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Credit risk management system of a commercial bank in Tanzania

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Abstract

Purpose – The purpose of this paper is to develop a conceptual model to be used further in understanding credit risk management (CRM) system of commercial banks (CBs) in an economy with less developed financial sector.

Design/methodology/approach – The paper reviews existing literature that consists mostly evidence from developed countries. A study model is proposed with amendment to fit Tanzania's environment. This is achieved through the use of both secondary (various relevant documents) and primary (interviews) information from a CB and key management officials dealing with credit management. The selected CB is active in lending, has both foreign and local characteristics in its operations and has been in operation for a relatively longer period.

Findings – The main finding of this paper is that the components of CRM system differ in CBs operating in a less developed economy from those in a developed economy. This implies that the environment within which the bank operates is an important consideration for a CRM system to be successful.

Originality/value – Tanzania, a less developed economy, provides an excellent case for studying how CBs operating in economies with less developed financial sector manage their credit risk. The paper identifies issues to be studied further in order to establish a CRM system by CBs operating in Tanzania.

Keywords Credit risk management, Tanzania, Banking, Developing countries

Paper type Research paper

Introduction

Financial institutions (FIs) are very important in any economy. Their role is similar to that of blood arteries in the human body, because FIs pump financial resources for economic growth from the depositories to where they are required (Shanmugan and Bourke, 1990). Commercial banks (CBs) are FIs and are key providers of financial information to the economy. They play even a most critical role to emergent economies where borrowers have no access to capital markets (Greuning and Bratanovic, 2003). There is evidence that well-functioning CBs accelerate economic growth, while poorly functioning CBs impede economic progress and exacerbate poverty (Barth *et al.*, 2004).

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CBs face various risks that can be categorized into three groups; financial [with credit risk (CR) being a component], operational and strategic (Cornett and Saunders, 1999). These risks have different impact on the performance of CBs. The magnitude and the level of loss caused by CR compared to others is severe to cause bank failures (Chijoriga, 1997). Over the years, there have been an increased number of significant bank problems in both matured and emerging economies. Various researchers have studied reasons behind bank problems and identified several factors (Chijoriga, 1997; Santomero, 1997; BrownBridge and Harvey, 1998; Kimei, 1998; Basel, 1999, Basel, 2004). Credit problems, especially weakness in credit risk management (CRM), have been identified to be a part of the major reasons behind banking difficulties. Loans constitute a large proportion of CR as they normally account for 10-15 times the equity of a bank (Kitua, 1996). Thus, banking business is likely to face difficulties when there is a slight deterioration in the quality of loans. Poor loan quality has its roots in the information processing mechanism. BrownBridge (1998) observed that these problems are at their acute stage in developing countries. The problem often begins right at the loan application stage (Liuksila, 1996) and increases further at the loan approval, monitoring and controlling stages, especially when CRM guidelines in terms of policy and strategies/procedures for credit processing do not exist or weak or incomplete.

Lending has been, and still is, the mainstay of banking business, and this is more true to emerging economies like Tanzania where capital markets are not yet well developed. To most of the transition economies, however, and Tanzania in particular, lending activities have been controversial and a difficult matter. This is because business firms on one hand are complaining about lack of credits and the excessively high standards set by banks, while CBs on the other hand have suffered large losses on bad loans (Richard, 2006). It has been found out that in order to minimize loan losses and so as the CR, it is essential for CBs to have an effective CRM system in place (Santomero, 1997; Basel, 1999). Given the asymmetric information that exists between lenders and borrowers, banks must have a mechanism to ensure that they not only evaluate default risk that is unknown to them ex ante in order to avoid adverse selection, but also that can evolve ex post in order to avoid moral hazards.

CRM is very essential to optimizing the performance of FIs. Recognizing this importance, this paper focuses on understanding the CRM system of a CB operating in Tanzania, the economy with a less developed financial sector, and proposes a research model for further testing. The paper is organized as follows: the next section gives a review of literature on the subject. The third section presents a problem and methodology. The fourth section presents and discusses the results of the study. The last section five concludes and provides implications of the results.

Literature review

Loans that constitute a large proportion of the assets in most banks' portfolios are relatively illiquid and exhibit the highest CR (Koch and MacDonald, 2000). The theory of asymmetric information argues that it may be impossible to distinguish good borrowers from bad borrowers (Auronen, 2003), which may result in adverse selection and moral hazards problems. Adverse selection and moral hazards have led to substantial accumulation of non-performing accounts in banks (Bester, 1994; Bofondi and Gobbi, 2003). The very existence of banks is often interpreted in terms of its

superior ability to overcome three basic problems of information asymmetry, namely ex ante, interim and ex post (Uyemura and Deventer, 1993). The management of CR in banking industry follows the process of risk identification, measurement, assessment, monitoring and control. It involves identification of potential risk factors, estimate their consequences, monitor activities exposed to the identified risk factors and put in place control measures to prevent or reduce the undesirable effects. This process is applied within the strategic and operational framework of the bank.

Several risk-adjusted performance measures have been proposed (Heffernan, 1996; Kealhofer, 2003). The measures, however, focus on risk-return trade-off, i.e. measuring the risk inherent in each activity or product and charge it accordingly for the capital required to support it. This does not solve the issue of recovering loanable amount. 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 organization (Basel, 1999; IAIS, 2003). Effective CRM involves establishing an appropriate CR environment; operating under a sound credit granting process; maintaining an appropriate credit administration that involves monitoring process as well as adequate controls over CR (Basel, 1999; Greuning and Bratanovic, 2003; IAIS, 2003). It requires top management to ensure that there are proper and clear guidelines in managing CR, i.e. all guidelines are properly communicated throughout the organization; and that everybody involved in CRM understand them.

Considerations that form the basis for sound CRM system include: policy and strategies (guidelines) that clearly outline the scope and allocation of a bank credit facilities and the manner in which a credit portfolio is managed, i.e. how loans are originated, appraised, supervised and collected (Basel, 1999; Greuning and Bratanovic, 2003; PriceWaterhouse, 1994). Screening borrowers is an activity that has widely been recommended by, among others, Derban *et al.* (2005). The recommendation has been widely put to use in the banking sector in the form of credit assessment. According to the asymmetric information theory, a collection of reliable information from prospective borrowers becomes critical in accomplishing effective screening.

The assessment of borrowers can be performed through the use of qualitative as well as quantitative techniques. One major challenge of using qualitative models is their subjective nature (Bryant, 1999; Chijoriga, 1997). However, borrowers attributes assessed through qualitative models can be assigned numbers with the sum of the values compared to a threshold. This technique is termed as "credit scoring" (Heffernan, 1996; Uyemura and Deventer, 1993). The technique cannot only minimize processing costs but also reduce subjective judgments and possible biases (Kraft, 2000; Bluhm *et al.*, 2003; Derban *et al.*, 2005). The rating systems if meaningful should signal changes in expected level of loan loss (Santomero, 1997). Chijoriga (1997) concluded that quantitative models make it possible to, among others, numerically establish which factors are important in explaining default risk, evaluate the relative degree of importance of the factors, improve the pricing of default risk, be more able to screen out bad loan applicants and be in a better position to calculate any reserve needed to meet expected future loan losses.

Clear established process for approving new credits and extending the existing credits has been observed to be very important while managing CR (Heffernan, 1996).

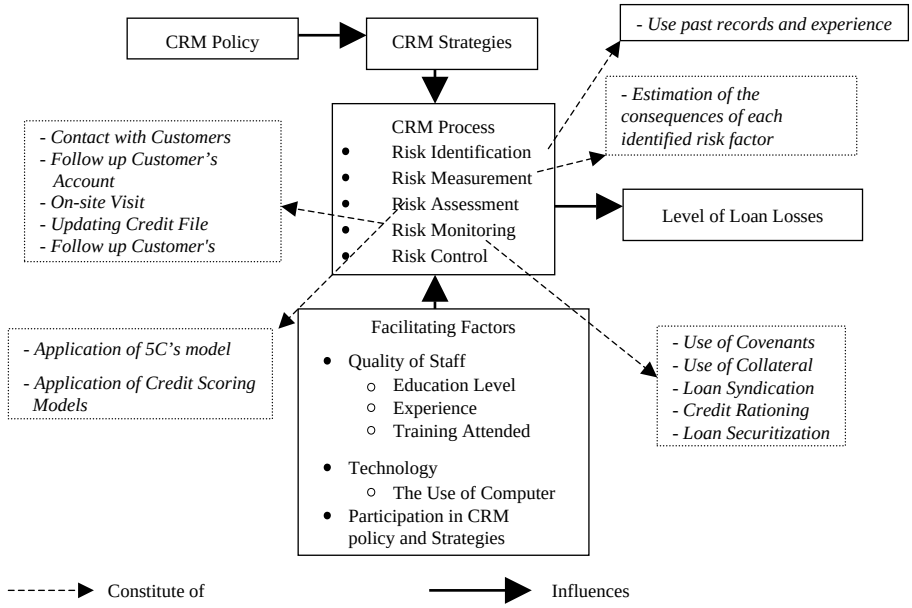
Further, monitoring of borrowers is very important as current and potential exposures change with both the passage of time and the movements in the underlying variables (Donaldson, 1994; Mwisho, 2001), and also very important in dealing with moral hazard problem (Derban *et al.*, 2005). Monitoring involves, among others, frequent contact with borrowers, creating an environment that the bank can be seen as a solver of problems and trusted adviser; develop the culture of being supportive to borrowers whenever they are recognized to be in difficulties and are striving to deal with the situation; monitoring the flow of borrower's business through the bank's account; regular review of the borrower's reports as well as an on-site visit; updating borrowers credit files and periodically reviewing the borrowers rating assigned at the time the credit was granted (Donaldson, 1994; Treacy and Carey, 1998; Tummala and Burchett, 1999; Basel, 1999; Mwisho, 2001).

Tools like covenants, collateral, credit rationing, loan securitization and loan syndication have been used by banks in developing the world in controlling credit losses (Benveniste and Berger, 1987; Greenbaum and Thakor, 1987; Berger and Udell, 1992; Hugh, 2001). It has also been observed that high-quality CRM staffs are critical to ensure that the depth of knowledge and judgment needed is always available, thus successfully managing the CR in the CBs (Koford and Tschoegl, 1997; Wyman, 1999). Donaldson (1994) and Jeremy and Stein (1999) observed that computers are useful in credit analysis, monitoring and control, as they make it easy to keep track on trend of credits within the portfolio. Marphatia and Tiwari (2004) argued that risk management is primarily about people – how they think and how they interact with one another. Technology is just a tool; in the wrong hands it is useless. This stresses further the critical importance of qualified staff in managing CR. Figure 1 presents a summary of the CRM system as explained in the literature.

Problem and methodology

In the CBs, management of CR has caused loan losses problem in developing countries, including Tanzania. The problem has its roots in information problems that particularly cause adverse selection and moral hazards. Tanzania economy being in a transition makes information asymmetry more pronounced. Effective CRM system minimizes the CR, hence the level of loan losses. There is an extensive literature on the management of CR in CBs, which allowed the formulation of a deductive research design. Most literature, however, is from the developed world. Empirical studies show differences in approaches to CRM when different contexts are considered (Menkhoff *et al.*, 2006; Mlabwa, 2004). It was important therefore to take into consideration the context within which the study was conducted. This situation required the incorporation of an inductive approach (Haider and Birley, 1999). The nature of the study required an understanding of the CRM phenomena within a Tanzanian context. The CRM as a phenomenon is a process whose understanding required rich data in its respective context to be collected. The case study approach was therefore an appropriate strategy in collecting the required empirical data. The information required was qualitative and contextual in nature and was therefore analyzed qualitatively.

The principle in the selection of the case is that it has to be information rich (Patton, 1990; Huberman and Miles, 1998; Yin, 2003). The bank that was active in lending activities, had both foreign and local characteristics in its operations, had been in



Source: Constructed from the literature

Figure 1.
Proposed research model for the CRM System of a commercial bank

operations for relatively longer period and was willing to avail the required information provided the best case for the study (Morse, 1994; Tellis, 1997; Johnson and Christensen, 2004). CR policy and manual for the bank were thoroughly read and analyzed. Three top officials in the credit management department were interviewed for the purpose of not only verifying the information obtained from the studied documents, thus ensuring data validity (Yin, 2003), but also obtain clarification on some issues that were either not clear to the researcher while reading and analyzing the documents or were not provided in the documents.

Findings and discussion

The bank has a well-documented CRM policy that elaborates the products offered and all activities that have to be performed to manage the CR. It has also a credit manual that documents and elaborates the strategies for managing CR and they are formulated in compliance with the bank credit policy. Strategies for granting credits focus on who, how and what should be done at the branch and corporate division levels while assessing borrowers. Also, who, how and what should be done at the head office while approving the credits. Various checklists are used in assessing borrowers and establishing their creditworthiness. Quantitative credit scoring models are not used at all. Personal judgment and intuition plays a big role in credit assessment. The focus is on borrower's capacity, character, condition, credit history and collateral (the five Cs). It was observed that poor recordkeeping and lack of effective database systems in various sectors within the country contributed significantly in not been able to

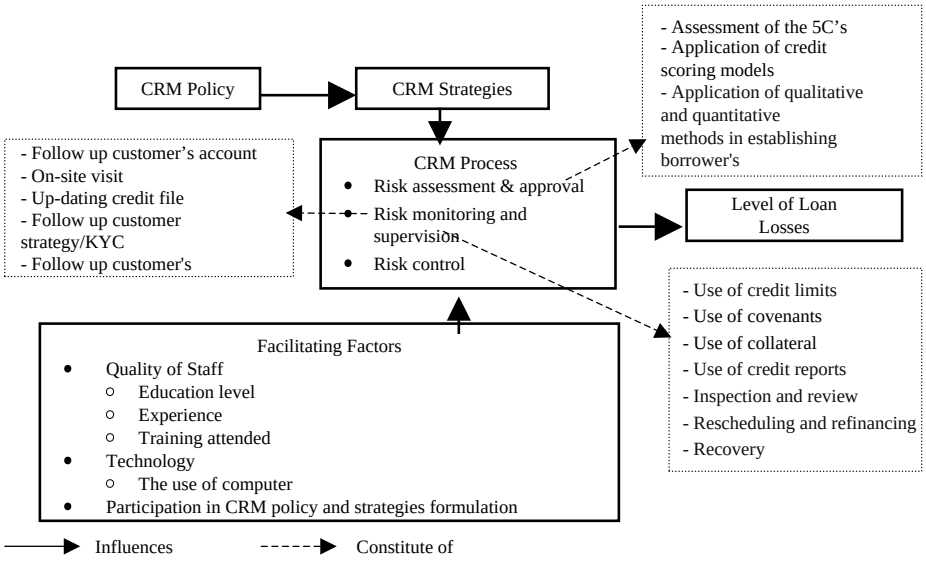
construct and use credit-scoring model. The process of credit granting, therefore, is both a science and an art.

The approval power, which is a personal possession, is distributed to different personnel within the credit management structure. The head office communicates with branches/corporate division and informs them that the credit has been approved. The branch manager authorizes the initial utilization of the credit when all the requirements have been met. Consecutive utilization is initiated by the credit officer responsible for the customer as he/she is the one who is dealing with the customer on a day-to-day basis, and is in a good position to know whether additional funds should be availed or not. Borrowers' respective activities, their performance, as well as behavior are closely monitored, by both branches and corporate division on daily basis to establish whether there are any changes that need to be taken care of to protect non-repayment of credits. The bank uses credit limits, inspection and review, rescheduling and different recovery procedures for controlling CR. Aging technique is used for quantitative review and a specified checklist for qualitative review. Rescheduling is performed only to problem credits whose interests have been paid in fully and at least 10 percent of the principal have been paid. Otherwise, the bank undertakes recovery procedures.

While formulating the credit policy and strategies, the bank involves staff members who are dealing with CRM. The common practice has been to receive proposals from branches. This common practice strengthen the bank CRM system as the implementers not only take ownership of what they are implementing (PriceWaterhouse, 1994), but also understand the policies and strategies, as they are the same people who initiate them (Santomero, 1997; Basel, 1999). Management of corporate credits is assigned to experienced staff. New employees are required to hold at least a lower second degree from a reputable university with a grand point average of at least three points. Various trainings are conducted by the bank where staff members in the CRM section are expected to attend. The bank also sends its staff to various trainings to improve and update their knowledge and skills in CRM. This shows the emphasis the bank puts in the quality of staff involved in CRM. A computerized system known as the *bankmaster* is used such that relevant information is fed into the system that produces various reports at the end of each month. The reports are used for making various decisions on managing CR. Computers are also used in performing some analysis while assessing and managing borrowers. Figure 2 presents a summary of the CRM system of the CB in Tanzania, which is a refined research model to be studied further.

Conclusion and implications

It is established in the financial economics literature that the CRM system of a CB is made up of credit policy and strategies that provide general and detailed operational guidelines. It also includes the facilitating factors such as quality of staff and technology. Some of the CRM indicators in a weak financial system differ from those identified in the literature (see items given in bold in the model in Figure 2). The implication is that the environment within which the bank operates is very important to be considered if the CRM is to be understood well. The proposed model in this paper is particularly an important contribution because the existing literature is based on well-developed world economies.



Source: Empirical data

Figure 2.
Refined research model for the CRM system of a commercial bank

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