

UNIVERSITY OF GHANA



University of Ghana Business School

**UNDERSTANDING THE SUSTAINABILITY OF CREDIT UNIONS USING THE
PEARLS MODEL: CREDIT UNIONS IN THE VOLTA REGION OF GHANA IN
PERSPECTIVE**

BY

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**A LONG ESSAY SUBMITTED TO THE UNIVERSITY OF GHANA BUSINESS
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DEDICATION

I dedicate this piece of work to the almighty God for the continuous inspiration from the decision to do this course, the admission and entire course work processes to a successful completion.

May His name be praised.

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God bless you all.

DECLARATION

I hereby declare that this submission is my own work 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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CERTIFICATION

This is to certify that my approval is given as a supervisor of the University of Ghana for the submission of this research study for examination

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(.....)

Table of Contents

DEDICATION	ii
ACKNOWLEDGEMENTS	iii
DECLARATION	iv
CERTIFICATION	v
LIST OF TABLES	ix
LIST OF FIGURES	x
ABSTRACT.....	xi
INTRODUCTION	1
1.0 Background to the Study	1
1.1 Statement of Problem	3
1.2 Research Objectives	5
1.3 Research Questions	5
1.4 Rationale of the Study	6
1.5 Significance of the Study	6
1.6 Organization of the Study	7
LITERATURE REVIEW	8
2.0 Introduction	8
2.1 Credit Union.....	8
2.2 History of Development of Credit Union in Ghana	11
2.3 Aims of the Credit Union.....	12
2.4 Features/Characteristics of Credit Unions.....	12
2.5 Credit Unions and Microfinance Institutions	13
2.6 Sustainability of Financial institutions and Credit Unions.....	16
2.7 Conceptual Framework - Tools in Monitoring Financial Institutions(CUs).....	18
2.7.1 The use of PEARLS Model in credit unions	19
2.7.2 Use of CAMEL Framework.....	25
2.7.3 Others -Multiple Discriminant Analysis and Altman Z Score.....	26
2.7.4 GIRAFE model (1999) from Planet Rating.....	26
2.8 Empirical literature review.....	27
2.8.1 Empirical literature on Characteristics of Credit Unions.....	27

2.8.2 Empirical literature on financial performance.....	28
2.8.3 Empirical literature on financial performance.....	30
RESEARCH METHODOLOGY.....	31
3.1 Research Design.....	31
3.2 Population.....	31
3.3 Data Collection.....	31
3.4 Data Analysis.....	32
DATA ANALYSIS, FINDINGS AND DISCUSSION.....	33
4.1 Overview.....	33
4.2 Analysis of Data.....	33
4.2.1 Life span of credit union in the Volta Region.....	33
4.2.2 Types of credit unions in the Volta Region.....	35
4.2.3 Credit Unions by classification.....	36
4.2.4 Products and Services of Credit Unions.....	38
4.2.5 Governance structure of Credit Unions.....	38
4.3 PEARLS Analysis in the Volta Region.....	38
4.3.1 Protection Analysis.....	38
4.3.2 Effective financial structure analysis.....	39
4.3.3 Asset quality analysis.....	44
4.3.4 Rate of return and cost analysis (R).....	45
4.3.5 Liquidity analysis (L).....	46
4.3.6 Signs of growth analysis.....	47
4.4 Discussion.....	50
SUMMARY, CONCLUSION AND RECOMMENDATION.....	52
5.1 Introduction.....	52
5.1. Summary of Findings.....	52
5.2.1 Institutional characteristics of credit unions in the Volta Region. (Q.1).....	52
5.2.2 Financial performance of credit unions in the Volta Region. (Q.2).....	52
5.2.3 PEARLS analysis of credit unions in the Volta Region. (Q.3).....	53
5.2. Conclusion.....	55
5.2 Recommendations.....	55

5.3	Limitation of the Study	56
5.4	Areas for Further Research	57
REFERENCES		58

LIST OF TABLES

Table 4.1	Ages of Credit Unions in the Volta Region	31
Table 4.2	Types of Credit Unions in the Volta Region	32
Table 4.3	Credit Unions by Classification	33
Table 4.4	Weaknesses Identified in Audit	35
Table 4.5	Net loans to Total Assets	36
Table 4.6	Liquid investments to the total assets	38
Table 4.7	Savings deposit to total assets	39
Table 4.8	Member share capital to total assets	40
Table 4.9	Net institutional capital to total assets	41
Table 4.10	Delinquency ratio	41
Table 4.11	Non-earning assets to total assets	42
Table 4.12	Liquidity Analysis of Credit Unions	44
Table 4.13	Calculated Ratios for Data Collected	45

LIST OF FIGURES

Figure 2.1	Statistics of Credit Unions in Ghana	17
Figure 2.2	The PEARLS Monitoring System	24
Figure 4.1	Ages of credit unions in the Volta Region	32
Figure 4.2	Type of credit unions in the Volta Region	34
Figure 4.3	Classification of credit unions in the Volta Region	35
Figure 4.4	Net loans to Total Assets	37
Figure 5.1	The Six Categories of PEARLS Ratio	51

ABSTRACT

The financial performance of financial institutions is crucial for the growth and sustainability of which credit unions are no exception. This study sought to examine the financial performance of credit unions in the Volta Region of Ghana using the PEARLS ratio analysis model. Twenty-three (23) credit unions were selected from the Volta Region and their financial records were analysed using the PEARL ratio analysis. The findings discovered that majority of the ratios used were met by credit unions in the Volta Region, They also have good credit ratings despite providing relatively lower interest rates on loans, greater accessibility to loans, as well as customised services to their members than their larger counterparts in the financial industry. It is recommended that there should be improved use of technology, improved supervision by the regulator and CUA in building better reputation and confidence of credit unions. Ultimately, it will lead to the social and financial sustainability of credit unions in Ghana.

CHAPTER ONE

INTRODUCTION

1.0 Background to the Study

The players that operate in the financial market are known as financial institutions. The regulation of financial institutions is done through licensing and supervision of these institutions. The Bank of Ghana (BoG)—the central bank in Ghana, is the regulator of both banks and non-bank financial institutions. The Banking Law and the non-bank Financial Institutions Law are the two legal concepts that are employed in operating financial institutions.

The non-bank industry in Ghana is characterized by various institutions that vary in both size and core mandates—banking and non-banking, for-profit and non-profit, and the informal and formal. Providers of microfinance products and services in Ghana include commercial banks, credit unions (CUs), savings and loans companies, rural and community banks, financial non-governmental organizations (FNGOs), microfinance companies as well as Susu enterprises and individual collectors.

Microfinance institutions are encouraged by the BoG to affiliate themselves with at least, one of the following associations namely; Ghana Cooperative Credit Unions Association (CUA), Association of Rural Banks (ARB), Ghana Cooperative Susu Collectors Association (GCSCA), Association of Financial NGOs (ASSFIN), Ghana Association of Microfinance Companies (GAMC), Ghana Association of Savings and Loans Companies (GHASALC), and Money Lenders Association of Ghana (MLAG), now Micro Credit.. An eighth microfinance association, Ghana Microfinance Institutions Network (GHAMFIN), acts as the umbrella union for the seven aforementioned groups in the microfinance industry as a whole.

As a customer-/member-owned financial cooperative, credit unions are institutions that are democratically controlled by their members and shareholders and are operated to maximize the

economic benefits of its members. Credit unions maximise members' benefits through the provision of financial services at fair and competitive rates (WOCCU, 2019). In the year 1955, Ghana's maiden credit union was established by Father John McNulty in Jirapa, in the Upper West region (Darko, 2014). By June 2017, 529 credit unions have been operating in Ghana under the recognition of the national association (CUA)—with 847,293 active members. Total deposits stood at GHS 1,056,311,792 whilst a total of GHS 578,506,493 loans had been given to members; bringing the total assets to GHS 1,337,760,342. Credit unions also employ 3,142 people in the country (20th Educational & Biennial Conference Report, 2017).

To represent the interest of credit unions at the national and international levels, an apex body of Ghanaian credit unions was founded in 1968 and named the Co-operative Credit Unions Association (CUA). CUA was established to develop itself into a sustainable financial institution and to create an enabling environment for credit union operations. As a supervisory body for Credit Unions, CUA is tasked with the responsibility of promoting and developing credit unions in Ghana. The association does this through education and training, monitoring and supervision, audit, risk management program, and the Central Finance Facility(CFF) services which serve as a liquidity control measure. At both the international and national platforms, CUA also represents member societies. Hitherto, credit unions were established under the Cooperative Law NLC Decree 252, until December 2015 when the legislative instrument 2225 was passed. Credit unions have been the most sustainable microfinance institutions in Ghana (Darko, 2014).

The capability of a microfinance institution (MFI) to afford and cover all its costs via interests and revenue received from clients is referred to as sustainability. Sustainable MFIs are susceptible to be a permanent element of the financial system. This results from the continued operation even in situations of unavailability of soft loans and grants (Mensah&Peprah, 2018). Citing Filene

(2011), Marwa and Aziakpono (2015) defined sustainability as the capacity of a firm to proceed with a specific activity indeterminately. To support their definition, sustainability can be defined as the tendency for a corporation to achieve its goals in the long term. Notwithstanding the benefits accrued from microfinance businesses in other parts of the world, most MFIs in Ghana have failed in delivering their promises (Mensah&Peprah, 2018).

1.1 Statement of Problem

As far as obtaining funds for development is concerned, Microfinance Institutions (MFI's) play a critical role in achieving this. However, sustaining microfinance institutions has become a challenge and a subject of concern among academia and civil institutions (Aveh, Krah,&Dadzie, 2013). Since 2013, challenges with sustainability among microfinance institutions in Ghana have resulted in the increasing cases of the collapse of some of these institutions. Consequently, Domfeh (2013) reported the loss of customer's savings to collapsed financial institutions over the previous years (Mensah&Peprah, 2018).

In a bid to withstand structural and economic changes whilst at the same time competitive, firms are expected to place a priority on being sustainable. To achieve the much needed sustainability, most microfinance institutions (MFIs), in recent years, have focused their resources on their being financially sustainable (Duguma& Han, 2018). The entire financial sector in Ghana has been plagued with significant difficulties and reforms—major one being the Bank of Ghana-imposed sanctions placed on defaulting banks and microfinance facilities. The BoG also indicated its interest in the savings and loans institutions as the next industry in line to be purged. It is, therefore, imperative that the situation for credit unions be investigated and viable sustainable techniques and policies be put in place.

Significant focus has been placed on cooperatives since the 2008 financial crisis, typically owing to their robustness and ability to prevail in the face of harsh economic conditions (Ngatha, 2017). The International Monetary Fund (IMF), through its missions to Bank of Ghana in 2004 and 2007, recommended the expansion of the scope of the monetary survey to include other deposit-taking institutions and financial service providers. Subsequently, the monetary analysis directorate of the research department of the Bank of Ghana presented a proposal to expand the coverage of the monetary survey to include cooperatives and credit unions in Ghana. Consequently, the board directed the directorate to organize training programmes for cooperatives and credit union nationwide. This was to educate them on the purpose of the monetary survey and their expected role in the expanded version of the monetary survey, which was to be known as the Financial Corporations Survey (FCS). Finally, they were also trained on how to fill the financial reporting format in line with System of National Accounts (SNA – 1993), as well as the Monetary and Financial Statistics Manual (2000) of the IMF which provides supervision on the compilation, guidance, reporting and other aspects of distribution of monetary and globally-consistent financial statistics.

As a prelude to the training program, the monetary analysis office conducted a survey in December 2013, on the operations of cooperatives and credit unions in the country in order to access in-depth knowledge of their operations. This was followed by a nationwide training undertaken for accountants, managers, auditors and regional managers of the cooperatives and credit unions from 14th July to 5th September 2014. The survey observed that total assets, the significant level of outstanding credit on the books of the cooperatives and the credit unions, coupled with their vital role in the credit delivery system made it imperative for their financial statistics to be included in the national monetary and financial statistics. This inclusion sought to

narrow the large information gap in the informal sector. This study seeks to contrast the events within credit unions in the Volta Region of Ghana to events happening in the other micro financial institutions both in Ghana and outside Ghana in a bid to regulate the sustainability of Ghanaian credit unions.

1.2 Research Objectives

The general objective of this study is to investigate the performance of the finances of credit corporations using the PEARLS performance monitoring system. The focus of this research is on Ghana's credit union industry in the Volta Region by analyzing financial statements, and employing the PEARLS model to evaluate the financial performance of Ghana's credit union sector. The specific aims of the study include:

- a) To find out the institutional characteristics of Credit Unions in the Volta region
- b) To assess the financial performance of Credit Unions in the Volta Region.
- c) Evaluate the performance of the Credit Unions in the Volta region with the PEARLS standards

1.3 Research Questions

To achieve the above objectives, the study aims to answer the following questions about credit union sustainability in the Volta Region of Ghana.

- a) What are the institutional characteristics of the Credit Unions in the Volta region of Ghana?
- b) How are Credit Unions performing in the Volta Region of Ghana?
- c) What are the performance levels compared to international standards?

1.4 Rationale of the Study

The Ghanaian financial sector has been faced with various industry-related issues. Whilst interest rates are on the increase, businesses are finding it difficult to access credit, turn it around and repay. Financial institutions are facing high loan default rates and investment/financial houses where funds have been deposited are unable to pay their depositors the promised interest, as well as the funds invested with them. Certain banks, microfinance companies, and investment houses are in distress and there is the temptation to generalize it for the rest of the other members of the financial sector including credit unions. A glance at the role credit unions play in the financial sector and their presence in the society places the onus on stakeholders to examine their sustainability in the wake of the ongoing financial sector turmoil whilst emphasizing on the importance of financial inclusion. The purpose of the paper is to understand and record the performances of credit unions in the Volta region to determine how sustainable they will continue to be in Ghana. This will be assessed with the use of the PEARLS model—a research tool by the World Council of Credit Unions (WOCCU). PEARLS is “a set of financial ratios used to evaluate and monitor the financial stability of credit unions within the World Council of Credit Unions” (WOCCU, 2019:p3).

1.5 Significance of the Study

The PEARLS model is used to quantitatively measure the health of a credit union’s finances. One advantage of this model is that it aids with the quick and accurate identification of inconsistencies within the finances of the credit union and to implement crucial adjustments to curb bigger problems in the future. The findings of this research are pivotal to the central bank for the design and application of crucial policies that are aimed to boost sector confidence. With all

the anxiety surrounding credit union investments (Statman, 2005), it is important that members of credit unions are aware of their investments in the credit unions while appreciating developments in the financial evaluations. Rational investors would rather have more money than less, whereas normal investors would block out their losses because it brings them pain of regret. Additionally, this research will be a useful addition to the already existing literature, as well as be useful to academic scholars where further studies may be carried.

1.6 Organization of the Study

The study comprises five sections of which the first Section introduces the research by presenting foreknowledge to the subject matter, the research problem, research questions, purpose of the study, study objectives, importance of the research and the presentation of the study. The second section examines current relevant literature of the subject—forming the foundation and framework for which this study is built. The third section highlights the methods adopted to collect and analyse data collected in this study. It highlights the data description, sampling technique and procedure, model specification, and research method. Section four presents the data collection and analyses of findings. Ultimately, section five comprises the summation of findings, conclusions, as well as recommendations for future research.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This section covers a conceptual framework in understanding credit union sustainability in Ghana, as well as an insight into the PEARLS Model. To provide a background to the topic under examination, there is a review of existing literature explaining key terms and concepts, which are significant to this research.

2.1 Credit Union

In Turner's (2000) words, a credit union is, "a financial self-help co-operative which encourages members to save money together and pooled resources are then used to provide low-cost loans to members" (p375). Credit unions are operated in structured societies with a mutual relationship existing among all stakeholders and members of the union. This relationship is referred to as the common bond of credit unions and it is founded on the basis of its members resident in and around the same community or employed by the same employer.

Globally, the first ever credit union was started in the nineteenth (1850) century in now Germany (Turner, 2000). An estimate of 425 credit unions were in operation in Germany by 1988, with Italy recording 735 as at 1909. Credit unions can be found on all the continents with over 60,000 credit unions in existence in 89 countries. There are about 71 million people who are members of credit unions with a total savings of £115 billion. For instance, the US records that 20 percent of its population are members of credit unions. A significant number of credit unions have bigger revenues than state banks.

Credit unions have also been described as co-operative societies that lend out money from their pool of savings to their members (Berthoud & Hinton, 1989). Though this definition makes no reference to the importance of credit unions, it refers to them as co-operatives; hence, inference can be made to co-operative principles as the purpose of credit unions. Croteau (1963) suggested that credit unions are the most unadulterated forms of co-operatives due to the ownership status being implicit. In credit unions, participation in trading practices are limited to members only and also limitations are set such that all members are required to be a part of a common bond. Belonging to a common bond is critical to the accomplishment of the commonly high-risk credit co-operatives. The familiarity between members reduces the risk of default. The common bond or interest can be categorized into associational, residential, multiple, or residential common bonds.

The WOCCU also referred to credit unions as democratic, financial co-operatives that are owned by the members. With no recourse to a member's account size, a member may cast a vote in elections, as well as contest for a position on the board. Mobilized member savings and shares are used to finance the loan portfolios of credit unions in place of using outside capital. This provides future opportunities for subsequent generations of its members. In line with their main purpose of serving their members and societies, credit unions, as non-profit seeking co-operative entities, mobilise their surplus revenue as a means of getting higher returns on savings, giving loans to members at affordable rates, offering new products and services at lower prices. Beneficiaries of credit unions may include individuals from all social classes, particularly the lower class and the disenfranchised (<http://www.woccu.org>).

Members of credit unions are presented with the prospect of being owners of financial institutions. Moreover, credit unions provide leverage for members to open small business, give

their children education, as well as build infrastructure. It may also act as the first democratic decision-making experience for some members in certain countries.

In Ghana, over 529 credit unions can be found in all the regions as at June 2017. Credit unions offer members a greater opportunity to meet their individual needs as credit unions offer a bouquet of financial services. They are the most convenient sources of financial services. In other parts of the world, in a bid to better express the services of credit unions, they are given different names. For instance, credit unions, such as the Islamic Investment and Finance Cooperatives (IIFCs) in Afghanistan in compliance with the Islamic lending practices. In several countries within Africa, credit unions are known as Savings and Credit Co-operative Societies (SACCOs) to put emphasis on savings, rather than credit or loans. Members of credit unions are expected to be able to acquire lands, cars, houses, afford medical bills, funeral expenses and rent advances as they grow in the credit unions.

A credit union is also described as “a member-owned financial cooperative, which is democratically controlled by its members, and operates for the main purpose of promoting thrift, advancing credit at highly competitive rates and also provides other related financial services to its members” (Sullivan, 2003, p.12). Sullivan, however, notes that “many credit unions also provide certain services which are intended to champion community development and sustainability”.

Credit Unions (CUs) are also not-for-profit institutions made up of members that share a common interest, such as church affiliation, university affiliation, workplace or residential area affiliation (Madura, 2010). This definition highlights the types of Credit unions in Ghana.

2.2 History of Development of Credit Union in Ghana

Cognisant of the requisite for credit and savings facilities in Ghana in the 1920s, the Department of Co-operatives introduced the Thrift and Loan Societies to serve this need. However, due to mismanagement, just a few of these societies survived. As a ripple effect, the government of Ghana dissolved the Department of Co-operatives as well as the Co-operative bank in 1961. At the time the Department of Co-operatives was re-organised in 1966, there were less than five thrift and loan societies operating in the country.

Credit union (CU) operations started in Ghana in the early 1950s with the first CU institution formed in 1955 at Jirapa in the Upper West Region. A missionary of Irish-Canadian ancestry, Rev. Father John McNulty, started the first CU. This was followed by the encouragement of all parishes in Wa by Bishop Dery in 1961, to incorporate the formation of CUs. This gave rise to the formation of CUs in locations such as Kaleo, Daffiama, Wa, Lawra, Nandom, Tumu and Ko. It was a privilege, as well as an honour to belong to the Jirapa Credit union; thus, encouraging more people to join. The early CUs were predominantly parish- or community-based that were established predominantly in the three Northern Regions of Ghana. The trend changed with the introduction of the CU in the southern part of Ghana. Since then, it has been dominated by work-based CUs until now. This pushed the advancement of credit unions in the whole country.

CUs in Ghana used to be regulated under the NBFIA Act, 2008 (Act 774) as well as the NLC 252 (Co-operative Societies Decree 1968). CUs are classified under the semi-formal system; this means although they are formally registered, they are unlicensed by the BoG until recently in 2017 when the process began. The Ghana Co-operative Credit Union Association (CUA), currently the joint supervising body, is a voluntary body of members. Their supervising

institution is the Department of Co-operatives which is headed by the Registrar of Co-operatives. In addition to the operations of CUs, the BoG, in accordance with the NBFIs Act, 2008 (Act 774) and Co-operative Credit Union Regulations, 2015 (L.I. 2225) issued the operating rules and guidelines in March 2017 for entities operating co-operative credit unions (Credit Union/Co-operative Financial Institutions (CFI)), as well as the requirements for license to operate co-operative credit unions/Co-operative Financial Institutions (CFI). The passing of the LI 2225 to regulate financial co-operatives was to bring sanity into the CU industry through: CU licensing to ensure only credible CUs operate, provision of guidelines for CU operations to eliminate mushroom CUs, and regular prudential reporting to ensure that CUs are properly managed.

As at June 2017, there were 529 CUs in Ghana with a total of 847,293 members and with total deposits (shares and savings) amounting to GHS 1,056,311,792. Loans granted amounted to GHS 578,506,495 whilst total assets grew to GHS 1,337,760,342 (CUA 20th Educational and Biennial conference report (2018)).

2.3 Aims of the Credit Union

The aims of the credit union are multiple and complex and can be categorized under social and financial aims (Turner, 2000). Summary of the financial aims include:

- i. Developing thrift by encouraging the savings culture among members.
- ii. Providing members reasonable rates of interest on loans.
- iii. Encouraging the prudent use of members' financial resources.

2.4 Features/Characteristics of Credit Unions

Credit unions are characterized by certain unique features (Turner, 2000) and these include:

- i. The credit cooperative does not operate with the aim of seeking profit.
- ii. It is not a charity organization as members are required to present proof of strong savings culture before being eligible for a loan.
- iii. Importantly, the major objective of credit unions is to provide service to stakeholders.
- iv. Credit unions are characterized by low interest rates with flexible repayment plan tailored to fit each member's ability to repay.
- v. Credit unions are avenues for establishing and cultivating regular savings culture and pattern.
- vi. The locations and working procedures of credit unions centre around the convenience for its members.
- vii. There is no social stratification among credit union members as every member is accorded equal respect and consideration.
- viii. Despite the fact that credit unions differ from banks, the two institutions are in competition with regards to the savings and loans industry.

2.5 Credit Unions and Microfinance Institutions

A microfinance institution is a financial intermediary. As such, it is expected to possess financial viability in the course of achieving self-sustenance. The MFIs do this by offering easier and more flexible option of credit access to low income earners (Arsyad, 2005). Microfinance, as defined by the NBFIA Act, 2008 (Act 774), refers to the financial services offered by various institutions such as limited or unlimited liability institutions, guarantee limited companies, cooperative, NGOs, rotating credit and savings groups, credit associations, and rotating savings.

The amount typically provided does not exceed the amount determined by the bank to an individual borrower.

Otero (1999) describes microfinance as “the provision of financial services to low-income poor and very poor self-employed people” (p.8). Ledgerwood (1999) categorized the financial services to not only encompass credit and savings, but also to include other financial products such as payment of services and insurance services. In Schreiner and Colombet’s (2001) words, microfinance is “the attempt to improve access to small deposits and small loans for poor households neglected by banks” (p.339). In summary, microfinance provides savings, loans, and insurance to people from all social class, especially the economically marginalized, who hitherto may not have been able to benefit from such services in the formal financial sector.

There are three categories of microfinance operations in Ghana (Asiamah, 2007:3). These include:

- Formal microfinance supplying institutions (i.e. savings and loans companies, rural and community banks, commercial banks)
- Semi-formal microfinance supplying entities (i.e. cooperatives, credit unions, and financial non-governmental organizations (FNGOs))
- Informal microfinance supplying institutions (e.g. traders, susu collectors and clubs, moneylenders, rotating and accumulating savings and credit associations, and other individuals).

Asiamah’s (2001) classification of microfinance providing institutions establishes the point that credit unions belong to the larger umbrella body of microfinance. As in existing literature and

to successfully conduct this research study, the terms *microfinance* and *credit unions* are often used interchangeably.

Interestingly, knowledge of the distinction between giving individual money and teaching the person how to make it themselves does not make the concept of microfinance a novelty. As a poverty alleviating tool, microfinance is the most cost-effective, scaleable and sustainable.

It is a simple idea where individuals are provided with credit for the start or growth of a small business. This affords such individuals the opportunity to become economically self-sufficient and to have the financial prowess to provide for the long-term needs of their families, rather than being dependent on limited donor funds (<http://www.lingeriemiami.org>). Delivery of financial services to the poor is done by credit unions employing unique strategies. The approaches used by credit unions integrate financial and educational services which target the entrepreneurial poor capable of undertaking micro enterprises without fail. There is emphasis on the development of savings and group network formation using this approach(<http://www.adbi.org>).

Effective January 2012, the Central Bank, which is also the regulator of the banking and non-banking financial institutions, introduced a four-tier approach that provided a framework for categorizing, regulating and supervising microfinance providers through the Operating Rules and Guidelines for MFIs issued in July 2011. Licensed deposit-taking institutions like Rural and Community Banks and Savings & Loans fall under Tier1. Well established deposit-taking institutions like CUs and newly forming institutions in the microfinance business are regulated under Tier 2. Financial Non-Governmental Organizations and money lending companies as non-deposit taking institutions fall under Tier 3. Individuals and enterprises offering only savings (Susu) or lending services (money lenders, now Micro Creditors) are captured in Tier 4.

According to Quayes, (2012), although MFIs are distinct from development banks as a result of their operation on the foundation of self-sustainability and their practice of the market approach to credit, there is a recent attempt of MFIs to restructure themselves as commercial enterprises. This is in a bid to turn their deposits into a source of funds.

2.6 Sustainability of Financial institutions and Credit Unions

The capability of a microfinance institution to cover its costs through interests accrued on loans and other revenues paid by its clients is known as *sustainability*. Sustainable MFIs have the right to become permanent sections of the financial system—their operations will continue even during situations of unavailability of grants and soft loans (Mensah& Peprah,2018). Citing Filene (2011), Marwa and Aziakpono (2015) defined sustainability as the tendency of a firm to continue its defined operations indefinitely. In simpler terms, it is the capability of an organisation to achieve its objectives and set targets in the long term.

The ability to achieve results is a critical determinant of the continuity of an institution as well as the financial system in the environment of capitalism. Moreover, liquidity exposes the issues caused by a credit's poor accounting principles and lack of receipts (Silva et al., 2017).

Figure 2.1 Statistics of Credit Unions in Ghana

Year	No, of CUs	Membership	Shares	Savings	Loans	Total Assets
2006	275	202,390	4,424,221	53,289,911	39,635,524	70,209,881
2007	318	229,952	5,472,184	80,218,430	56,050,466	92,386,938
2008	327	254,193	7,932,494	99,275,975	75,596,776	128,685,127
2009	409	292,622	10,432,544	125,070,794	97,478,764	164,521,004
2010	433	336,137	13,210,782	162,788,509	114,765,730	211,655,810
2011	435	376,589	18,395,377	234,133,809	244,018,685	288,440,309
2012	438	438,342	25,815,103	328,139,699	230,208,668	419,644,458
2013	455	490,531	35,241,529	440,757,370	287,241,907	577,032,937
2014	476	708,416	46,876,822	543,216,019	339,356,359	710,769,455
2015	504	680,425	63,533,353	630,378,269	440,805,019	902,206,401
2016	519	826,594	73,817,694	713,974,979	457,959,126	997,440,411

Source: 20th Educational and Biennial Conference Report (2018)

More than 100 CUs out of the 529 CUs present in Ghana have been in operations for over 20 years and are showing signs of growth as the cumulative data indicate. Also in the Volta Region, 9 out of the 23 CUs have also existed for over 20 years. Ryder & Chambers (2009) observed from recent statistical evidence that credit union membership continued to grow even during the credit crunch. Their article also illustrated that in the event of a credit union becoming insolvent; its members are protected by a credit union deposit protection scheme This is a further evidence of the uniqueness of the operations of the credit union model in comparison to other financial institutions.

The World Council of Credit Unions (WOCCU) has its core mandate in championing, building, defending and growing of a global community that improves lives. The responsibilities of the WOCCU performed on behalf of its members include:

- i. Internationally advocating for better legislative and regulatory outcomes for the benefit of credit unions and other cooperative financial institutions.

- ii. Providing relevant education and global networking in exchange for industry-relevant information and ideas
- iii. Championing the model of credit unions as well as other cooperative financial institutions models globally.
- iv. Developing and strengthening the global financial system through the application of technical assistance, training, and tools for management, outreach and networking

WOCCU is made up of 89,026 credit unions from 117 countries on 6 continents; serving 260,164,742 members with a penetration of 9.09%.

2.7 Conceptual Framework - Tools in Monitoring Financial Institutions(CUs)

Microfinance institutions employ the use of various key performance indicators to analyse their financial performances. For the purposes of this study, we present the performance indicators drawn from institutions in both the formal and semi-formal sector. Currently, there is no set standard of ratios nor are there standard performance ranges for the microfinance sector. Nonetheless, there have been efforts made to establish a set of global microfinance performance standards (Saltzman, Rock,& Salinger, 1998):

- i. The CAMEL model recently developed and made public by ACCION.
- ii. A rating agency is being developed by the Private Sector Initiatives Corporation.
- iii. The Micro-banking Financial Review is being funded by the CGAP and the World Bank.
- iv. Sponsorship of the development of the BASE Kenya “Micro Finance Institution Monitoring and Analysis System” is by the DFID–Department for International Development (UK).

- v. The PEARLS rating systems used by the World Council of Credit Unions (WOCCU) is funded by the USAID.

In addition, various guides have been developed, including the CGAP's Management Information Systems for Microfinance Institutions, the Small Enterprise Education and Promotion Network's Financial Ratio Analysis of Micro-Finance Institutions, and the Inter-American Development Bank's Technical Guide for the Analysis of Microenterprise Finance Institutions (Ledgerwood, 1999: p.231)

According to Kivuvu and Olweny (2014), despite that ratios have no financial theory as their foundation and hence incapable of identifying a best value in theory for any of the ratios, the financial ratio analysis has been critical to gaining insight into SACCOs. An example of such ratios is SASRA's web-based electronic submission of returns (CAMELS); the CAMEL is used objectively analyse financial returns submitted by licensed SACCOs. Focusing on asset quality, liquidity, operational sustainability, capital adequacy and sound management practices ensuring the safety of member deposits, the CAMEL's performance rating model is used to evaluate the a SACCOs financial prudence. In 2011, compliance to the model of the CAMEL, with respect to submitting accurate returns on time averaged 80%. However, there still exist challenges hindering the accuracy of returns and these are caused by inadequate technical skills and accounting controls among SACCO societies SACCO Societies Regulatory Authority (SASRA).

2.7.1 The use of PEARLS Model in credit unions

The PEARLS is a global system of 39-45 financial ratios employed by the World Council of Credit Unions (WOCCU) as a monitoring tool for the performance of credit unions. Originally,

the PEARLS was developed and implemented by credit unions in Guatemala in the latter part of the 1980s. At present, the WOCCU, in order to provide a framework for a supervisory unit at the Tier two level and to generate comparative credit union rankings, uses the PEARLS model to develop a global financial language known by every credit union. Each ratio represents a set goal that every credit union must attain. The PEARLS system evaluates the adequacy of protection afforded to the credit union by comparing the allowance for loan losses to loan delinquency. The PEARLS model, as well as its key ratios are elaborated by this study in accordance with Richardson's (2009) detailed explanation of calculating the PEARLS ratios.

P = Protection (5 ratios)

Adequate protection of assets is a basic tenet of the new credit union model. This suggests the importance of the protection of assets. Protection is measured through the comparison of the provisions made for loan losses and the sum of delinquent loans. The ability of a credit union to cover 100% of all delinquent loans for more than one calendar year and 35% of all delinquent loans for 1-12 months shows that the credit union is adequately protected (Ledgerwood, 1999).

Protection is measured by

- comparing the adequacy of the allowances for loan losses against the amount of delinquent loans.
- comparing the allowances for investment losses with the total amount of non-regulated investments.

The inadequate of loan loss protection gives rise to two significant negative results: fictitious revenue and inflated asset values.

E = Effective Financial Structure (8 ratios).

This set of ratios evaluates and determine earnings capacity, growth potential, and the entire financial capability. The liabilities, assets, capital and associated targets comprise an ideal credit union structure (Ledgerwood,1999). Notwithstanding other determinants of the growth of a credit union, the financial structure is the most crucial determinant of a credit union's earnings capacity, growth potential, as well as the overall financial strength.

A = Assets Quality

A credit union's non-earning assets, also known as non-productive assets are assets that do not generate income. Excessive non-earning assets impact negatively on the earnings of credit unions. To identify and evaluate the impact of non-earning assets, the PEARLS indicators such as the percentage of non-productive assets and the delinquency ratio are used.

R = Rates of Return and Costs

In order to make calculation of investment yields and the evaluation of operating expenses easy, the PEARLS system differentiates the essential components of a credit union's net earnings individually. The PEARLS model proves its value as a management tool in this manner. Other models calculate yields on the basis of average assets; however, PEARLS calculates the yields on the basis of actual outstanding investments. Through this methodology, management is able to determine the most profitable investments and the least profitable investments. It also allows for

the ranking of credit unions from the best yields to the worst yields. This keeps management up to date with the financial performance of the entity, thereby producing adequate net income.

L = Liquidity

As the credit union moves its financial structure from member shares to a more volatile deposit savings, prudent management of liquidity becomes a crucial skill requisite for the credit union. The shift is due to the lack of incentive to maintain liquidity reserves as a result of the illiquidity of member shares and the long payback period of most external loans. Traditionally, liquidity is perceived as cash available for lending—exclusively controlled by the credit union. However, the concept of liquidity has changed with the advent of withdrawal savings deposits in our financial institutions. Currently, liquidity refers to the cash amount required for the purpose of withdrawals. This variable is not under the control of the credit union. In the WOCCU credit union model, retaining sufficient liquidity reserves is crucial to sound financial management. There are two perspectives from which the PEARLS model evaluates liquidity—Idle liquid funds and the total liquidity reserves.

S = Signs of Growth

On its own, growth is inadequate. In a bid to maintain asset values, it is imperative for credit unions to accelerate growth of assets and to achieve sustained profitability. The PEARLS system connects the growth of the union to its profitability and other key areas through the

evaluation of the strength of the whole system. The PEARLS model measures growth in five prominent areas—loans, total assets, shares and institutional capital, as well as savings deposits.

According to Betru (2010), the financial performance of sample SACCOs as compared to the international PEARLS standards indicates varied results. The variation was not only evident with the standard but also within them. It indicated that the fate of each SACCO's success mainly depends on the effort and commitment of some elected executives (individuals) rather than using a prescribed regulatory system or standard. Thus, to sustain successful development of SACCOs, in addition to placing efficient human element, it is better to have a standard financial regulatory system which gives a responsibility for each SACCO to attain the standard target and also used as a tool to detect SACCOs performance with a uniform measurement scale.

Figure 2.2 The "PEARLS" Monitoring System

NO.	AREA	PEARL	DESCRIPTION	GOALS (EXCELLENCE)
1	POTECTIO N	P1	Allowance for Loan Losses / Delinquency >12 months	100%
2		P2	Net Allowance for Loan Losses / Delinquency 1-12 months (WOCCU Standard)	35%
3		P2X	Net Allowance for Loan Losses / Delinquency 1-12 months (WOCCU Standard) months (user defined)	100%
4		P3	Complete Charge-Off of Delinquent Loans >12 months	Yes
5		P4	Annual Loan Charge-offs / Average Loan Portfolio	Minimized
6		P5	Accumulated Loan Recoveries/Accumulated Loan charged-off	>75%
		P6	Solvency	Min 111%
7	EFFECTIVE FINANCIA L STRUCTUR E	E1	Net Loans/Total Assets	70-80%
8		E2	Liquid Investments / Total Assets	Max 16%
9		E3	Financial Investments / Total Assets	Max 2%
10		E4	Non-Financial Investments / Total Assets	0%
11		E5	Savings Deposits / Total Assets	70-80%
12		E6	External Credit / Total Assets	Max 5%
13		E7	Member Share Capital / Total Assets	Max 20%
14		E8	Institutional Capital / Total Assets	Min 10%
15		E9	Net Institutional Capital/ Total Assets	Min 10%
16	ASSET QUALITY	A1	Total Loan Delinquency / Gross Loan Portfolio	<=5%
17		A2	Non-Earning Assets / Total Assets	<=5%
18		A3	Net Institutional & Transitory Capital + Non Interest-Bearing Liabilities / Non-earning Assets	>200%
19	RATES OF RETURN AND COST	R1	Net Loan Income / Average Net Loan Portfolio	Entrepreneurial Rate
20		R2	Total Liquid Investment Income / Average Liquid Investments	Market Rates
21		R3	Total Financial Investment Income / Average Financial Investments	Market Rates
22		R4		>=R1
23		R5	Total non-performinhg Investment Income/Average non-Financial Investments	Market Rates> Inflation
24		R6	Total Interest Cost on External Credit / Average External Credit	Market Rates
25		R7	Total Interest (Dividend) Cost on Shares / Average Member shares	Market Rates>=R5
26		R8	Total Gross Income Margin / Average Total Assets	Amount Needed to Cover R10, R12
27		R9	Total Operating Expenses / Avg. Total Assets	<=5%
28		R10	Total Loan Loss Provision Expense / Average Total Assets	Dependent on Delinquent loans
29		R11	Non-Recurring Income or Expense / Average Total Assets	Minimum
30		R12	Net Income / Average Total Assets (ROA)	Dependent on E8
31		R13	Net Income / Avg. Institutional + Avg. Trans Capital (ROC)	>Inflation Rate
32	LIQUIDITY	L1	S.T Investments + Liquid Assets - S.T. Payables /Savings Deposits	Min 15%
33		L2	Liquidity Reserves / Savings Deposits	10%
34		L3	Non-Earning Liquid Assets / Total Assets	<1%
35	SIGNS PF GROWTH	S1	Growth in Loans to Members	Dependent on E1
36		S2	Growth in Liquid Investments	Dependent on E2
37		S3	Growth in Financial Investments	Dependent on E3
38		S4	Growth in Non-Financial Investments	Dependent on E4
39		S5	Growth in Savings Deposits	Dependent on E5
40		S6	Growth in External Credit	Dependent on E6
41		S7	Growth in Share Capital	Dependent on E7
42		S8	Growth in Institutional Capital	Dependent on E8
43		S9	Growth in Net Institutional Capital	Dependent on E9
44		S10	Growth in Membership	Min 15%
45		S11	Growth in Total Assets	>Inflation+10%

Source: WOCCU

O'Sullivan (2012) observed that many credit unions are yet to maximise the use of the PEARLS ratios for the attention they deserve.

2.7.2 Use of CAMEL Framework

Sarker A.A (2006) posited that the CAMEL methodology was originally adopted by North American bank regulators to evaluate the financial and managerial soundness of U.S. commercial lending institutions. The CAMEL reviews and rates five areas of financial and managerial performance: Capital adequacy, Asset quality, Management, Earnings, and Liquidity. Each group of the CAMEL model offers various categories of information necessary for evaluating performance (Evans et al., 2000). Measurement of the capital adequacy establishes the acceptable level of risk in a given operation. The trend of capital should be monitored constantly as it reports both quantitative and qualitative aspects. In order for the direction of operations and quality levels to be determined, the composition and the evolution of the asset structure must be critically evaluated. Similarly, another important variable of performance assessment is the volume of results earned by the banking system.

The availability of resources within co-operatives is positively influenced by the increase in the economic performance and the financial performance of the credit union. The elasticity shown on the indicator represents the growth of capital, which in turn augments the ability to provide resources to members (Dzeawuni & Tanko, 2008).

Silva and colleagues (2017) performed an analysis of the economic and financial performance of Brazil's largest credit unions. The study used the indicators recommended by the CAMEL model as well as the data envelopment analysis (DEA) model. Discovery was made of a positive

relationship existing between the measurement of financial performance of credit unions and the use of variables in the model. The analysis of the occurrence of performance is developed from the indices computed by the economic and financial indicators (Silva et. al, 2017)

2.7.3 Others -Multiple Discriminant Analysis and Altman Z Score

Various methods used in statistics, machine learning and pattern recognition to determine the linear combination of characteristics which separates two or more classes of objects or events include the linear discriminant analysis (LDA) and the related Fisher's linear discriminant. The resultant combination could be used for dimensionality reduction or as a linear classifier. Bu use of the statistical techniques, Altman (1968) developed the Altman Z Score as a multiple discriminant function for classification of observations severally into a priori—sets based on the individual characteristics of the observations. The primary use of the Altman Z Score is to classify and predict problems with qualitative dependent variables. It is used primarily to classify and make predictions in problems where the dependent variable is in a qualitative form. The groupings may be two or more. The research used the Z-Score model of two classifications to evaluate the finances of SACCOs that went bankrupt and non-bankrupt SACCOs (Kivuvo & Olweny, 2014)

2.7.4 GIRAFE model (1999) from Planet Rating.

- G - Government and decision making
- I - Information and management tool

- R - Risk analysis and control
- A - Activities and loan portfolio
- F - Financing: Equity and liability
- E - Efficiency and profitability

The GIRAFE model is used to assess performance both qualitatively and quantitatively of which the risks are born by the MFI. The qualitative analysis focuses on verifying the quality of management processes and the efficiency of the information system by dint of the success of the strategy with the objective of guaranteeing the internal control functions.

2.8 Empirical literature review

2.8.1 Empirical literature on Characteristics of Credit Unions

Griffith, Wiathe and Craigwell (2009) did a study in Barbados with the aid of PEARLS and DOLS econometrics model and suggested that variable that affect economic growth include government capital, expenditure, real capital stock and cash the credit unions.

They further indicated that credit unions contribute positively in Barbados towards national development. By the use of PEARLS, they also realized that credit union are growing significantly and remain viable.

Growth in the financial sector was also recorded as a result the significant contributions being made by credit unions in transforming the social and economic lives of their members through the provision of affordable term loans which enables them to develop themselves and build or own their own houses.

Mohammed (2015), in his study within the Techiman municipality in Ghana noted that the products in credit unions in that area are mainly Susu Savings, Loans, Salary Accounts , Fixed Deposit and overdraft. These have attracted more members hence leading to increases in the membership size. The capital base as well as assets sizes across all credit unions have also seen increments. The study further called for the education of the populace on activities of credit unions.

2.8.2 Empirical literature on financial performance.

The available literature on financial performance was more general to MFIs with little on Credit Unions. Marwa and Aziakpono (2015) examined the sustainability and profitability of Taiwan SACCOs. They employed data in the year 2011 obtained from audited financial statements to determine profitability using return on assets while that of financial sustainability was determined by ratio of total expense to revenue.

Using linear regression to look out for the determinants of financial sustainability, 61% of the SACCOs passed as operationally self sustainable while 51% was both operationally and financially sustainable.

The study concluded with hope in the financial co-operative business model in Taiwan.

Nthaga (2017) found an increasing patronage of credit unions activities in Botswana. Notably among the patronage was that, it demonstrated to be an alternative source of banking to the unbanked and this has led to reduction of poverty levels.

26% of credit unions were found to be making profit while 30% make loss or experienced breakeven. This called for an empirical investigation into the performance in Botswana.

Some of the determinants of profitability literature identified include :Compliance to loan policy, good savings culture, sound corporate governance and increased in membership.

Over a 10 year study (2005 – 2015), it was noticed that capital structure and return on assets are positively and significantly related to operational self-sufficiency.

In 2001, the US Congress, in a bid to not repeat the Banking and Savings and Loan Crisis, passed legislation for the provision of prompt corrective action in resolving problems in financial institutions; problematic organizations are rated 4 or 5 on the CAMELS rating system. (Rose & Hudgins, 2010). This established a five-category model ranging from 1=well capitalized to 5=critically undercapitalized. Commercial banks, as well as credit unions are also affected by these capital regulations. Sollenberger and Taggart presented the effects of a management plagued with an undercapitalized credit union. (Sollenberger & Taggart, 2007).

In some follow-up articles, long term credit union financial performance trends were examined over a 20-year duration from 1986 to 2006 (Sollenberger & Taggart, 2008). These performance trends included profitability, growth in size as well as capital. Nonetheless, various consolidations have significantly raised the average credit union size. Applying the variance decomposition analysis, Goddard, McKillop and Wilson (2008) examined US credit unions from 1991 to 2001 during which the evolution of certain credit unions from being niche players to being full service retail institutions was discovered. These institutions achieved this by embracing service and product flexibility. Some scholars have also connected the size of a credit union to its financial performance positing that the most substantial differentiation variable for credit unions is size (Sollenberger & Stanecki, 2009).The number of credit unions have reduced by more than 1,500 from the year 2003 to 2009. The numbers of large asset credit unions have increased

whereas smaller credit unions have been reducing. The most significant challenge plaguing credit unions is the new generation of members.

2.8.3 Empirical literature on financial performance.

Credit Unions exist for members to help each other, in other words, 'people helping people.

Branch (2018), observed that there was a preferred patronage to CUs in the Bahamas compared to the other financial institutions. In a PEARLS and CAMELS analysis in the Bahamas, the observation was made to the fact that most credit unions were meeting the prudential benchmarks of the industry. This has minimised threat against the CU industry. However, there is the need for the regulator to increase supervision to strengthen compliance .

In Kenya, Kivuvo and Olweny (2014), sort to determine the financial performance of SACCOs using the Altman Z- score model of corporate bankruptcy.

Financial sustainability was seen as a challenge and SACCOs faced a major risk of insolvency. The regulators in Kenya recommended the use of CAMEL , PEARLS with a combination of Z-score model. In 30 out of 215 SACCOs randomly sampled, 3 were found to be bankrupt. There were 13 others that were grey (healthy) and another 11 which were of a blend of the three (ie. Very health, healthy(grey) or bankrupt)

Conclusively, this section reviewed the concept and evolution of credit unions in Ghana and other parts of the world. It also focused on aims and characteristics of credit unions as well as microfinance Institutions. The sustainability of credit unions empirically reviewed with highlights on the PEARLS monitoring system as the proposed conceptual framework which is able to check on the growth, profitability, and financial performance of financial institutions.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Research Design

A qualitative survey design was used for the research study. Qualitative survey techniques place emphasis on the mathematical, statistical, and numerical analysis of data using objective measurement like surveys, polls, questionnaires, and through manipulation of pre-existing statistical data using computational techniques. "Understanding the Sustainability of Credit Unions in Ghana Using the PEARLS Model" was a cross-sectional study in that it sought "to portray characteristics and data about the populace or wonder being contemplated and besides it utilized a quantitative research approach".

3.2 Population

Out of a population of 566 credit unions in Ghana as at June 2018, a sample of 23 credit unions located in the Volta Region was used. This constitutes the number of credit unions whose data, met the research's requirements, was available or able to assemble at the time of the research.

3.3 Data Collection

The research made use of secondary data. The secondary data and analysis saves both time and money and prevents the unnecessary duplication of research effort. Secondary analysis is usually contrasted with primary analysis, which is the analysis of primary data independently collected by a researcher.

3.4 Data Analysis

The analysis of the secondary data was based on the PEARLS model and some other descriptive statistical approaches that allows for data analysis. Emerging as an effective standard for worldwide operations of credit unions globally, PEARLS provides standardized financial ratios employed in examining the financial performance of credit unions (Branch, 2018). It is solely quantitative and also serves as a benchmark for actual performance.

CHAPTER FOUR

DATA ANALYSIS, FINDINGS AND DISCUSSION

4.1 Overview

The data collected from the field is analysed and discussed in this chapter. The detailed quantitative analysis of data answers the research questions presented in the early chapters. Thematic analysis was used a tool to illustrate the findings pertaining to the PEARLS analysis of credit unions in the Volta Region of Ghana.

4.2 Analysis of Data

As at December 2018, there were 34 credit unions in the Volta Region. Seven (7) of which were study groups and 2 of them distressed. Out of the 25 left, the study focused on 23 for which data was available from 2014 to 2018.

4.2.1 Life span of credit union in the Volta Region.

The table below shares a distribution of ages of Credit Unions in the Volta Region.

Table 4.1 *Life span of CUs*

AGES OF CREDIT UNIONS	NO. OF CUs	PERCENTAGE (%)
LESS THAN 5 YEARS	0	0
5 - 10 YEARS	2	8.7
11 - 15 YEARS	4	17.4
16 - 20 YEARS	8	34.8
ABOVE 20 YEARS	9	39.1
TOTAL	23	100

Source: Audited Reports

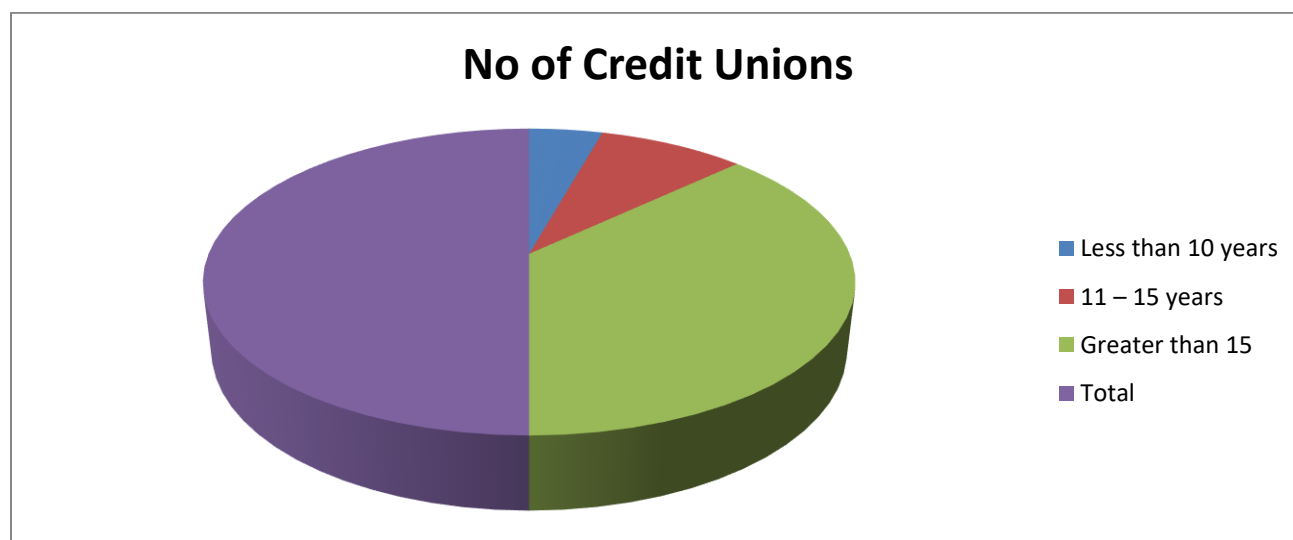
As has been suggested by the life cycle approach, MFIs operating for less than ten years are considered young MFIs. MFIs that have been operating between 10 years and 15 years are considered as mature and the MFIs that are more than 15 years are considered as old MFIs (Anand K.R., 2011). Table 4.1 shows the distribution of ages of credit unions in the Volta Region.

Table 4.2 *Ages of credit unions in the Volta Region.*

Age of Credit Union	No of Credit Unions	%
Less than 10 years	2	8.7
11 – 15 years	4	17.4
Greater than 15	17	73.9
Total	23	100%

Source: Field report

Figure 4.1 *Ages of credit unions in the Volta Region.*



From the age distribution of credit unions in the Volta Region, 17 out of the 23 credit unions representing 73.9% had existed for more than 15 years with the oldest being 28 years. The youngest credit union among the 23 is eight years. four credit unions were aged between 11 and 15 years, representing 17.4%; with two credit unions that had existed for less than 10 years representing 8.7%. Our findings suggest that credit unions have existed for several years, as well as have matured and may continue to exist, all things being equal.

4.2.2 Types of credit unions in the Volta Region.

Credit unions in the Volta Region are predominantly community credit unions. (14). This is because work-based (corporate) credit unions and faith-based societies had difficulty in growing. Their names suggested a close bond, so steps were taken to make changes to their names in order to open the common bond to outsiders. As a result, the remaining work-based unions also have members from the community. Table 4.2 represents the number of work-based credit unions and faith-based credit unions used in our study.

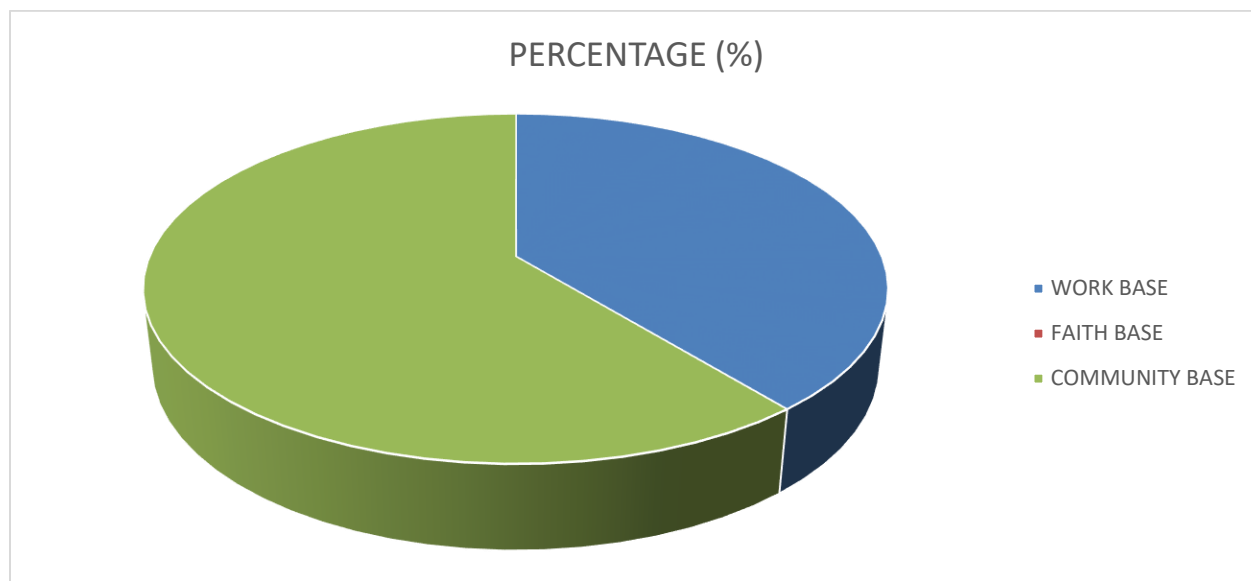
Table 4.3 *Types of credit unions in the Volta Region.*

Type of Credit Union	No.	%
Work Base	9	39.1
Faith Base	0	0
Community Base	14	60.9
Total	23	100

Source: Field report

The types of CUs identified in the Volta region affirms the definition of Credit Unions by Madura (2010).

Figure 4.2 *Type of credit unions in the Volta Region.*



4.2.3 Credit Unions by classification.

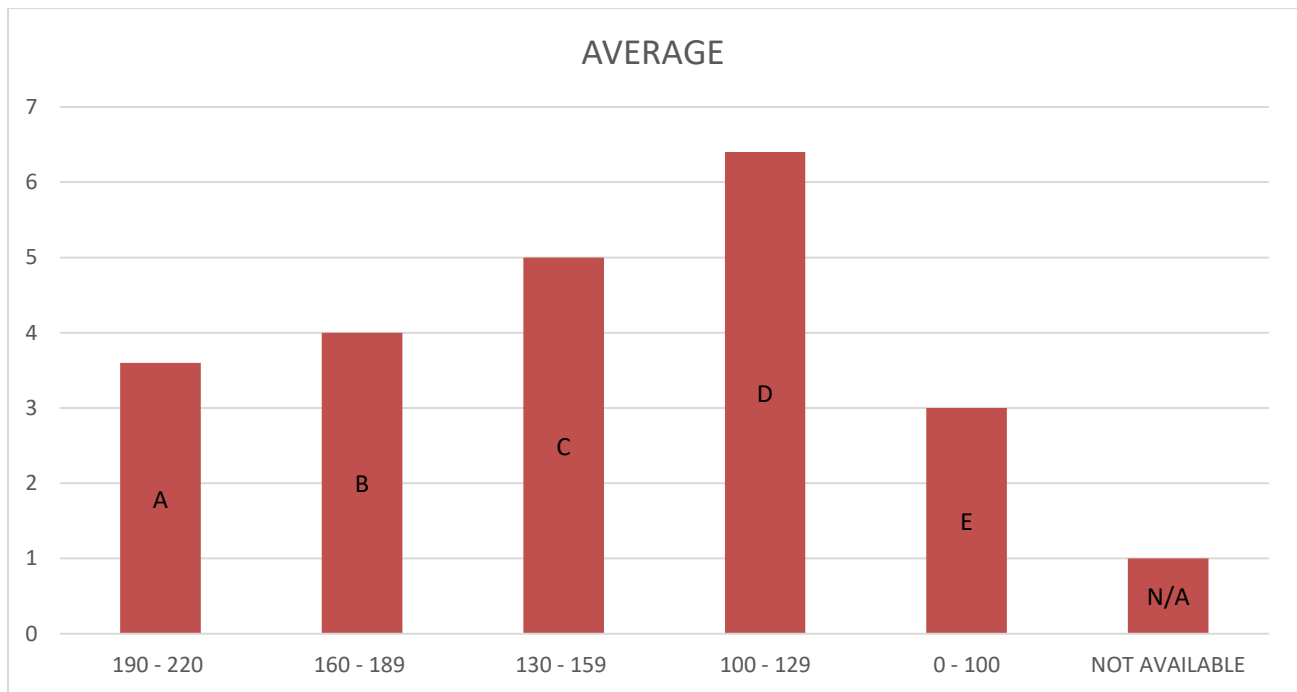
During annual audits of credit unions in Ghana, certain ratios are used to assess the performance of the unions with grades ranging from A to E indicating how good the performance is and how bad it is. Each ratio is attached to a mark or performance weight for ease of assigning scores. Auditors and regulators subdivided a score of 250 into 11 critical elements: Capital Adequacy -20, Net Income – 30, Risk Management - 20, Delinquency – 30, Liquidity Deposit CFF – 30, Provision for Loan Loss – 20, Statutory Reserve – 30, Deposit Guarantee Premium – 20, Financial & Statutory Report - 20, Liquidity - 20, and Governance – 10.

Out of the 23 CUs, An average of 55% of them was categorized within the strong bracket while 43% was within the weak zone.

Table 4.4 *Credit unions by classification.*

Description			2014	2015	2016	2017	2018	Average	%
Marks	Grade	Remarks	No. of Credit Unions						
190 – 220	A	Excellent	4	3	2	6	3	4	16
160 – 189	B	Very Good	1	3	5	5	6	4	17
130 – 159	C	Good	8	5	5	3	4	5	22
100 – 129	D	Weak	8	9	6	6	4	7	29
100	E	Distressed	2	3	5	3	3	3	14
Not Available			0	0	0	0	3	1	3
Total			23	23	23	23	23	23	100

Figure 4.3 *Classification of credit unions in the Volta Region.*



4.2.4 Products and Services of Credit Unions

The main products of the Credit Unions in the Volta region were savings, shares and loans. They illustrated the assertion by Turner (2000) where credit unions offer compulsory avenues for savings by members. Each member buys shares as a co-owner benefits from dividends as well as interest on the savings. The savings and shares then qualifies members for loans at moderate interest rates.

4.2.5 Governance structure of Credit Unions

Each Credit Union convenes annual general meeting and the end of each financial year after their financial accounts are audited. The meeting discusses the financial report of the unions and also elects members to committees such as the loans committee, supervisory committee and the board of directors who exercises oversight responsibility in the running of the unions. Each member has one vote irrespective of the volume of total contribution in the unions.

4.3 PEARLS Analysis in the Volta Region

4.3.1 Protection Analysis

Solvency.

Solvency ratio is a key indicator to measure a credit union's ability to meet its debt obligation or liabilities in the short- and long term. The solvency ratio is calculated by dividing the net value of assets by the total share and deposits. According to PEARLS standard, this ratio should be greater or equal to 111%. The trend from the analysis of 2014 to 2018 shows that, credit unions in the Volta Region are compliant to this requirement.

An average of 112.79% was recorded over the period and whilst it was 112.68% in 2014, it hovered around the same figure until it dropped marginally to 109.47% in 2018. This indicates that credit unions in the Volta Region have adequate cash flow to meet both short-term and long-term liabilities which is a sign of good performance.

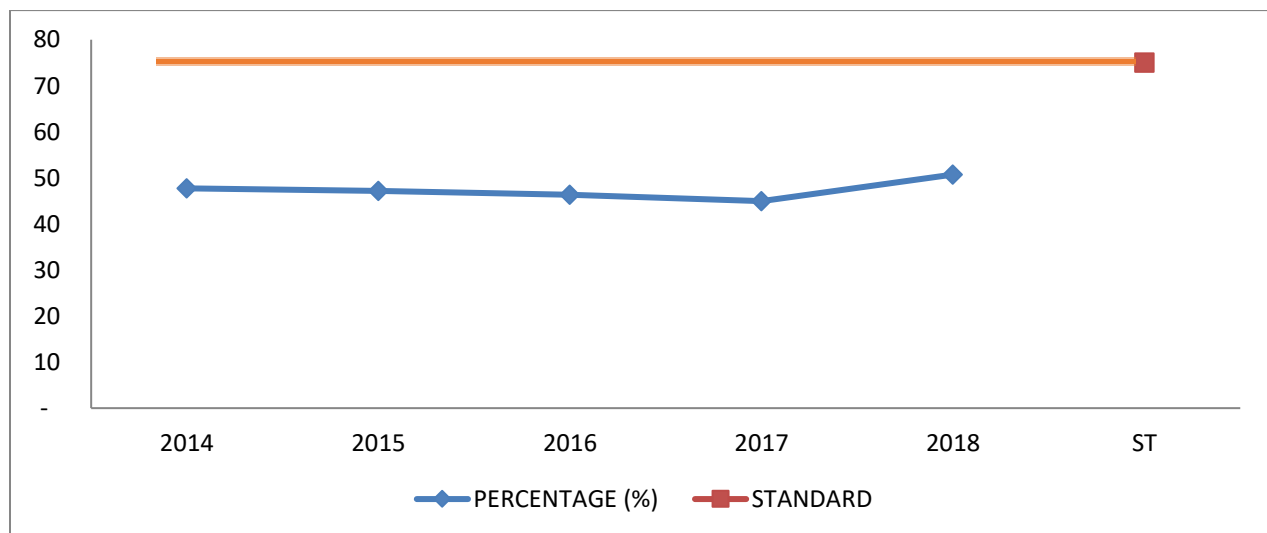
4.3.2 Effective financial structure analysis.

Table 4.5 *Net loans to Total Assets*

YEAR	PERCENTAGE (%)
2014	48
2015	47
2016	46
2017	45
2018	51

Source: Field Report

Figure 4.4 *Net loans to Total Assets.*



Net loans to total assets.

One of the determinants of a sound credit union is its financial structure. This reveals the credit union's potential growth, general strength, as well as its the earning capacity. According to PEARLS ratios, net loans to total assets should be between 70% - 80%. This indicates the amount of the society's assets being financed with loans.

For the 5 years under study, the ratio recorded on annual wage of 47.4%. In 2014, the ratio was 48%, and subsequently kept reducing till it rose again to 51% in 2018. This was below the benchmark; however, it may be suggested that credit unions in the Volta region of Ghana are largely financed by loans. Again, there is an indication that members of credit unions are able to assess loans and the union derives moderate returns on their productive assets. This again is a sign of good performance.

Liquid investments to the total assets

Table 4.6

YEAR	PERCENTAGE (%)	BENCHMARK
2014	22	16
2015	23	16
2016	25	16
2017	28	16
2018	36	16
AVERAGE	27	16

Source: Field Report

Another standard used to assess credit union financial structure is the liquid investment to total asset ratio. Liquid investments are cash or near cash investments which are easily accessed or withdrawn. PEARLS ratio allows a maximum of 16% as an idle case. For CU's in the Volta Region, most of them were not in compliance with this standard. Less than 50% met the ratio year on year.

On the average, Volta region credit unions in Ghana achieved 22% in 2014 and increased gradually till it attained 36% in the 2018. The annual average over the 5-year period was 26.8%. As a result of high loan delinquency in many credit unions and high rates on investments, CU's often balance the two; i.e. reduce the offer of loans and increase liquid investments which has also turned out to be risky in recent times. That notwithstanding, the CUs in the Volta Region have enough reserves of cash to meet their obligations during funding crisis. This performance is satisfactory and requires some improvement.

Savings deposit to total assets (E5).

The pearls ratio recommends a CU with good effective financial structure to have its deposits between 70 – 80% of total assets. Hence, it is expected that the total should be financed by savings deposits—an option that generates adequate revenue to be used to pay interest on savings and to cover the cost of operations; thereby maintaining the required control delinquency. This scenario is true for CUs who depend on savings to offer grant loans.

The trend observed over the 5-year period was more than the standard maximum of 80%. The average savings to the total assets was 82.94%, with the minimum being 79.92% and highest

being 91.89%. This is an indication that CUs are able to mobilize sufficient funds for their operations which is a good performance according to PEARLS.

Table 4.7 *Savings deposit to total assets*

YEAR	PERCENTAGE (%)	BENCHMARK
2014	81.26	70% -80%
2015	79.92	70% -80%
2016	81.60	70% -80%
2017	81.03	70% -80%
2018	90.89	70% -80%
AVERAGE	82.94	70% -80%

Source: Field Report

External credit to total assets (E6).

Apart from three or four credit unions in the Volta region that took external loans within 2014 to 2018, all other credit unions were able to manage their liquidity with internally generated funds. The standard of 5% maximum was, therefore, met by many of the unions.

Member share capital to total assets (E7).

Credit unions are member-owned; meaning that members own the company by means of buying shares. These shares vary from one union to another. The PEARLS ratio requires a maximum of 20%, signaling that this should not be a primary source for financing the unions in the Volta Region. The findings revealed that the unions in the Volta Region have constantly met the requirement throughout the period according to PEARLS standard. On the average, the rate was 9.07% with a minimum of 6.95 in 2015 and 11.92 in 2018.

Table 4.8 *Member share capital to total assets*

YEAR	PERCENTAGE (%)	BENCHMARK
2014	10.38	MAX 20%
2015	5.95	MAX 20%
2016	6.98	MAX 20%
2017	9.13	MAX 20%
2018	11.92	MAX 20%
AVERAGE	8.87	MAX 20%

Source: Field Report

Net institutional capital to total assets (E8)

The minimum ratio or standard recommended by WOCCU is 10% of the total asset. Institutional capital is typically made up of the surplus accrued from income accumulated or income from capital donation, as well as legal reserves. This acts as remedy to help cover unexpected losses, thereby protecting the savings on behalf of members. No individual member may lay claims to it; this contributes to additional reserves to invest in more services and cheaper outcomes.

From the analysis, it appeared all unions in the Volta region are not compliant and this is indicated by an average between 5.8% and 7.45% in 2014. Further declining to 4.86 in 2018. It can be inferred that Volta Regional credit unions are not well capitalized and that members' savings are not well protected.

Table 4.9 *Net institutional capital to total assets*

YEAR	PERCENTAGE (%)	BENCHMARK
2014	5.79	10
2015	7.45	10
2016	6.37	10
2017	5.59	10
2018	4.80	10
AVERAGE	6.00	10

Source: Field Report

4.3.3 Asset quality analysis.

Delinquency ratio (A1)

This ratio measurement puts emphasis on the institutional weaknesses of credit unions. It is determined by dividing the total loans delinquent by the gross loan portfolio. PEARLS model suggests an ideal ratio of 5% maximum. This is because the higher the delinquency rate, the more it affects many other areas of credit union operations. The data obtained over the period of 2014 to 2018 was scanty and inconsistent for accurate analysis. However, the information gathered indicated that delinquency rates were high.

Table 4.10 *Delinquency ratio*

YEAR	PERCENTAGE (%)	BENCHMARK
2014	19.89	MAX 5%
2015	72.27	MAX 5%
2016	9.22	MAX 5%
2017	21.69	MAX 5%
2018	23.42	MAX 5%
AVERAGE	29.30	MAX 5%

Source: Field Report

Non-earning assets to total assets (A2)

This ratio suggests a maximum of 5% of total assets. The remaining 95% is expected to be invested to earn greater returns. Occasionally, some unions, in an attempt to improve their reputation, tweak this ratio upwards but only for the short term. However, as new members join, this situation is reversed to normal as more deposits are received. The trend observed in the credit unions in the Volta Region was not in conformity to the standard. An annual average of 8.9% was recorded with a minimum of 6.3% in 2014 and a maximum of 10.3% in 2015. This suggests that the credit unions strive to maximize their investments in earning assets category and minimize their investments in the non-earning assets category.

Table 4.11 *Non-earning assets to total assets*

YEAR	PERCENTAGE (%)	BENCHMARK
2014	9.00	MAX 5%
2015	10.29	MAX 5%
2016	9.83	MAX 5%
2017	9.34	MAX 5%
2018	6.53	MAX 5%
AVERAGE	8.99	MAX 5%

Source: Field Report

4.3.4 Rate of return and cost analysis (R).

The returns earned on individual types of assets (uses of funds) and the cost of individual types of liabilities (sources of funds) are tracked using these ratios. It makes it possible to determine the type of assets that yield the best returns. On the other hand, the liabilities that are least or most expensive can be determined and the appropriate choices made. The operating expenses to average asset ratio, for instance, has an acceptable rate up to 5% which depicts both the operating efficiency and the operating strategy of a credit union.

4.3.5 Liquidity analysis (L).

Short-term investments + liquid assets - short-term payables /savings deposits (L1).

Liquidity is principally the amount of capital that is in hand for the purposes of investment and expenditure. It also refers to the ability to convert assets into cash quickly and without any price discounts. PEARLS framework uses this indicator to monitor liquidity, including the short-term payables to total deposits ratio. The international benchmark for this ratio is between 15% and 20%. It ensures that short-term investment is liquid enough to withstand withdrawals from members and clients as well as disbursement demands.

Conclusively, effective liquidity management is crucial for credit unions and savings institutions. As the credit union moves its financial structure from member shares to a more volatile deposit savings, prudent management of liquidity becomes a crucial skill requisite for the credit union. The shift is due to the lack of incentive to maintain liquidity reserves as a result of the illiquidity of member shares and the long payback period of most external loans. Traditionally, liquidity is perceived as cash available for lending—exclusively controlled by the credit union. However, the concept of liquidity has changed with the advent of withdrawal savings deposits in our financial institutions. The goal is that when liquid assets are subtracted from the short-term investments of an institution, there should still be enough to respond to withdrawals and disbursement needs. Table 4.5 demonstrates the liquidity analysis of credit unions in the Volta Region.

Table 4.12 *Liquidity analysis of credit unions*

Year	PERCENTAGE
2014	-1%
2015	0%
2016	5%
2017	9%
2018	-1%
Average	2%

Source: Field Report

From the above table, average figures were taken from data from credit unions in the Volta Region in Ghana. Two years recorded the lowest average of -1% whilst 2017 recorded the highest of the averages. This means that on the average, credit unions would not have been able to pay all its members if there had been any withdrawals and disbursements in 2014 and 2018. Ultimately, the average performance was satisfactory for the period under study although there were some downward trends. This requires attention.

4.3.6 Signs of growth analysis.

There are various indicators of growth analysis for credit unions and these include client satisfaction, financial strength, and the appropriateness of product offerings. An institution's financial structure is mainly influenced by growth; hence, the growth of an institution requires close monitoring in order to maintain balance. For instance, growth in total assets (S11) is determined by the growth in savings (S5). However, if the growth of loans (S1) is slower than growth in savings, the firm will experience a phenomenon of low earnings (R12) and high liquidity (L1). In the same vein, monitoring the growth of institutional capital (S8) for a pace

similar to that of growth of savings is critical in that it guarantees surplus for the protection of the savings against unanticipated losses.

An importance of the PEARLS growth indicators is that it affords managers the opportunity to a balanced and efficient financial structure of the union. The most important indicator is Growth in Total Assets; this is because it is connected to 16 other PEARLS indicators. It is prudent for an institution to access and retain correct macroeconomic data, especially, the annual inflation rate, in order to achieve positive actual growth. Table 4.13 shows the 5-year data under study along with their calculated ratios.

Table 4.13 *Calculated growth ratios for data collected.*

YEAR	S1	S2	S5	S6	S7	S10	S11
2014	0.31	2.91	0.37	0	0.47	0.36	0.42
2015	36	0.68	0.29	0	0.68	0.31	0.31
2016	0.26	0.46	0.31	0	0.37	0.11	0.27
2017	0.19	0.43	0.21	0	0.65	-0.01	0.21
2018	0.14	-0.2	0.02	0	0.21	1.62	-0.02
AVERAGE	7.38	0.86	0.24	-	0.48	0.48	0.24

Source: Field Report

The above table presents the growth in very critical areas of the data.S1 talks about the growth in the loans granted to the members within the selected credit unions. 2015 recorded a greater increase shooting the average to 7.38 as a result of introducing new loan products in some of the selected credit unions. The lowest average recorded was in 2018, this could be linked to the restructuring directive issued by the Central Bank to strengthen the financial sector.

S2 represented growth in the investment made with banks and other investment houses. The highest average recorded was in 2014, whilst the lowest average was recorded in 2018. The 2018 poor performance may be attributed to panic in the financial sector resulting in some of the selected credit unions' selected withdrawal or redeeming their investment from the various financial institutions. In general, there was a marginal increase in the investment with financial institutions. S5 represents savings deposit. The main goal of the co-operative credit union movement worldwide is to inculcate into its members the habit of saving. According to the data above, 2014 recorded the highest average in terms of increase in members' savings deposit of 0.37, whilst 2018 recorded the lowest of just 0.02.

S6 represents loans the credit union has contracted from other financial institutions. The credit unions may borrow to the tune of 5% of their total assets. According to Table 4.6, the total average of the loans contracted from other financial institutions was 0. Although some of the credit unions had loans in their reports, the amounts were insignificant with respect to data compilation. This indicates that the credit unions are managing their internally generated resources very well. Item S7 focuses on the growth in share capital of the credit unions. In the credit union system, before someone becomes a member, the person will have to pay an amount for shares. This makes the member a co-owner of the credit union and has the right to make decisions for the union. From Table 4.6, the year 2015 recorded the highest average on the chart with 0.68 with the lowest being recorded in 2018 with 0.21.

S10 represents growth in membership. In the credit union industry, it is believed that there is strength in membership and so it is the goal of every credit union to increase in membership; this will result in increase in savings deposit, increase in shares, and other related factors. The general growth in the membership, according to the table, was 0.48. With the highest average

been recorded in 2018 with 1.62. This indicates that people within the credit union industry gained trust in the credit unions when other financial institutions were collapsing. S11 represents growth in total assets. Growth in the total assets is a critical indicator, since majority of PEARLS performance indicators are related to assets. The prudential standard for the annual growth in total assets is 10% minimum, since the financial structure is directly affected by growth. Credit unions in the Volta Region were able to meet this standard except in 2018, which recorded -0.02.

In conclusion with regards to the sign of growth, the credit unions performed well from 2014 to 2017. The worse performing year was 2018, which recorded a lot of low averages according to the chart. This may be highly attributable to the financial turbulence which happened in that financial year. Although 2018 was a bad year for the credit unions selected for the study, it saw a high increase in membership.

4.4 Discussion

According to (Marwa and Aziapkono, 2015), "the motive behind understudying the performance and sustainability of credit unions is for two reasons: i) it is a necessary condition for institutional longevity and services to the poor and ii) it is an important measurement for researchers and shareholders in guiding the industry in the desired direction."

Following through with the first objective of this study, we investigated the institutional characteristics of credit unions in the Volta Region. It turned out that majority of them were community-based. This was because most workplace- and faith-based credit unions had opened their common bonds to members of the community where they operate. Again, the ages of the credit unions indicated that they are mature—by virtue of being in operations for more than ten

years. There are few of them that are large in size, majority medium and a few which are small. These findings supported the first hypothesis of the study.

The second objective was to assess the financial performance of credit unions in the Volta Region. The study observed that there is competition among their peers, and this brings some level of improvement in their financial performance year after year. Hence, the results of the assessment confirm significance progress being made by credit unions in the Volta region. In addition, the study investigated how credit unions in the Volta Region are performing when benchmarked against international standards. The PEARLS ratios were used where applicable as and when data was available. It was realized that most credit unions in the Volta Region were not complying to international standards. This partly explains Dopico's (2016) observation that the data for small credit unions has long been notoriously idiosyncratic and difficult to interpret. Again, the involvement of volunteers in running the unions limits the number of professionals and the costs being incurred can be deceptive in comparative analysis.

SECTION FIVE

SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 Introduction

This section reflects on and discusses the findings of the research, conclusions and recommendations drawn from the analysis. It highlights on the issues that were discovered during the research. It also takes care of recommendations that can help management to offset the challenges faced by credit unions and stakeholders of co-operatives to improve upon operations as highlighted in during the study.

5.1. Summary of Findings

5.2.1 Institutional characteristics of credit unions in the Volta Region. (Q.1)

There were some similarities among credit unions in the area of study. They were either community-based or work-based. 92.3% of the CUs had existed for more than ten years. 23 CUs, representing an average 60.9% of the CUs, were medium-large sized with membership between 1,038 and 7,938. The rest of the nine CU's representing 39.1% were less than 1000 members. They all had steady growth in membership and Total Assets. An average of 4 CUs had a deficit while 19 of the made surpluses.

5.2.2 Financial performance of credit unions in the Volta Region. (Q.2)

From the sample examined, the average annual audit per year shows that 55% of the CUs are performing financially well. 30% are weak and 15% distressed. The majority of CUs continues to make surpluses year on year whilst 15% of them made losses over the studied period.

5.2.3 PEARLS analysis of credit unions in the Volta Region. (Q.3)

Out of the 45 PEARLS ratios available, the study made use of 19 of them to evaluate the performance of credit unions in the Volta Region. Those not utilised were primarily due to non-disclosures of the parameters required in the audited reports—which was the main source of data. At least, an attempt was made to use one ratio from each of the six categories. The figure 5.1 below summarizes them:

Figure 5.1 The six categories of PEARLS ratio.

NO.	AREA	PEARLS	DESCR	Benchm	2014	2015	2016	2017	2018	Average
1	Protectio	P6	Solvency	Min	112.68%	116.00%	113.95%	111.86%	109.47%	112.79%
2	Effective Financial Structure	E1	Net	70-80%	48	47	46	45	51	47.40
3		E2	Liquid	Max	21.88	23.2	24.92	27.96	35.92	26.78
4		E5	Savings	70-80%	81.26	79.92	81.6	81.03	90.89	82.94
5		E6	External	Max 5%						-
6		E7	Member	Max	10.35	6.95	6.98	9.13	11.92	9.07
7		E8	Institution	Min 10%	5.79	7.45	6.37	5.59	4.8	6.00
8	Asset Quality	A1	Total	<=5%	19.89%	72.27%	9.22%	21.69%	23.42%	29.30%
9		A2	Non-	<=5%	9	10.29	9.83	9.34	6.53	9.00
10	Signs of Growth	S1	Growth	Depende	0.31	36	0.26	0.19	0.14	7.38
11		S2	Growth	Depende	2.91	0.68	0.46	0.43	-0.2	0.86
12		S5	Growth	Depende	0.37	29	0.31	0.21	0.02	5.98
13		S7	Growth	Depende	0.47	0.68	0.37	0.65	0.21	0.48
14		S10	Growth	Min 15%	0.36	0.31	0.11	-0.01	1.62	0.48
15		S11	Growth	>Inflation	0.42	0.31	0.27	0.21	0.02	0.25

Source: Field Report

19 out of 45 ratios representing 42%, were used in the study. 12 of them representing 63.2% were found to be compliant with the standard by credit unions in the Volta Region. The remaining 7 representing 36.8% of the ratios used were not compliant in the Volta Region credit unions.

From the ratios that were compliant, it was found out that credit unions in the region have adequate cash flow and are able to mobilize enough funds to be well capitalised. Most of the CUs were able to make use of internally generated funds without borrowing externally. Growth was also seen in the area of membership, savings, shares, loans, and total assets. Where the shortfall occurred compared to the PEARLS standards included net loans, liquid investments, net institutional capital to total assets and delinquency.

5.2. Conclusion

Credit unions have demonstrated to be an alternative source of savings and credit to many people. Even in the face of the crises that hit some investment houses, banking, and the microfinance industry in Ghana, credit unions in the Volta Region have seen significant growth in membership, savings, shares, investment and total assets. Our findings corroborate Branch's (2018) study, that posited that credit unions provide relatively lower interest rates on loans, greater accessibility to loans, as well as customised services to their members than their larger counterparts in the financial industry.

This goes without saying that the patrons of credit unions continue to gain confidence in their operations, partly due to the fact that members are directly involved in the management and supervision at certain important levels. In addition, they have existed over the years providing in the course of providing reliable services.

Nevertheless, for the sustainability of these credit unions, there is the need for improved supervision by the regulator and CUA. The need for improved technology at all levels cannot be over emphasized in building better reputation and confidence. The financial sustainability of credit unions must be monitored constantly.

5.2 Recommendations

Credit unions play a significant role in the Volta region and Ghana such that, they provide alternative accessible financial services to people. This, therefore, calls for stricter regulations and supervision to ensure its sustainability.

The Bank of Ghana needs to implement the provisions in the LI 2225 that came into force in 2015. The role of the supervisory agency needs to be activated as well as the licensing of credit unions to bring some consistency and level of sanity in the industry.

The CUA needs to establish a compliance unit that will ensure that both offsite and onsite supervision of credit unions are being on regular basis. CUA operations require capacity building to implement the field services manual and apply standard ratios like PEARLS in evaluating the performances of credit unions. Making such outcome available to CUs will arouse peer competition that can lead to improving the financial health of credit unions. This can be successful only if appropriate technology and software is employed in the process as well as keeping of accurate financial and statistical data.

Lastly, the criteria for the formation of new credit unions should be standardized and enforced to ensure that new credit unions established will have a strong foundation and will be viable and sustainable.

5.3 Limitation of the Study

This study limited its source of data to secondary sources that satisfy the period of years required. Also, it relied on a convenience sampling strategy to recruit eligible participants. Participants were mainly credit unions in the Volta Region of Ghana; thus, the generalizability of the results may be limited to other similar regions. Data analyzed for this study used available financial records to examine the financial performance of credit unions which may present some social desirability among participants who have never participated in such a survey. Nonetheless, any study results that rely on our assessment about the financial performance of credit unions

using the PEARLS model should be regarded as hypothesis-generating and not definitive, since it has not been formally validated.

5.4 Areas for Further Research

This study was limited to the Volta Region primarily because of availability of data. The study also depended heavily on audited credit union accounts which may introduce some bias in the estimations made.

Studies in the future may consider key variables like gender and loan delinquency in addition to CAMEL and the other PEARLS ratios that were not utilized in this study as a result of time, logistics and data availability constraints.

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