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Credit Risk Management Assessment as an Operational Strategy in the Ghanaian Banking Sector: Empirical Evidence

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Abstract

Banks are very important in achieving the Sustainable Development Goals (SDGs). They provide financial support to enterprises to increase production and boost economic development. It is necessary for banks to be engaged in profitable activities and also have the ability to grow and survive in the industry. Sustaining growth and survival of banks in Ghana requires efficient strategic, tactical and operational management of credit risk in the banking sector. Credit risk has the potential to negatively affect the survival of banks. The study set out to assess the credit risk management strategy in the banking sector using Cal Bank Limited as a case study. Extensive literature on credit risk management was reviewed. Quantitative approach was used in the study. Data was collected from 4 Cal Bank branches (Graphic Road, Achimota, Derby Avenue and Ring Road Central) in Accra using likert scale questionnaires and open-ended questionnaires and the data were statistically analysed using Statistical Package for the Social Sciences (SPSS). The study indicated that the banks have credit risk management procedures in place. The respondents indicated that credit risk management is an important strategic management tool employed by banks. However, risk assessments are not frequently carried out and qualified personnel to carry out effective risk monitoring are inadequate.

Keywords: *Management Information System Market Line (ML), Statistical Package for the Social Sciences (SPSS).*

Introduction

Efficient running of financial sectors is pre-requisite for economic transformation, growth and development. Key players in the financial sector are the banking institutions (Singh, 2010). The commercial banking concept was integrated into the formal banking system since the colonial era in 1896. The first bank to operate in Ghana is the British Bank of West Africa now Standard Chartered Bank (Ghana) Limited (Kwakwa, 2014). Commercial banks are owned and managed as a limited company. The law governing the operations of commercial banks allows them to operate in every region (Aboagye and Otieku, 2010). The banking sectors are mandated to receive as savings, transfer funds from the saving units to investors for economic growth and development. Commercial banks serve as financial intermediation in the economy by mobilizing savings from surplus units and channelling them as credit facilities to deficit units.

Sinkey (2002) defines credit risk as the potential that a bank borrower or counterpart will fail to meet its obligation in accordance with agreed terms. Credit risk can be defined as the risk that a firm's customers and parties to which it has lent out money will delay or fail to make payments based on the agreed terms (Coyle, 2002). Credit is the major source of revenue to the banks. Credit therefore poses the major risks to banks due to high default rate among borrowers. This calls for sound risk management techniques in the banking industry.

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This paper explores the nature of credit risk at the Cal Bank Ghana Ltd branches in Accra and how the bank's credit risk management policies and procedures influence the overall operations of the bank. Specifically, this paper explores the identity of credit risk management procedures followed at the Cal Bank Ghana Ltd., assesses the bank's credit risk environment, and examines the challenges constraining it from implementing credit risk management procedures.

Literature review

Credit risk management

Ghosh, Islam and Hasan (2014) indicate that managing credit risk is heart and soul of banks as it seriously affects the performance of banks because it effectively helps analysing credit worthiness of clients/ borrowers. In the views of Nikolaidou and Vogiazas (2014) credit risk management is the combination of coordinated tasks and activities aimed at controlling and directing risks confronted by banks by applying management strategies. Frank, Simon and Josephine (2014) point out that the practice of credit risk management by banks or any organizations are not intended to eradicate risk entirely but are rather directed at curtailing circumstances that may result in the occurrence of and/ or increase in risks.

Santomero (1997) and Allen and Santomero (1998) have outlined a certain procedure in managing credit risk. According to him, there should be standards and reports. Each bank must apply a consistent evaluation and rating scheme to all its investment opportunities in order for credit decisions to be made in a consistent manner and for the resultant aggregate reporting of credit risk exposure to be meaningful. To facilitate this, a substantial degree of standardization of process and documentation is required. This leads to standardized ratings across borrowers and a credit portfolio. A single value is given to each loan, which relates to the borrower's underlying credit quality. At some institutions, a dual system is in place where both the borrower and the credit facility are rated. In the latter, attention centres on collateral and covenants, while in the former, the general credit worthiness of the borrower is measured. Some banks prefer such a dual system, while others argue that it obscures the issue of recovery to separate the facility from the borrower in such a manner (Kibor, 2015).

Empirical studies on credit risk management

Niinimaki (2004), in his paper entitled "the effects of competition on Banks' risk taking" found that the magnitude of risk taking depends on the structure and side of the market in which competition takes place. He concluded that if the bank is a monopoly or banks are competing only in the loan market, deposit insurance has no effect on risk taking. Banks in this situation tend to take risks, although extreme risk taking is avoided. In contrast, introducing deposit insurance increases risk taking if banks are competing for deposits. In this case, deposit rates become excessively high, thereby forcing banks to take extreme risks.

Niinimäki (2004) also conducted a study to understand the joint effect of competition and deposit insurance on risk especially banks when bank risk is unobservable to depositors. The study found out the magnitude of risk that can be taken by banks depends on the structure of the bank and the market within which it operates. Unior and Carvalho (2013) carried out a study on the impact of risk management on project performance by surveying 415 projects at different levels of complexity in different industrial sectors in Brazil. The study found that designing and implementing risk management strategies in the operations of business impacts positively on the success, growth and survival of the business. The study indicated that managers must pay attention to uncertainties of projects and apply risk management techniques to boost the profitability of the business.

Olamide, Uwalomwa and Ranti (2015) also researched on the impact of effective risk management on bank's financial performance using the ordinary least square regression. The study collected secondary data from the annual reports of banks listed on the Nigerian Stock Exchange. It found that there is a negative non-significant correlation between risk management proxies and bank's performance. The study indicated that financial performance of the banks could not be explained away by the compliance or non-compliance to Basel's regulation by financial institutions, but could be as a result of the accumulation of minor difficulties and inconsequential malfunction of the individual actors resulting in a massive breakdown.

Safari, Shateri, Baghiabadi and Hozhabrnejad (2016) also conducted a study by reviewing literature on good risk management governance for banks and other financial institutions. The study found risk management has become a priority for most companies and therefore inability to address risk completely has adverse impacts on banks' operations. Safari et al. (2016) further indicated that managing risk prevents losses and promotes competitive advantage.

Harelimana (2017) undertook a study in Rwanda to assess the role that risk management plays on financial performance using the Unguka Bank Ltd as a case study. Data were quantitatively and qualitatively taken from 30 employees of the bank Ltd. The study discovered that the main factors determining risk management include credit risk, operational risk, and interest rate and liquidity risk. The study also indicated that there is a very strong relationship between risk management and financial performance. Risk management improves profitability continuously particularly those in risk management in order to enable them apply accepted tools of risk management in a professional manner and to enable them give relevant and reliable answers to questions on credit risk management.

Methodology

Research approach

Inference from the literature review informed the adoption of a quantitative research approach to this study. The study also selected this approach because the quantitative approach helped the study to utilize standardized statistical instruments such as descriptive statistics. Consistent with this view, this investigation uses a survey questionnaire to extract data on the credit risk management practices at Cal bank.

Research design, population, sample

The research design for the study is a case study design. The target population for this study included all workers in banks located in Ghana while the accessible population for the study included workers in the four Cal Bank branches in the Greater Accra Region (Graphic Road, Achimota, and Derby Avenue and Ring Road Central branches). The inclusion criterion for selecting the respondents is people who are directly involved in the day to day activities of the bank, being in position to accurately give information on credit risk management strategies in the sectors. The total number of workers in the 4 selected banks is estimated at 168 people. An online sample size calculator called Creative Research Systems survey software was used to determine the sample size for this study. The study used a margin of error (confident interval) of +/-5 %. A confidence level of 95% was estimated for this study. With the application of the Creative Research Systems survey software, the sample size for the study gave the number of respondents as 117 workers. However, during the data collection period only 100 respondents could be contacted. The study used purposive sampling. The purposive sampling enabled the study to make in-depth judgment in selecting respondents especially when there was the need to reach the accessible population quickly (Creswell, 2007). Purposive sampling helped in carrying out the case study design in detail.

Data collection and analysis

Both primary and secondary data were collected. A closed ended questionnaire instrument was employed and developed for the study. Most questions required the participant to mark the extent of their agreement or disagreement with a statement using a seven-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree). The data were analysed with the Statistical Package for Social Sciences (SPSS) software, generating frequency tables, chi-square, regression, correlation and other vital statistics for analysis and discussion. The study made use of content and thematic analysis for the open-ended questionnaires.

Findings

Before detailing the findings from the relevant survey section, some general survey findings are useful.

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Demographic characteristics of respondents

Gender of respondents

The result on the gender of respondents utilized for the study is presented in Figure 4.1.

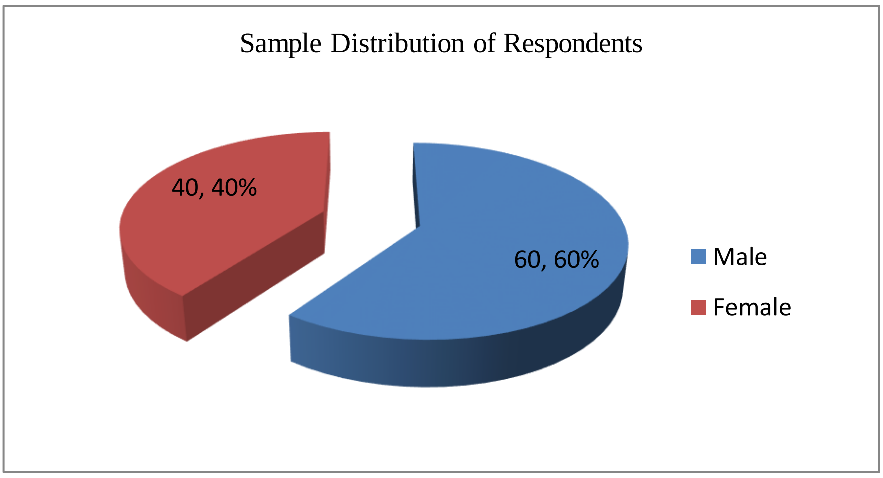

Figure 4.1. Sample distribution of gender of respondents

(Source: Field Data, 2018).

The majority of the sampled respondents were males representing 60(60%) whilst significant numbers were females representing 40(40%).

Educational level of respondents

The educational level of sampled respondents was also investigated. The result regarding the educational qualification of utilized respondents is presented in Figure 4.2.

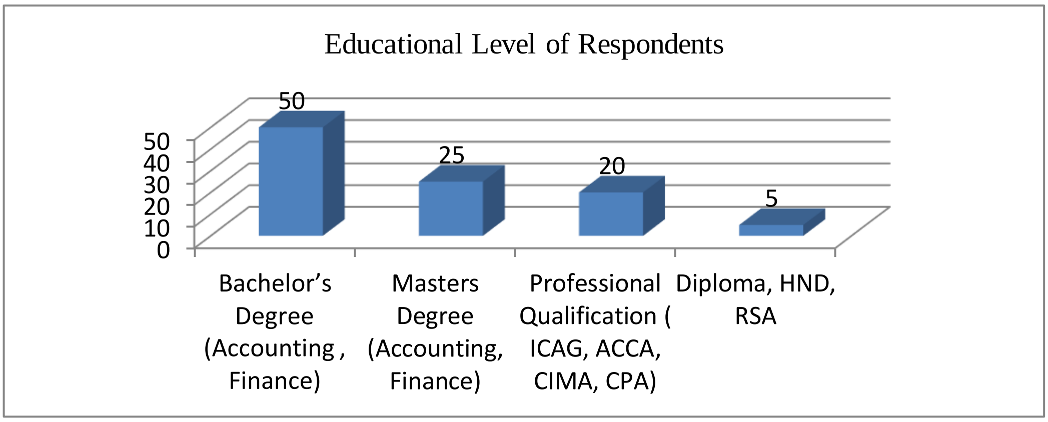

Figure 4.2. Sample distribution of educational level of respondents

(Source: Field Data, 2018)

A sizeable majority hold bachelor's degree (accounting and finance) representing 50%, 25% masters', 20% professional certificates and 5% diplomates. This clearly depicts a well-educated workforce.

Number of years in the organization

The study investigated the number of years respondents have been at the organization. The result is presented in Figure 4.3.

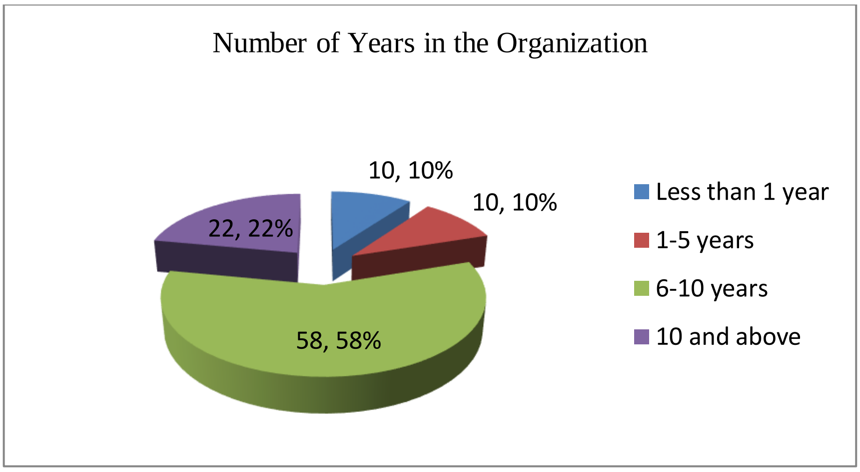

Figure 4.3. Sample distribution of number of years in the organization

(Source: Field Data, 2018).

Reliability analysis of scale

Table 4.1. Test of reliability for scale

Dimensions of Scale	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items	No of Valid Cases
Credit risk management practices	.804	.825	33	100

(Source: Field Data, 2018).

Table 4.1 shows the test of reliability analysis and the validity of cases. The result shows the reliability of the overall scale (Credit risk management practices). The result from the sampled respondents in connection with reliability test shows a high Cronbach Alpha indicating a high reliability for the data. The results indicate a Cronbach's alpha value thus coefficient ***[@= .804***] which is suitable and acceptable. In terms of number of standardized items or questions utilized for the study higher Cronbach value was obtained representing @ = .82. The N value representing the number of observations or standardized Likert scale level questions presented to respondents was 46. The study also shows that all items utilized in connection with sampled respondents were valid showing 100 valid cases as recorded in t Table.

The first study objective was to identify credit risk management procedures followed at the Cal Bank Ghana Ltd. The result is presented as follows;

Table 4.2. Credit Risk Management Procedures

Credit Risk Procedures	SD	D	N	A	SA
Inspection by the supervisory staff	-	5(5%)	5(5%)	40(40%)	50(50%)
Audit and Physical Inspection	-	2(%)	38(38%)	20(20%)	40(40%)
Financial Statement Analysis	-	-	5(5%)	20(20%)	65(60%)
Risk Survey	40(40%)	50(30%)	-	10(10)	-
Process Analysis	-	-	-	40(40%)	60(60%)
SWOT Analysis	-	4(4%)	-	38(38%)	58(58%)
Inspection by Board Members	-	10(10%)	20(20%)	58(58%)	12(12%)
Benchmarking	57(57%)	37(37%)	6(6%)	-	-
Scenario Analysis	55(55%)	35(37%)	10(10%)	-	-
Internal Communication	-	5(5%)	5(5%)	40(40%)	50(50%)

(Source: Field Data, 2018)

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It is clear from Table 4.2 that Cal Bank's branches under consideration have credit risk management structure; however, significant numbers of critical procedures are not within their jurisprudence. The result shows inspection by the supervisory staff, financial statement analysis, audit and physical inspection, process analysis, SWOT analysis, inspection by board members, and internal communication are practices followed within the branch organizations. However, risk survey, benchmarking and scenario analysis were not found within the credit risk operation of the branches. Despite this, it appears the bank has vital credit risk management procedures.

The study further examined the significance of these procedures using the t test. The result is presented in Table 4.3.

Table 4.3. T test result on credit risk management procedures

Credit Risk Management Procedures	N	Mean	SD	sig	p
Inspection by the supervisory staff	100	18.57	11.44	.002**	$p < 0.05$
Audit and Physical Inspection	100	16.18	12.01	.001**	$P < 0.05$
Financial Statement Analysis	100	24.43	15.43	.001**	$p < 0.05$
Risk Survey	100	15.04	13.32	.211	$P > 0.05$
Process Analysis	100	34.83	19.80	.000**	$p< 0.05$
SWOT Analysis	100	13.06	11.09	.000**	$P < 0.05$
Inspection by Board Members	100	15.00	11.55	.003**	$P < 0.05$
Benchmarking	100	34.83	19.80	.076	$p>0.05$
Scenario Analysis	100	13.06	11.09	.651	$P > 0.05$
Internal Communication	100	15.00	11.55	.000**	$P < 0.05$

(Source: Field Data, 2018).

Table 4.3 shows the descriptive and t test result regarding useful credit risk management procedures by Cal Bank. The aim was to explore the most utilized procedures by the bank. With regards to the statistical significance with a confidence interval of 95% (0.05 significant level), the result shows statistically significant use of credit risk management procedures indicated as [***p < 0.05***]. However, no statistical significance was discovered for the procedures or tools. The result shows that supervisory staff, financial statement analysis, audit and physical inspection, process analysis, SWOT analysis, inspection by board members, and internal communication were practices that follow within the credit risk procedures. However, risk survey, benchmarking and scenario analysis were not found within the credit risk operation of the bank indicating no statistical significance. This clearly suggests moderate use of adopted tools in Ghana. Moreover, banking institutions follow key credit risk procedures in managing credit risk. This confirms the study by Santomero (2000) who outlined certain procedures in managing credit risk. According to him, there should be standards and reports. Each bank must apply a consistent evaluation and rating scheme to all its investment opportunities in order for credit decisions to be made in a consistent manner and for the resultant aggregate reporting of credit risk exposure to be meaningful.

Risk assessment and analysis

The second study objective was to assess the credit risk environment of the Cal Bank Ghana Ltd. Key indicators were utilized including risk assessment and analysis, risk identification and credit risk monitoring. The study examined risk assessment and analysis from the perspective of sampled respondents. The result is presented in Table 4.4.

Table 4.4. Risk assessment and analysis

Risk Assessment and Analysis	SD	D	N	A	SA
Applications of risk management techniques reduce costs or expected losses	40(40%)	50(50%)	5(5%)	5(5%)	-
It is important to emphasize on continuous review and evaluation of the techniques used in credit risk management	-	10(10%)	30(30%)	15(15%)	45(45%)
It is crucial to apply the most sophisticated techniques in credit risk management	-	-	5(5%)	25(25%)	70(70%)
Managing credit risk is important to the performance and success of the Cal Bank	50(50%)	50(30%)	-	-	-
Accountability for credit risk management is clearly set out and understood throughout the bank	-	-	-	40(40%)	60(60%)
Response for credit risk management is clearly set out and understood throughout the bank	38(38%)	58(58%)	-	4(4%)	-
There is a common understanding of credit risk management	58(58%)	12(12%)	20(20%)	10(10%)	-

(Source: Field Data, 2018)

The finding suggests that some level of credit risk assessment and analysis is done by the bank albeit rarely so. Although, managing credit risk is important to the performance and success of banking institutions in Ghana, risk accountability and management is rarely done by banks in Ghana. This explains the collapse of some banks in the country as clients default continuously on loan taken. Proper credit risk assessment and analysis will reduce the default rate of clients on loans for most banks in Ghana. The result suggests that banks in Ghana do rarely employ risk assessment and analysis, portraying a dangerous lack of the capacities required in monitoring and managing client loans. It is reported the credit risk management policy of most banks is conducted on adhoc basis instead of being a long-term strategic plan; as a consequence, assessing credit risk is difficult.

Credit risk identification

Risk identification is another environmental variable examined by the researcher. The indicators on risk identification were examined and the result is presented in Table 4.5.

Table 4.5. Credit risk identification

Risk Identification	SD	D	N	A	SA
The bank has developed and applied procedures for the systematic identification of investment opportunities	-	15(15%)	4(4%)	45(45%)	36(36%)
The bank has developed and applied procedures for the systematic identification of investment opportunities	-	10(10%)	30(30%)	15(15%)	45(45%)
The bank is aware of the strengths and weaknesses of the credit risk management systems	20(20%)	71(71%)	9(9%)	-	-
Changes in credit risk are			-	50(50%)	50(30%)

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recognized and identified with the bank's rules					
The bank finds it difficult to prioritize its main risk	-	58(58%)	38(38%)	4(4%)	-

(Source: Field Data, 2018).

Table 4.5 shows the result on risk identification indicators as applied to banking operations in Cal Bank in Ghana. The findings imply that although banks have procedures required for risk identification and prioritizing, most banks find it difficult to prioritize their risk. This therefore weakens the overall effectiveness of risk management in the organization. Since banks do not know the strengths and weaknesses of their competitors regarding risk management systems, it has the propensity of affecting their risk operations negatively. This confirms the study by IAIS, (2003) who posited that an effective system that ensures repayment of loans by borrowers is critical in dealing with asymmetric information problems and in reducing the level of loan losses, thus the long-term success of any banking institution and this can be achieved through effective risk identification.

Credit risk monitoring

The paper evaluated credit risk monitoring as one of the key environmental techniques utilized by banks in Ghana regarding risk management. In order to assess such monitoring practices, the t test was employed and the result is presented in Table 4.6.

Table 4.6. T test result on credit risk monitoring

Credit Risk Monitoring	**N**	**Mean**	**SD**	**sig**	**p**
The bank's policy encourages training programs in credit risk management	100	12.17	.94	.161	p > 0.05
The bank emphasizes the recruitment of highly qualified people having knowledge in credit risk management	100	14.15	1.02	.211	P > 0.05
Effective risk management is one of the objectives of the bank	100	12.01	12.73	.000**	p < 0.05
It is too risky to invest the bank's funds in one specific sector of the economy	100	13.04	11.02	.003**	P < 0.05
The level of credit risk management practices of this bank is excellent.	100	11.27	.84	.161	p > 0.05
The bank's risk management procedures and processes are documented and provide guidance to staff about managing credit risks	100	13.18	10.02	.001**	P < 0.05
The bank is effective in continuous review/feedback on credit risk management strategies and performance	100	10.01	9.73	.002**	p < 0.05
The bank's executive management regularly reviews the organizations' performance in managing its credit risk	100	8.04	5.02	.221	P < 0.05

(Source: Field Data, 2018)

Statistical significance with a confidence interval of 95% (0.05 significant level), portrays that majority of the sampled practices were statistically significant. This means most of the practices are either fairly done or rarely done or not all indicated as [$\boldsymbol{p > 0.05}$].

However, significant number indicators were not significant. Although banks have effective risk management objectives, they fail to employ qualified risk management experts. It therefore affects employee training on credit risk management practices and strategies among banks in Ghana. The result shows clearly that credit risk monitoring practices fairly or rarely exist in Ghanaian banks. This supports the study by Ernest and Young (2009), who indicated seven key challenges in effectively managing credit risk; prominent among them is poor risk monitoring. Many banks fail to put proper monitoring tools in place to mitigate risk.

Challenges faced by banks in credit risk management

Figure 4.4 portrays respondents' views on credit risk management challenges.

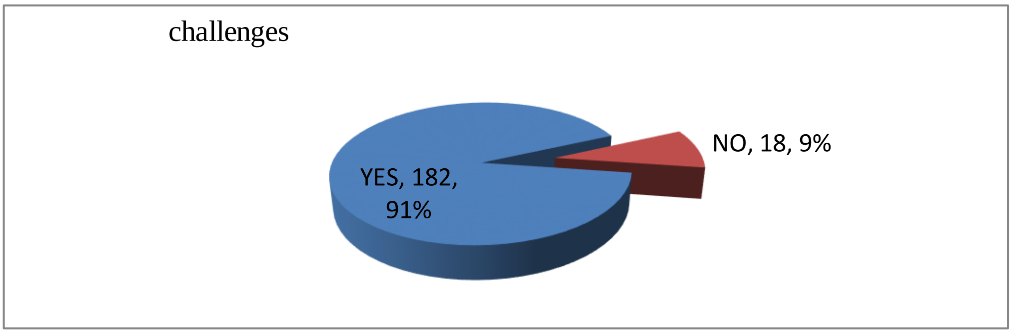

Figure 4.4. Challenges regarding credit risk management

(Source: Field Data, 2018).

To the question: "Do banks face challenges with regards to credit risk management", the predominant majority of respondents admitted there are critical challenges representing (91.0%). Mitigating these challenges is a necessary prerequisite for survival in the financial sector.

Table 4.7. Challenges to financial sustainability

Challenges	**Rank**
Poor loan payment	1st
Weak record keeping	2nd
Stringent government policies	3rd
Use of simple technology	4th
Inadequate financial infrastructure	5th
Interest rate risk	6th
Poor management of the institutions	7th
Lack of institutional capacity	8th
Ineffective Monitoring	9th
Poor credit appraisal techniques	10th

(Source: Field Data, 2018).

Credit risk management is very critical to the survival of banks in Ghana. However, the challenges outlined above can pose serious problems to the survival of banks. Among the challenges non-payment of loans disbursed to customers is seriously affecting the operations of banks. Non-payment affects the ability of the banks to recoup adequate liquidity to meet the withdrawal demands of depositors.

As a consequence, Amonoo et al. (2003) observe that in order to survive in business banks reduce interest rates on deposits, increase interest rates on loans and introduce stringent and cumbersome loan application procedures which also drive potential customers away.

Another key challenge facing banks is unfriendly government policies. The external environment is highly influenced by government actions and inactions. Unfavourable government policies resulting in high taxation and increase in utility tariffs increase the cost of business of banks. Generally, the capital base of most banks such as savings and loans companies and rural banks are lower compared to bigger financial institutions such as commercial banks. Therefore, policies resulting in high taxation, interest rate ceiling and increase in utility tariffs affect all the players in the financial sector and potentially suffocate most banks leading to their collapse. This assertion is supported by Kosmidou (2008).

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Technology plays a vital role in this current business environment. The application of feasible technology in the financial industry has boosted the performance of many institutions. Inability to perfectly install and use technology in the operations of banks results in fraudulent activities by staff and other fraudsters. Ineffective technologies also increase operational costs of banks. Instead of technology improving performance, some banks record reduction in productivity due to inadequate IT personnel to manage the application hardware and software.

Concluding comments

Summary of the study

Banks are economic instruments used to boost productivity, economic growth and poverty alleviation. Efficient running of the financial sector is a pre-requisite for economic transformation, growth and development. The survival and growth of banks is critical for the sound provision of financial support to the economic players. Growth and survival of banks depend on effective credit risk management strategies. Credit risk in banks has to be effectively assessed to ascertain threat levels to profitability, growth and survival. The findings of the study indicate that management of the bank pay close attention to credit risk management. The bank is fully aware of the impacts of credit risk on the survival of business. They therefore follow procedures laid out to diagnose and rectify any challenges posed by credit risk. The respondents are knowledgeable about risk management procedures. However, it is surprising to note that majority of the workers are not closely involved in the management of credit risk in the bank which is solely reserved for top management. Key credit risk management strategies the study found include inspection, financial statement analysis, audit and physical inspection, process analysis, SWOT analysis, and internal communication. It is noted that the bank does not utilize risk survey, benchmarking and scenario analysis as credit risk management tools.

The bank utilizing risk assessment and analysis to aid management in formulating credit risk strategies is low in the company. A finding indicates the bank has rigorous procedures in place to effectively identify risks. Prioritizing identified risks remains a challenge which negatively impacts overall performance.

Credit risk monitoring strategies used by the company include regular management review, continues review and feedback on risk management, documentation of risk management practices undertaken in the company, strategic recruitment of staff. These practices are proven to be effective but are not regularly applied. Deducing from the study, credit risk management is an important strategic management tool employed by banks in Ghana. Despite being a powerful survival tool, risk assessments are barely employed by banks. Qualified personnel to carry out effective risk monitoring are inadequate.

Study limitations, suggestions for future research

The main limitation of the study was on the use of only quantitative approach in the study. A future study could employ mixed methods; the use of interview tool is effective in gaining in-depth knowledge. The selection of only Cal Bank provided another limitation to the study. The interpretation of the results was cautiously done since not all players in the banking industry were included in the study. Data collection was a challenge. Some the respondents were unavailable at the data of data collection. This limitation was overcome through persistence and ingenuity. The researcher also has connections in the banking industry which aided in the data collection process. Further studies could examine the nature of the credit risks identified in the study. It is recommended that the actual impacts of credit risk management in the banking sectors should be researched into. Studies could also be conducted to explore innovative ways of assessing credit risks. The actual effects of risk identification on the management of credit risk among banks have to be researched into.

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