit SLC was founded in July 2002 in Ghana as Sikaman Savings and Loans Company. Their goal was to establish a new kind of financial institution that would meet the demand of small and very small businesses in a socially responsible way. The primary aim was not short-term profit maximization but rather to deepen the financial sector and contribute to long-term economic development while also achieving a sustainable return on investment.

ProCredit offers modern efficient and effective banking services to more than 32,000 clients.

ProCredit is managed by a team consisting of expatriate managers from the consulting firm IPC in Germany (International Project Consult GmbH) and Ghanaian managers.

Currently, ProCredit can boast of 20 branches and a staff size of about eight hundred.

3.4 RESEARCH STRATEGY

The choice of a research strategy depends on a number of factors. Yin (1994) identifies five main research strategies within the social sciences .Experiments, surveys, archival analysis, histories and case studies. The most appropriate strategy for a given situation depends on such factors as the type of research question, the control an investigator has over actual behavioral events, the focus on contemporary as opposed to historical phenomena. (Yin, 1994).This research adopted a case study approach to measure the impact of automated systems on financial efficiency of ProCredit and the effects these automated products have on customers.

3.5 DATA COLLECTION

Primary data was gathered basically by administering survey questionnaires and face to face interviews. Secondary data was acquired mostly through newspaper articles, annual reports, parliamentary acts, journals and the internet. Then face to face interviews are discussed and finally, document analysis explained.

3.6 SURVEY QUESTIONNAIRES

Stroh (2000), states that a questionnaire is used to explore a large number of people's views. Statistically, it is believed that large sample size of questionnaires designed for unbiased statistical results can be implied for the whole population (Miller *et al.*, 2002). Harris and Schaubroeck (1990) recommend a minimum sample size of 200 to guarantee

robust structural equation modeling. Questionnaires were designed and administered to 240 customers of ProCredit from eight branches.

3.7 SEMI-STRUCTURED INTERVIEW

The semi structured face to face interview is designed to qualitatively analyze respondents' free-format comments on the main subject. It can explore the actor's definition and how people act which gives meaning to their own lives It can also be used to verify, enhance, and fill in the data collected from the survey (Eyles, 1989, p. 380). In this research, face to face interviews were conducted in a semi-structured format that allowed respondents to express their own viewpoints

A research officer of ProCredit was interviewed to identify the problems the company was facing with the introduction of the automated Products.

3.8 STUDY POPULATION AND SAMPLING TECHNIQUE

The research is a case study and the population focuses on ProCredit Savings and Loans Company limited and its customers .Purposive or judgemental sampling enables the use of judgement to select cases that will best answer research questions and to meet objectives. This form of sample is often used when working with very small samples such as in a case study research and when the researcher wish to select cases that are particularly informative (Neuman, 2000).A simple random sampling technique was also adopted in administering questionnaires to customers. A sample size of 240 customers from eight

branches would make the findings representative of the views of the population. The questionnaires were administered over a period of one week to help get a comprehensive coverage of the various types of customers who visited the bank.

3.9 DATA ANALYSIS

Data abnormalities may lead to an inaccurate analysis. Caution in scrutinizing data for these abnormalities is a prerequisite for mature analysis. Tabachnick and Fidell (1983). Thus, problems of missing data and violations of statistical assumptions were diagnosed and corrected before applying statistical procedures. Interviews conducted were translated into basic statistics. Data were presented in the form of pie chart, bar chart distributions and cross-tabulations.

Three key financial ratios were adopted as indicators. They are Return on equity, income/cost ratio and capital ratio. Net revenues from fees and commissions from the automated products were also compared and analyzed. Training costs were also identified and analyzed over the three year period. Other financial performance indicators were also identified and duly analyzed using trend analysis. The questionnaires for customers were also analyzed using statistical tools like pie charts, bar charts and cross tabulations.

CHAPTER FOUR

ANALYSIS OF FINDINGS

4.0 INTRODUCTION

Below are the analysis of the key indicators adopted for measuring financial efficiency and customer satisfaction with the adoption of ProCredit automated services.

4.1 ANALYSIS OF KEY INDICATORS

Table 4.1 Some indicators of financial efficiency for ProCredit for the years 2006-2008
(Amounts in Ghana cedis)

Year	2006	2007	Percentage Change	2008	Percentage Change
Total Deposits	21,498,590	23,288,696	8.326%	29,128,074	25.07%
NetLoan Portfolio	13,279,000	20,986,000	58.039%	24,579,000	17.12%
Total Assets	18,909,000	33,891,000	79.232%	42,513,000	25.44%
Net Profits	461,000	930,000	101.735%	961,000	3.333%
Shareholders Equity	3,790,000	9,175,000	142.084%	12,357,000	34.68%

Source: Annual reports for 2006-2008

With the exception of the Automated Teller Machine (ATM), which was introduced in 2008, the rest of the automated services were introduced in 2007. From the table above one could observe that total deposits have risen positively with the introduction of the ProCash, ProGlobal and later the ATM in 2008. Total deposits rose by 8.32% in 2007 and further rose sharply by 25.07% in 2008 when the ATM was introduced. The strong marketing campaign undertaken especially with the ATM in 2008 paid dividends and has attracted more customers.

In general, customers perceive an MFI that is the first in a country to introduce a new technology as an innovator and leader in the field. This image leads to greater publicity and attracts new customers (Anita Campion and Sahra Halpern 2001). ProCredit is the first of the 17 Savings and loans companies in Ghana that has the ATM facility. This has strongly attracted new customers and boosted the company's image.

A critical look at the net loan portfolio reveals an increase of 53.03% in 2007 and a very sharp decline to 17.12% in 2008. The total assets of the company also declined to 25.44% in 2008 from 79.232% in 2007. Net profits rose by more than hundred percent in 2007 when most of the products were introduced. A year after net profits fell to 3.33%. Shareholders equity also fell by 107% at the end of 2008.

FIGURE 4.1

INDICATORS OF FINANCIAL EFFICIENCY FOR ProCredit Savings and Loans for the period 2006-2008

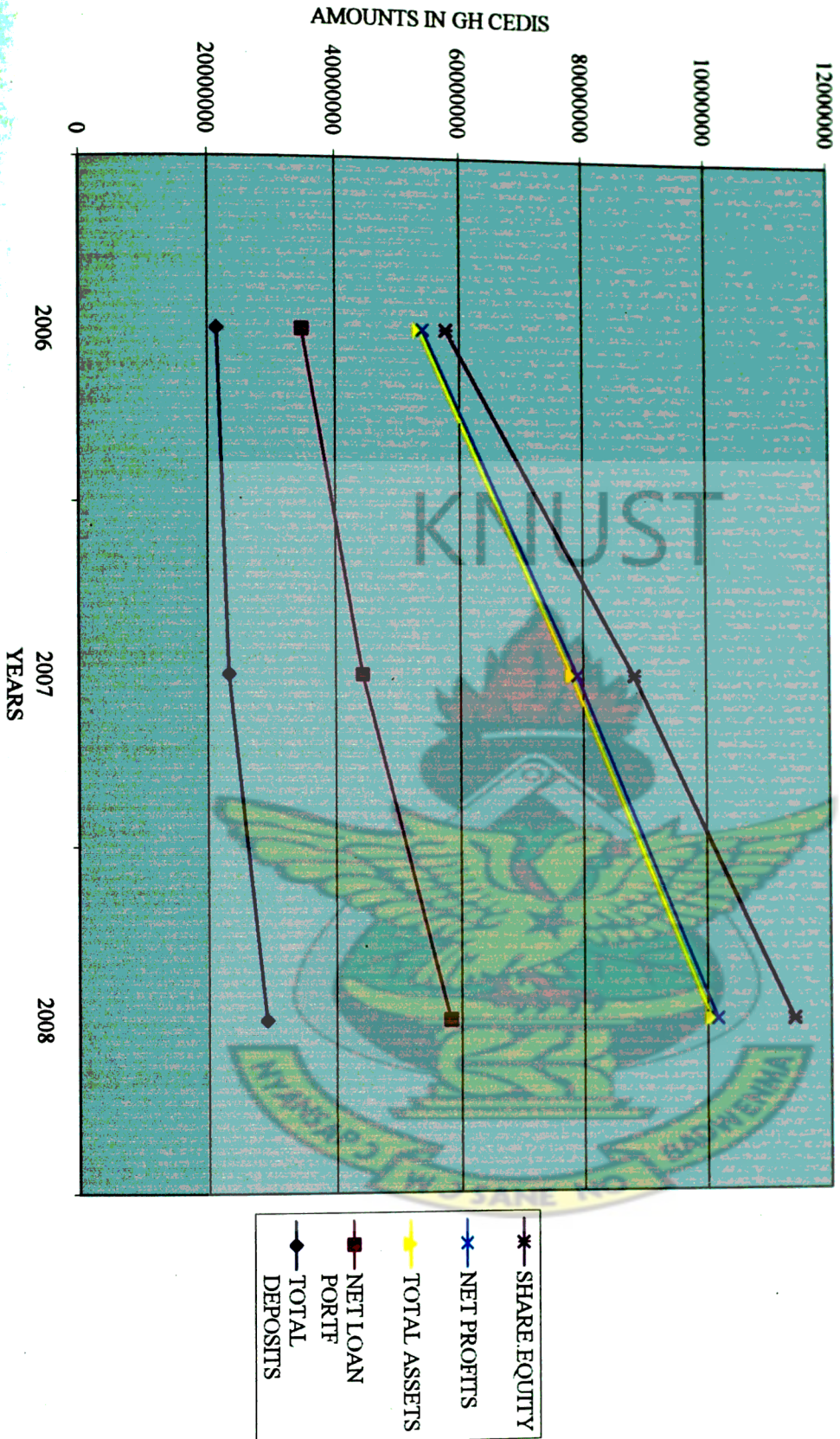


Table 4.2a Domestic and international money transfers (Amounts in Ghana cedis)

	2006	2007	%change	2008	%change
Fees and comm income	152,366	286920	88.31%	717588	150.10%
Fees and comm. expenses	3652	13228	262.212%	67093	407.204%

Source: Annual reports (2006-2008)

Table 4.2b Domestic and International Money Transfers (Amounts in Ghana cedis)

Fees and commission income	2008	2007
Payment transfers and transactions	GH¢326,745	GH¢60,380
Debit cards	GH¢10,038	-

Source: Annual reports (2007- 2008)

4.2 FEES AND COMMISSION INCOME

ProCash, a domestic money transfer service was launched to provide a safe, reliable and affordable option for local transfers between ProCredit accounts. The introduction of this product was aimed at providing clients with a more secure alternative for local money transfers than private couriers or posting cash, which both entail a high risk of losses. By the end of the year 2007, ProCredit had carried out over 1,700 transactions via the ProCash system.

The existing international money transfer service was improved by launching Pro Global transfers, a flexible and affordable service that was designed in response to the needs of the customers who wished to transfer monies abroad for business and personal reasons.

Table 4.2b shows that fess and commission from both the domestic and international money transfer has contributed significantly to revenue for ProCredit most especially with the introduction of the ProGlobal

A close study of the commission expenses revealed a large capital outlay of 13,228 Ghana cedis in 2007 when the ProCash and Pro global were introduced compared to a commission expense of 3,652Ghana cedis in 2006. A rise of more than 200% in cost. After the introduction of the ATM in 2008 the figure shot up by more than 400% to 67,093 Ghana cedis

The introduction of the ProCard was a huge technological revolution as far as ProCredit is concerned and the microfinance industry as a whole. During the year of introduction, the company issued over 1,600 debit cards and registered an average of 2,066 ATM transactions.

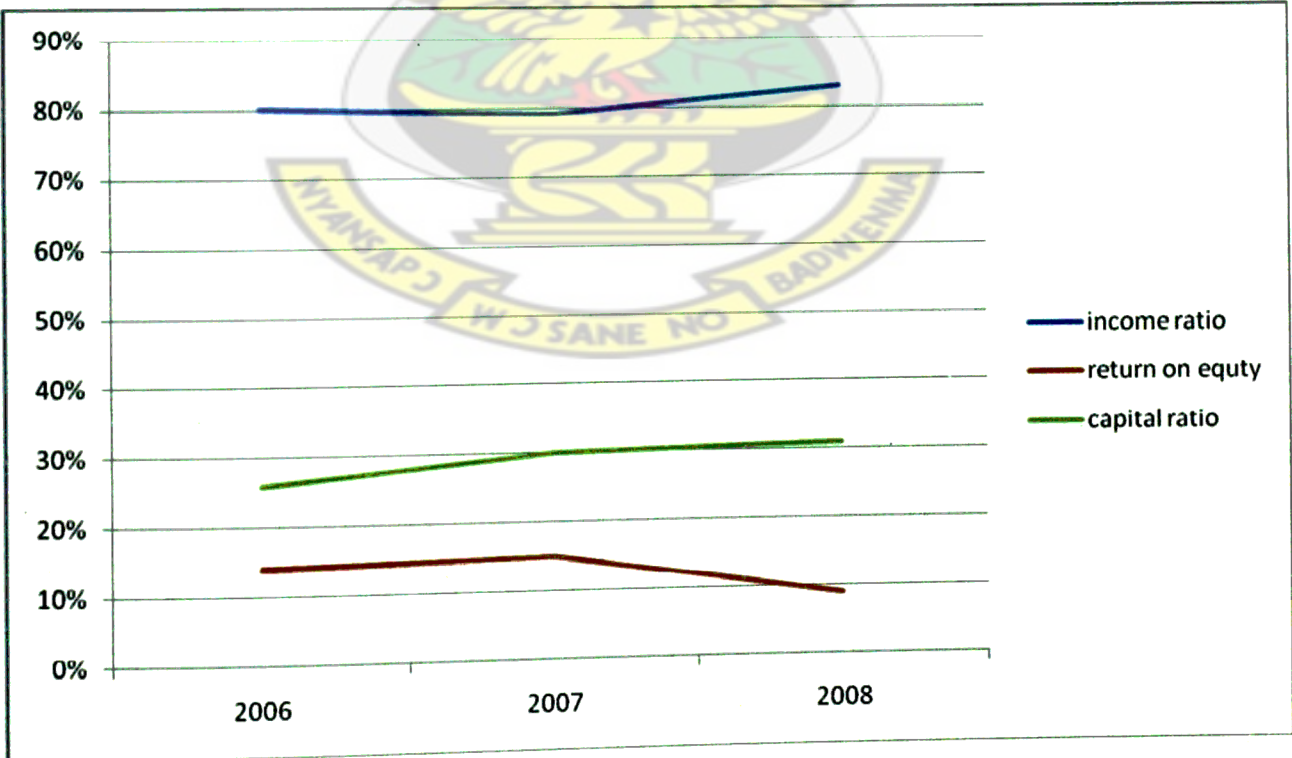
4.3 KEY RATIOS

Table 4.3: Financial Efficiency Ratios

Key Ratios	2008	2007	2006
Cost/Income ratio	83%	79%	80%
ROE	9%	15%	14%
Capital Ratio	31%	30%	26%

Source: Annual Reports for ProCredit

FIGURE 4.2 Trend analysis of key ratios for 2006-2008



Source: fieldwork

4.3.1 COST/INCOME RATIO

The cost/income ratio is an efficiency measure commonly used in the financial sector to observe how costs are changing compared to income. For example if a bank's interest income is rising but costs are also raising at a higher rate this ratio could highlight that fact.

The cost/income ratio gives an accurate picture of the short run effect of the introduction of these automated services by ProCredit. From tables 4.2 it could be observed that although income from fees and commissions were rising sharply with the introduction of these automated services the ratio clearly shows that costs were rising at a higher rate. A more careful examination reveals that the cost component that is on high is the sunk fixed costs. Normally after the products have been in system for sometime the ratio reduces because by which time a relatively larger proportion of the sunk cost would have been covered if management adopt very prudent practises and revenues and commissions are also on the rise.

From table 4.3, the cost /income ratio increased by just 1% from 2006 to 2007 but increased significantly by 3 percentage points in 2008. Since most of the new automated products were introduced in 2007, the cost of installations, product development and staff training contributed to the whooping increase in the ratio for the year end 2008. A look at the table below on staff training cost reveals this fact. Staff training costs were GH¢82006 in 2006. When the ProCash and ProGlobal were introduced in 2007 staff training cost increased substantially to GH¢19,7661 and in 2008 when the ATM was introduced the figure decreased only marginally to GH¢ 19,2314 which was even high above the annual commission of GH¢10,038 realized from the ATM.

Table 4.4 Staff Training Cost

2006	2007	2008
GH¢82006	GH¢197,661	GH¢192314

Source: ProCredit Annual reports 2006-2008

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4.3.2 RETURN ON EQUITY

Return on Equity measures the rate of return on the ownership interest (shareholders' equity) of the common stock owners. It measures a firm's efficiency at generating profits from every unit of shareholders' equity (also known as net assets or assets minus liabilities). It shows how well a company uses investment funds to generate earnings growth. ROE is equal to a fiscal year's net income divided by total equity (excluding preferred shares), expressed as a percentage. From the table, the return on equity increased by one percentage point from 14% in 2006 to 15% in 2007 showing that shareholders received an additional percentage as earnings.

However in 2008 the ratio fell sharply to 9% from 15% in 2007. This sharp rise is directly related to the huge decrease in profits from over 100% in 2007 to 3.33% in 2008 culminating in bringing the entire ratio down to 9%. Secondly the decrease in the ratio from 15% in 2007 to 9% in 2008 could also be attributed to the decrease in shareholders equity to 34.68% in 2008 compared to 142% over the same period in 2007.

4.3.3 CAPITAL RATIO

This is a key financial ratio measuring a company's Capital Adequacy or financial stability. As a general rule, the higher the ratio the more sound the bank. A bank with a high capital-to-asset ratio is protected against operating losses more than a bank with a lower ratio.

The capital ratio of Pro Credit savings and loans Ghana limited increased significantly from 26% in 2006 to 30% in 2007. In 2008 the ratio increased by only one percentage point from the previous year's 30%. The continued increase of this ratio is a good indicator of financial stability but in the case of ProCredit, the ratio increased though but at a very marginal rate especially within the period of the introduction of the ProCard, ProCash and the ProGlobal. During this period the rate of stability was not very potent. Judging by this ratio ProCredit was financially unstable compared to the period where these automated services were not in operation. The sharp and rather significant fall in net profit in 2008 also contributed significantly to the fall in the capital ratio.

4.4 AUTOMATED SERVICES OF PROCREDIT

4.4.1 PROCARD

ProCard is an electronic debit card that allows customers to use any of the ATM terminals to withdraw money, view account balance and print mini statements . The ProCredit ATM has made banking easier for customers and has strengthened the one branch philosophy in banking. ProCredit is the first savings and loans company in Ghana to offer ATMs.

4.4.2 PROCASH

The ProCash was launched in the early part of 2007. It is basically a money transfer medium which enables both customers and non customers to send and receive monies at any ProCredit branch. This facility has contributed significantly in terms of revenue and has won a lot of customers for ProCredit.

4.4.3 PROGLOBAL

ProGlobal International money transfer allows ProCredit clients to send money abroad for business and educational purposes. With ProGlobal there is no need to carry foreign currency abroad. This facility has helped a lot in easing problems with capital flight and exchange rates.

4.4.4 BRANH NETWORK

ProCredit SLC's branch network expansion strategy was geared towards establishing a presence in the main commercial districts in cities nationwide, whilst gradually extending outreach in the suburbs and beyond. The number of branches increased to 20 during the year by opening eight offices, making 2008 the most successful year in terms of network expansion.

This growth was possible primarily because ProCredit restructured its branch network expansion department to permit more effective co-ordination of the processes involved in establishing new branches, thus enabling helping to meet the targets defined in the company's business plan. During the year 2008, ProCredit SLC developed a new organizational structure for its network based on the main credit functions of each branch. Five centers specialize in agricultural lending, three in SME lending, and ten in the disbursement of loans to very small enterprises. ProCredit also operates two deposit outlets that provide retail services in Greater Accra. The first new branch in 2008 year was opened in February in Ashaiman, a town in Tema district which is about 45 kilometers from Accra. This community has many small businesses and lower-income households. The second new branch was developed on the ground floor of its head office building in Airport City. The company opened two branches in Accra during the month of June. The deposit outlet in Kantamanto, one of the main commercial districts in the capital, was converted into a fully fledged branch.

4.5 ANALYSIS OF QUESTIONNAIRES TO CUSTOMERS

Table 4.5: Number of Years with ProCredit

	0-1year	2years	3years	4years	5 or more	Total
Mark	68	59	55	34	24	240
%	28.7	24,58	22.56	14.16	10	100%

The researcher observed that 68 out of the 240 customers representing 28.7% have been transacting with ProCredit within one year. 59 customers of the sample 240 have been with ProCredit for two years, 55 out of the 240 customers representing 22.56% have been customers for three years. 34 have been customers for four years and 24 have been with ProCredit for more than five years. The table below on liability to customers' affirms these results. The figures for current, savings and term deposit accounts were all on the rise in 2008. This concludes the findings that the majority of customers from the survey have been ProCredit for a year.

Table 4.6: Liabilities to Customers(Amount in Ghana cedis)

	2008	2007	2006
CURRENT ACCOUNT	8,964,435	8,228,091	3,489,170
SAVINGS ACCOUNT	16,030,588	10,952,855	6,138,923
TERM DEPOSITS	4,133,051	4,107,750	2,242,404

Source: ProCredit Annual Report 2006-2008

ProCredit was able to achieve such strong expansion of the deposit portfolio because of enhanced customer service which focused more on face to face communication with clients. This helped to explain deposit products and services in more detail and to provide more personalized advice on specific options. Efforts were also geared towards building long-term customer relationships, not least through various neighborhood projects which underscore the commitment to improving local communities.

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Table 4.6: Impact of automated services on Competitiveness

	Very competitive	Competitive	Not competitive	Total
Mark	75	115	50	240
%	31.25	47.92	20.834	100%

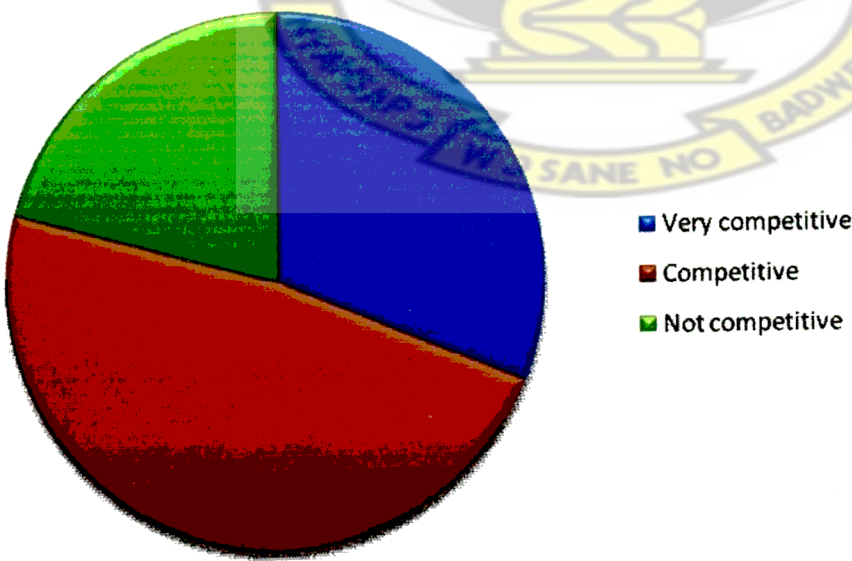


Figure 4.3: Impact on Competition

The researcher wanted to know the impact of the introduction of the automated services on how competitive ProCredit has become in the savings and loans industry in Ghana. 75 out of the 240 respondents, representing 31.25% from the eight branches in Accra thought the introduction of automated services has made ProCredit very competitive among other savings and loans company's especially with the introduction of the ATM.115 Customers representing 47.92% thought it made ProCredit competitive and 50 out of the 240 customers sampled representing 20.834% thought ProCredit was not still competitive despite the introduction of these automated services. One could therefore conclude that the introduction or adoption of automated services makes ProCredit competitive among the key players in the savings and loans industry in Ghana.

Table 4.8: What ProCredit Could Do Better

	A	B	C	D	Total
Mark	92	70	52	26	240
%	38.334	29.1667	21.667	10.834	100%

- A. Limit the requirements for loan application.
B. Reduced interest rates
- C. increased automated services
D. respect for the customer

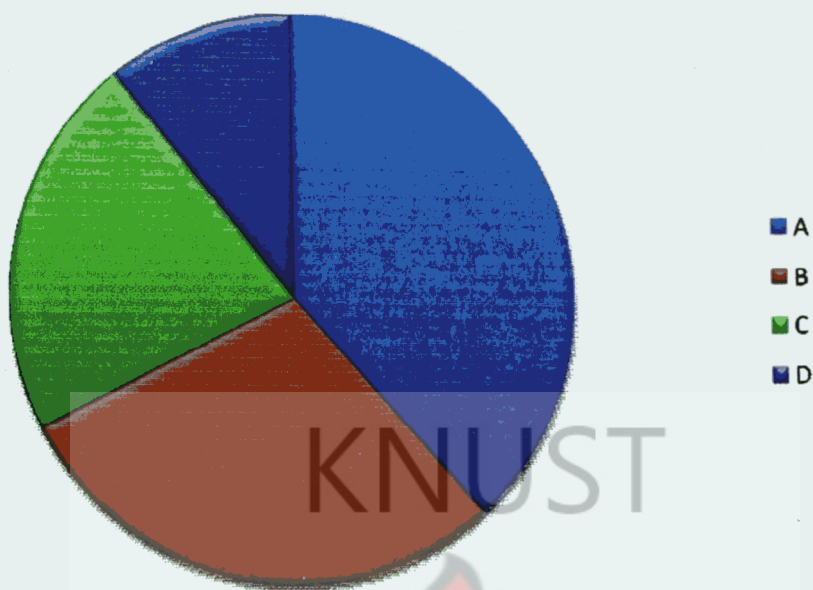


Figure 4.4 What ProCredit Could Do Better

On what customers thought ProCredit could do better, 92 out of the 240 customers representing 38.34% believe that ProCredit could limit the requirements for loan application. 70 customers representing 29.1667% advocate for the reduction of the interest rates charged on loans. 52 customers representing 21.66% wished for increased automated services and 26 customers representing 10.834% wanted customers to be more respected. The results reveal that the requirements for loan application are stringent and needed to be revised. Customers were also concerned with high interest rates charged on loans advanced to customers.

Table 4.9 NET WRITE OFFS OF LOANS IN US DOLLARS

YEAR	2006	2007	%CHANGE	2008	%CHANGE
NETLOAN	166,229	182,760	9.94%	559031	205.88%
WRITE OFFS					

A close look at the table on net loans write offs indicate that substantial amounts of monies that have been written off as bad debts. From the table, 2008 saw an increase in write offs of about 205% from the previous years 9.94%. It is evidenced from these developments that the loan monitoring, recovery and due diligence process in loan administration for ProCredit was not yielding the desired results.

Table 4.9: Responses to Yes/No Questions

			Total
	Yes	No	
Satisfaction with the use of automated services	162 67.5%	78 32.5%	240 100%
Impact of automated services on transactions cost	143 59.68%	97 40.42%	240 100%
Importance of human tellers	166 69.16%	74 30.84%	240 100%
Ease of use of automated services	152 63.33%	88 36.67	240 100%

Source: Field survey for customers

The cross tabulation above represents questions that simply demanded yes or no answers from respondents. When asked whether customers were satisfied with the automated services of ProCredit, 162 representing 67.5% answered yes and 78 out of the 240 representing 32.5% answered no. This shows that customers are very much satisfied with the automated products from ProCredit.

The researcher wanted to know from customers whether the introduction of automated services has increased transactions cost far to the detriment of customers. 143 representing 59.68% answered yes and the remaining 97 representing 40.42% answered no.

Some of the reasons given for choosing no include the cost of having to travel far and wide to give money to a relation out of town which could have been done using the Pro Cash facility.

Another reason cited was convenience and availability of the ATM especially on weekends when banking was in recess. Others thought the ATM saved a lot of time which would have been wasted in long queues especially at the end of the month when workers are receiving their salaries.

On the issue of the importance of human tellers despite the availability of automated services, 166 out of 240 respondents answered yes and 74 out of 240 respondents answered no. This shows that although automated services were available the human element was still important.

The researcher wanted to also know the ease with which customers' used ProCredit automated services. 152 of the 240 respondents representing 63.33% answered yes and 88

out of 240 customers sampled answered no. The response indicate that on the average customers were convenient with the use of the automated Products.

FINDINGS FROM FACE TO FACE INTERVIEW

4.6 PROBLEMS IDENTIFIED WITH THE ADOPTION OF AUTOMATED SERVICES

4.6.1 LACK OF KNOWLEDGE

Most customers have limited knowledge of what services exist, how they operate and what benefits to be derived. Due to high level of illiteracy, most of the people do not recognize the economic importance of these automated services. The low level of knowledge in automated devices and how each of them works has led to low patronage of Pro Credit automated systems.

4.6.2 ACCEPTANCE

For automated services to be a success there should be user acceptance. Any medium of exchange should be generally accepted. It is identified that, consumers seem to have strong preferences for paper payment vehicles, partly because of the high degree of familiarity. More restricted is the possibility of payment with modern payment means, such the international money transfers. This fact demonstrates the general mistrust and lack of faith that characterizes the Ghanaian consumer public with regard to electronic systems.

Customers are reluctant in replacing cash with electronic innovations like the ATM. Network externalities occur when the benefits a consumer expects to receive from a good or service depends on the number of consumers already using the commodity. Therefore if the number of people who are already using a facility is minimal there is no incentive to entice new entrants into the chain.

4.6.3 CHALLENGE OF THE UNBANKED

One of the greatest challenges to Savings and Loans institutions in Ghana is the ability to encourage the millions of currently unbanked persons to be part of the mainstream financial system. According to the Ghanaian Chronicle (2004), only 5% of Ghana's 20 million populations had bank accounts. More so, most of the unbanked in Ghana are not payment recipients like their counterparts in the developed countries, hence their marginal benefit for holding the account is lower than the marginal cost. All the above problems have led to the underdevelopment of the savings and loans industry in Ghana and the resulting low patronage of automated services.

4.6.4 ATTITUDE TO NEW PRODUCTS

The problem of reaching a critical mass is explained by the reluctance of people to use new schemes until a sufficient relative number of their associates use them. It is difficult to convince customers to switch providers especially if they are not particularly dissatisfied with the systems they have been using.

CHAPTER FIVE

CONCLUSION AND RECOMMENDATIONS

5.0 CONCLUSION

The following are the conclusions and recommendations for the research.

Results revealed that the introduction of automated services has a negative effect on financial efficiency in general and profitability in particular in the short run due to the capital investment on infrastructure and training.

Some microfinance practitioners have concerns that technology could hurt their relationships with customers by reducing human interaction and placing a greater distance between the institution and the customer. So far, however, ProCredit customers and staff have responded well to new technologies. Nonetheless, implementing new technologies can be costly and therefore requires careful research and analysis before full implementation. If properly managed, adoption of suitable technologies can be the next step to expanding microfinance services to a greater number of potential customers.

Revenue generated from the ATM was not encouraging because Ghanaians in general and those in the savings and loans industry in particular rarely used automated services. Most of the customers prefer walking to the bank to interact with employees. It is evidenced from the amount of revenue that came in from the ATM. It still showed that quite a greater chunk of customers were still comfortable with doing business directly with human bankers.

ProCredit will benefit greatly from providing electronic services in the long run because the technology is here to stay and is not a trend. It is matter of time. Customers of Pro Credit prefer their banks to expand their automated operations in servicing customers but not converting into a total automated bank.

Automated services expedite service delivery and offer customers more flexibility and convenience. Automations allow microfinance institutions to remain competitive in the industry if they are correctly implemented after extensive market research.

5.1 RECOMMENDATIONS

The researcher observed that most of the customers of ProCredit were semi literates. Some customers at the ATM were aided by friends or relatives and this raised a lot of concerns on security. As recommendation, there is the need for a separate banking hall attendant in each branch who is knowledgeable in the products so that he could act as a guide to the usage of the ATM and also act as a mouthpiece to offer explanations to customers to avoid overcrowding at the enquiry desk.

Secondly, it was observed that most customers were not fully aware of most of the automated products that was being offered by ProCredit. As a recommendation there is the need for massive education. Leaflets and brochures currently in use are not helping enough owing to the level of literacy of most of the customers.

Television advertisements may be expensive but the area of coverage could be very broad. Alternatively, floats could be organized through major principal streets. Direct sales or face to face interaction with potential customers could also be adopted.

When customers were asked what they wanted changed about ProCredit, most of them advocated for a reduction in interest rates and the limitations of the stringent procedure for accessing loans. With the passage of the credit reporting bill and the consequent establishment of a credit reference bureau in Ghana, it is strongly recommended that ProCredit adopts credit scoring as a criterion for accessing loans. This process will ease the problems of adverse selection and moral hazards. It will also help to charge competitive interest rates which would reduce the risk of default. A customer with a good credit score would certainly have a relatively lower rate of interest because of the low rate of default. Finally it will save ProCredit a lot of money, time and human effort employed in due diligence.

ProCredit needs to be more innovative and adopt more automated services. The research on customers revealed that the bulk of customers who were interviewed had been with the bank for only one to two years. This means that the introduction of these automated services have had very strong impact on endearing more customers to ProCredit. The customer base of ProCredit will increase the more if more automated services are invented.

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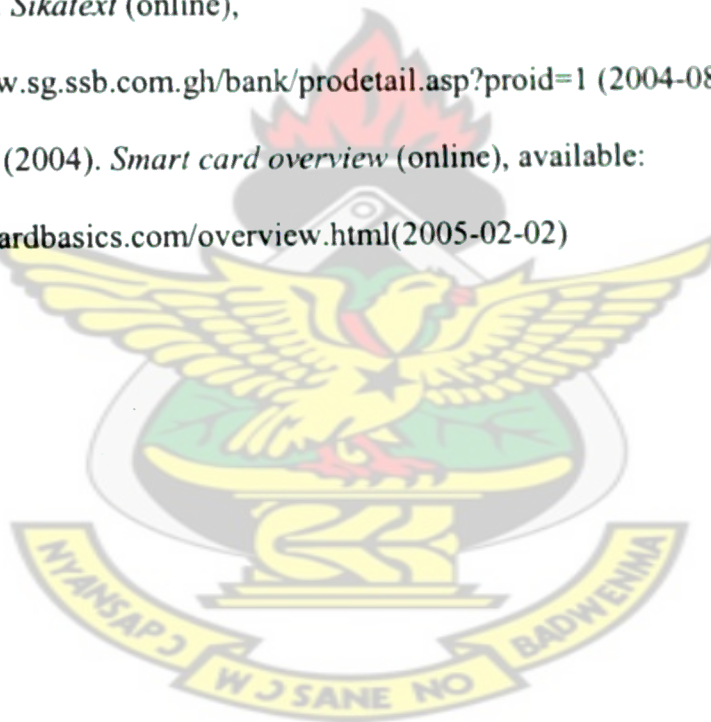
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Appendix

This questionnaire is purely for academic research. The researcher is an MBA student of KNUST Business School. Kindly answer all questions as objectively as possible.

How long have you been transacting with ProCredit.

() 1yr () 2yrs () 3yrs () 4yrs () 5yrs

2. Do you derive satisfaction from the use of Pro Credit's automated services? If no give reasons

.....

3 .Do you experience difficulty in the use of any of ProCredit automated services?

Yes () No ()

4. In your opinion how does the introduction of automated services impact on the competitiveness of ProCredit?

() very competitive () competitive () not competitive

5. What could ProCredit have done better? *Tick as appropriate*

() limit the requirement for account opening and loan application

() reduced interest rates

() increased automated services

() respect for the customer

6. Would you in your opinion agree that the use of automated services increased transactions costs to the detriment of the customer?

☐ yes ☐ no

7. Do you think human tellers are still important especially with the introduction of these automated systems like the ATM?

☐ Yes ☐ No,

Thank you

