TACIT KNOWLEDGE SHARING MODEL FOR BANKS: REMEDIAL MEASURE OF LIKELIHOOD OF DEFAULT

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ABSTRACT

Non-Performing Loans (NPLs) adversely affect financial performance of banks which is a persistent problem of banking. NPLs are time and again built-up in banking sectors and drag economies towards crises. Search for better solutions to problem is high on agenda of research. This study is aimed to provide a better solution to problem of NPLs. It uses analytical conceptual approach of research and addresses issue in knowledge management perspective. Critical review of relevant literature has been conducted with a focus on Tacit Knowledge (TK) sharing. An idea of exploiting potential of TK to control NPLs has been conceived that works through refinement of decision-making processes and results in improvement of recovery and financial performance of banks. A Tacit Knowledge Sharing Model (TKSM) has been developed in this regard. TKSM is modeled on core business of banking that provides a simple way to use TK for controlling risk of likelihood of default.

Keywords: Banks, credit decision, financial performance, economy, default, NPLs, TKSM.
JEL Codes: G21, H81

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I. INTRODUCTION

World over cyclical financial crises question the implied assumption of standard economic models that economies are inherently stable (Kongsilp & Mateus, 2017; Logojan, 2009). It compels economists to rethink role of humans in economic theories. Concept of expressing economy as a state of a country in terms of production, consumption of goods, services, and supply of money has changed. Economies have shifted from industrialization to information and from information to knowledge era. This paradigm shift of economies also necessitates incorporating due changes in financial systems. Financial systems in contemporary economies majorly consist of banking sector. Therefore, to effect any change in financial systems necessarily involves banking. Banking is one of the most important sectors that play pivotal role in financial systems (Salehi & Mansouri, 2016). There is no dearth of research on role of banking in economies and scope of study is not extended to this already settled issue but still room can be found to iterate role of banking in economy to outset context of the study. Arguments of Okpara (2009) suffice establishment of importance of banking sector to any economy. It argued that banks are considered as: i) principal depositories of public saving, ii) nerve center for payments, iii) vessels endowed with ability of creating & allocating financial resources, and iv) conduit for implementation of monetary and fiscal policies. Success of monetary and fiscal policies depends on banking system (Jiménez et al., 2014; Okpara, 2009).

Banking is the business of loans. It is borrowing from public and lending to businesses at a small premium (Karunakar et al., 2008). It is a highly leveraged business, sensitive to interest rates and recovery of loans. History speaks that banking systems time and again reach to verge of collapse and drag economies towards crisis. Banks' failures, inter alia, are major cause for depression in economies (Logojan, 2009). One of the prominent reasons for the world over financial crisis is building up of Non-Performing Loans (NPLs) in banking and financial sector (Karunakar et al., 2008) that adversely affect the economy (Osei-Assibey & Asenso, 2015). Lending of money involves lot of credit risk i.e. occurrence of NPLs. Banks' credit is a catalyst in economic development of a country therefore a smooth flow of credit is necessary and consequent risk of NPLs is not avoidable. But, the bottlenecks in flow of credit, due to mounting NPLs, create an adverse repercussion for the economy (Karunakar et al., 2008). At the same time, a slow down in economic activity is also likely to accelerate the growth of NPLs (Festic et al., 2009). High level of NPLs in banks is a matter of grave concern to the general public as well as to the governments. In today's bubble economies, banks are on the hump of NPLs (Ito, 2002) e.g. accumulated bad debts of State-Owned Commercial Banks (SOCB) of China had reached nearly 50 percent (4 trillion Yuan) of the nation's GDP in 1999 (Yeung, 2009).

Recovery of loans is the core issue for economy in general and for banks in particular (Ben Saada, 2018). NPLs are considered the main variable of financial crisis and lot of research has surpassed on examining the determinants of NPLs (Abedola et al., 2011; Abid et al., 2014; Dhar & Bakshi, 2015; Hu et al., 2004; Ikram et al., 2016; Khemraj & Pasha, 2009; Kumar et al., 2018; Louzis et al., 2012; Makri et al., 2014; Messai & Jouini, 2013; Rajan & Dhal, 2003). NPLs deteriorate liquidity and profitability of banks resultantly lower ROE (Makri et al., 2014). Risk of NPLs cannot be eliminated but can only be reduced and managed effectively. Management of NPLs is a vital task before bankers because it challenges the bank's resistance capacity (Ahmed, 2010). It is utmost important that NPLs in banks ought to be kept at the lowest level (Karunakar et al., 2008). Researchers are in search of the effective possible solution to problem of NPLs.

Before embarking upon any solution, let us comprehend problem and causes of the problem. Issue of recovery of NPLs is the major phenomena under study in the domain of banking. In fact, recovery is the function of the judgment of a bank about customers' credit worthiness and capacity to pay back loans (Taherparvar et al., 2014). People initiating, processing, sanctioning and disbursing credits have to deliver very important and quick decisions in a short span of time. NPLs are neither a cause nor an action but an effect of actions. Credit decisions are the actions, some of which result into NPLs. Obviously, there are certain causes, as a consequence of which credit decisions result into NPLs. There is lot of research literature to establish these causes. Poor credit appraisal system, lack of vision while sanctioning, reckless advances to achieve targets, lack of sincere corporate culture, lack of co-ordination, lack of knowledge sharing and lack of proper monitoring are common causes of poor credit decisions (Ahmed, 2010; Al-Abdullat & Dababneh, 2018; Holland, 2010; Intezari et al., 2017; Shao et al., 2015). Customer's failure to disclose vital information during the loaning process is another main factor contributing towards NPLs (Waweru & Kalani, 2009). Laxities in legal system, defective accounting disclosure practices, general recession and willful defaults are yet some other reasons to lead the banks to accumulation of NPLs (Karunakar et al., 2008). High levels of corruption, on top of other reasons, lead banking sector to increased vulnerability (Zarrouk & Ayachi, 2009).

The lasting solution to issue of NPLs can be achieved with proper credit assessment control and risk management mechanism (Ben Saada, 2018; Karunakar et al., 2008; Rampini et al., 2014). Therefore, it is imperative to engineer the process of credit assessment for uncovering the solution. The credit assessment can be defined as a set of credit decisions taken by the credit personnel of a bank for assessment of a proposal of credit, whereas, credit (loan) is an expectation of a sum of money (from a bank) for and within some limited time (Atieh, 1990). Credit decision is a function of different variables. Every credit decision has, inter alia, four major parts (Nagarajan, 2009; Rose, 2001) namely i) judgment about capacity of customer to pay back the loan (this part is quantitative hence objective), ii) judgments about willingness of customer to pay back loan (this part is qualitative and subjective), iii) judgments about purpose of loan (it is qualitative and subjective) and iv) judgments about identification of customer/obligor (it also is qualitative but objective).

A credit decision is taken at front office of the bank, with support of top management, on the basis of predetermined criteria known as official criteria for credit assessment. Banks devise these criteria based on their knowledge of laws of land, contextual circumstances, technological facilities, financial considerations, religion, foreign exchange policies, values, norms, language, geographical position, demographic features, business conditions, politics, and availability of expertise in management. It provides an explicit format to formulate a credit decision. Credit personnel evaluate credit proposals by applying process of inquiry prior to decision of credit (Atieh, 1990). They have limited time to allocate for analysis of credit proposals but have to analyze it very comprehensively. In order to deliver a fair judgment, they make an assessment about sincerity, integrity and capability of a borrower. It is their screening and monitoring rather than risk or size which adds value to the bank (Lee & Sharpe, 2009). The decision to lend, as of today, is ultimately determined by official assessment criteria for lending (Yeung, 2009). In fact, credit decisions are outcomes of bankers' knowledge-based inquiry process about customer and transaction. Credit decision makers always want to acquire reliable quick precise information about customers and processes. They mostly rely on predetermined traditional criteria of banking

systems. It is also a fact that there are many aspects of credit decisions in which credit managers bypass formal criteria and use a set of informal (unwritten) policies/criteria where they feel satisfied. This act of decision makers neither necessarily contradict nor necessarily detrimental to interest of the bank. Sometimes it becomes more appropriate to take such steps in best interest of the bank. These informal unwritten criteria used by the bankers is a form of TK which is being used by bankers unsystematically at their will. The idea of using TK (consciously or unconsciously) is, in fact, deeply ingrained in human minds which is not easily measured or codified (Garrick & Chan, 2017).

Credit decisions in banking sector are indispensable and contain inherent credit risk (i.e. risk of default) which is unavoidable (Karunakar et al., 2008). As a result of credit decision there is post disbursement paradigm shift of responsibility from front to back office (for the purpose of the study front office means the credit decision making personnel and back office means loans recovery personnel). After the credit portfolio is handed over to the loans recovery personnel, it becomes their prime responsibility to successfully recover. They recover loans over the period of time in accordance with the terms of financing agreements executed in pursuance of credit decisions. Recovery, consequent to credit decision, is a regular feature of the banking. Recovery, which is major contributory variable to financial performance of a bank, can only be ensured by good quality credit decisions. The development of some instrument which should curtail credit risk by way of improvement in quality of credit decisions is a call of the day. Because the successfulness of recovery, (which is measured on the basis of completeness and timeliness), is resultant outcome of credit decisions and a formative variable of financial performance. The traditional criteria-based decision making in credits is becoming disadvantageous to banks. Quality credit decisions can be made through leveraging the organizational knowledge. The contemporary system of credit decisions, in fact, ignores a major source of knowledge. In order to leverage the knowledge in true sense, attention to the TK of the people is necessary (Campanella et al., 2019). The organizational knowledge and wisdom emanate from people; therefore, the knowledge embedded in the minds of the people has become very important to be accessed (Leng & Nasaruddin, 2008). TK of the people at real work (i.e. TK of credit and recovery personnel in banks) is the best source of knowledge (Ghaziri & Awad, 2005).

In the changing environment, on the one hand, the time of credit decision-making is being measured even in seconds and learning from leveraging expert's knowledge is becoming very important for banks (Haslinda & Sarinah, 2009), on the other hand the banks are continuously losing knowledge of experts because of their resignations or retirements and banks inability to protect knowledge (Manhart & Thalmann, 2015). In order to hint the issue Yeung (2009) and Mielitz et al. (2019) argued that even a comment of an experienced banker on the loan applicant's reputation is important for credit decision making. Zhou (2006) more clearly and rightly argued that the banks do not learn well from the past. They keep on losing knowledge of experts due to their resignation or retirement. The systematic diffusion of TK can improve the quality of credit decisions and resolve this problem of "reinventing the wheel" which occurs when an expert staff leaves the bank (McAdam et al., 2007).

II. RESEARCH GAP AND CONTRIBUTION OF STUDY

There is a severe need to utilize TK in decision making in order to avoid the fresh incidence of NPLs but not at cost of fresh deployment of credits (Ahmed, 2010). To control NPLs, it is vital to reach on such a credit assessment and risk management mechanism that provide the lasting solution of this problem (Karunakar et al., 2008). There are many research studies on quality of bank assets, risk management, loan portfolio, determinants and management of NPLs (Adzobu et al., 2017; Liff & Wahlstrom, 2018; Rottke & Gentgen, 2008; Saif-Alyousfi et al., 2018; Salike & Ao, 2018) but studies relating to control of NPLs by improving quality of credit decision making particularly in KM perspective remain less-researched area. Contemporary banking system does not provide an appropriate mechanism for TK sharing. A KM, knowledge acquisition, knowledge sharing, knowledge conservation and knowledge retrieval (Friday & Blessing, 2019), mechanism aimed to refine the credit decision making processes for improvement of recovery of loans and financial performance of banks is highly needed (Ahmad & Karim, 2019). Recovery of bank loans and effective control of NPLs is an issue of vital importance for banks. There is lot of research being done to solve the problem but this research addresses issue in an innovative manner. Objectives of the study include i) to suggest TK based model to avoid NPLs at credit decision making stage for improving the financial performance of banks, ii) to identify the possessors and potential recipients of TK, and iii) to check possible explication and use of TK in order to control the NPLs. The study has contributed a novel conceptual model i.e. TKSM towards the body of knowledge in the domain apart from its theoretical and practical implications. Rest of the paper is arranged into literature review, methodology, developing the TK sharing model and conclusion.

III. LITERATURE REVIEW

Researchers coming from KM side, in course of their work, started developing some process frame-works for banks to delimit the scope of KM (Firestone & McElroy, 2004). Therefore, KM evolved in the domain of banking as a reliable source of information and a problem solver (Cham et al., 2016). Relatively, there is little research or implementation of KM in the banking industry despite of the utmost importance of the financial sector to country's economy (Leng & Nasaruddin, 2008). There are quite a few studies taking KM in banking as a research object (Huang et al., 2010). Initially banks did not take KM initiatives seriously (Chiran, 2008) but it is now realized that KM has potential to influence many spheres of banks (Goswami, 2008). Bankers started admitting that knowledge and KM is core to the management in banks (Williams, 2006). Bankers are convinced that there are plausible reasons to search solutions of banking problems in area of KM. The leading banks are now involved in KM journey (Vencatachellum & Jeetah, 2008). But they could not even fully implement first generation schemes of KM which are largely IT based and are mostly about knowledge capturing, delivery and use. Most of the banks still have no formal KM strategy (Oluikpe, 2012). Adoption of KM among banks is still nascent. Whereas, research communities of KM, learning organizations and complex adaptive system are heading towards collaborative nexus of domains (Firestone et al., 2004; Imran et al., 2016; Taskin & Van Bunnen, 2015). However, it is an established fact that knowledge is the most important asset of banks and KM meets a challenge to effectively manage knowledge while maintaining its quality (Verincianu et al., 2009). There is no 'one template' that fits all the banks' requirements to manage its intangible asset i.e. knowledge (Leng & Nasaruddin, 2008). Research is in search of the best possible templates for banking and few efforts have already surfaced in this context. The efforts have been made by few researchers to model the processes of knowledge

creation, knowledge sharing, knowledge retention, storage, and knowledge reuse in banks at higher abstract levels. In introduction, the problem has been recognized and planned to solve the same by designing a new KM model based on TK of communities of practice in banks. Therefore, a critical review of existing KM models for banks is necessary.

IV. KM SYSTEM FOR BANK OF TOKYO-MITSUBISHI LTD. (BTM)

KM system by Ito (2002) was devised for BTM, with an intention to improve knowledge sharing environment so that employees of the bank may access necessary information in an efficient way. The model consists of formal and informal traditional sources of information, traditional internal user communities, and company-wide portal. The processes are directed towards quality of customer services. Traditional sources include quality assurance through various sources including library (that contains sale, internal control and interdepartmental information), expert lists, and bulletin boarding. Non-traditional sources include lotus notes, and electronic documents data basis. These sources of information provide the back up to the internal communities. Indicative communities in the model are Q&A community, administrative community, corporate customer community, and retail community. Communities of bank provide products and services to the bank's customers through company-wide portal. Company portal has direct and indirect links with traditional and non-traditional sources. It is a KM model for a bank but not based on intensive research. It has been developed specifically for BTM. It is a demonstration of customer services through internal communities of the bank in general. Traditional sources-based model provides indications of traditional storage and retrieval. Model is unable to provide even a little insight about loan processes. Hence it cannot be generalized to cater the needs of the studies.

IV.I. KM MODEL-GOVERNMENT SAVING BANKS, SOUTHERN THAILAND

The model presented by Wettayaprasit et al. (2005) has four parts i.e. End Users, IT Knowledge Sharing, Filtration & Testing, and IT Knowledge Assets. There are interactive information flow processes indicated in the model. End users include the department of loans, department of general banking, and department of insurance. Interdepartmental interactive knowledge sharing is indicated through IT where IT includes hardware, software and networking. Knowledge is created, stored, searched, and retrieved through interactive processes among IT personnel and the user departments both explicitly and tacitly. Model demonstrates the key role of IT experts for knowledge filtration and testing then suggest storage in the style of Case Based Reasoning. The end user departments can benefit from this storage through IT filtered processes formally and informally. It is highly IT focused model providing interdepartmental knowledge sharing framework for Government Saving Banks of a specific country. Testing, filtration, and validation of knowledge is through IT technicians and IT experts instead of banking experts. This model ignores the environment altogether which facilitates the sharing of TK (Nakano et al., 2013). It is research model designed in the real banking scenario and is relatively close to the problem in hand. Loan department is there in the model as an end user community of the knowledge generated through the processes of the model but still there is no specific indication towards the solution of problem of NPLs. This model, in fact, is focused towards selection of best solution of the problems of the customers in general on case-based reasoning. It is more a framework for collecting, indexing, storing, and analyzing the knowledge at operational level with a limited scope rather than to be a model.

IV.II. KM MODEL OF CHINA BANKS

The subject model is a research model referred in Leng and Nasaruddin (2008). Research uses the constructs of environment, knowledge input, knowledge return, employee's knowledge exchange, knowledge internalization, knowledge selection, knowledge capturing, knowledge assets, knowledge output, and products & services. Modeled processes start with the knowledge input/return from environment. Knowledge passes through employee's interaction and knowledge exchange which results in internalization and capturing subject to internal selection filters. The filtered selected knowledge constitutes knowledge assets. Finally, the knowledge assets reportedly add premium to the products and services. The knowledge output in form of knowledge assets enriches the environment. The processes which have been modeled are shown as repetitive on circulatory format in banks. The purpose of the model is to address KM issues of banks in China. The model under discussion more represents the view point of the behaviorists. It undermines the role of IT. It is focused on employees of the banks. The model deals all the factors which can possibly affect the banking processes as part of environment in general. The important processes of knowledge like externalizations have not been incorporated. It also ignores different dimensions of knowledge and uses higher level of abstraction for modeling. It deals the issue in hand generically and do not suggest any direct solution for the problem of NPLs.

IV.III. BANKING KM MODEL (BKMM)

It is a research model devised by Ali and Ahmad (2006) for Malaysian banks. It uses basic modeling constructs at higher level of abstraction. The model shows environment, people, technology, and knowledge progress mutually exclusive. The knowledge progress has been shown on the format of a loop of knowledge creation, knowledge sharing, and knowledge retention. Research is based on Malaysian banks having support of a case study of two banks selected at convenience. Practical implications of the model have been checked through initial investigation of case study. Model provides the theoretical framework of KM in banks. It is a generic model, theoretically constructed on basic modeling constructs, addressing KM issues of banking sector in general. Focus of the model is on transformation of knowledge. It can serve as a guide for the future research but it cannot provide any instant solution to banking problem in hand. It also seems to be a conceptual framework at a higher abstraction instead of a model.

IV.IV. REVISED KM MODEL FOR MALAYSIAN BANKS

Leng and Nasaruddin (2008) conducted a research and juxtaposed existing KM models for banks and presented this revised model. Model uses the very basic constructs of KM. Environment, people, technology, knowledge repository and knowledge output are the constituent constructs. It seems to be an inspiration of Research Model-Banking KM Model (BKMM) discussed above. The model uses these constructs mutually interdependent and inclusive. People mean workers, managers, investors, customers, and clients. Technology indicates the enablement of knowledge capturing, knowledge discovering, and knowledge sharing. Knowledge repository indicates the storage of captured knowledge and available in memory of computers for reuse. The processes of the model result in output of knowledge captured and discovered. Again, it is a model formulated at higher abstract level in the context of Malaysian banks which is using very basic constructs of KM for demonstration of processes. It uses the constructs mutually inclusive and interactive and rightly embedded them in general. It only clarifies the future direction of research at higher

abstraction giving a good lead to researchers from banking side but cannot provide the solution to the problem in question.

IV.V. BANKING KM MODEL (BKMM) FOR SANGLI, MAHARASHTRA

Tanaji (2012) presented a conceptual model of KM system that outlines the benefits of deployment of KM system in banking sectors. Main contribution of this model is to cultivate the knowledge sharing culture in banking sector. Four major steps are conceived in model to describe KM progress. Process starts with converting and incorporating of knowledge to build knowledge powerhouse by adding fresh knowledge and rid of obsolete knowledge which is readily available to right people at right time. It is an attempt to relate external environment and internal environment of the organization wherein people are shown as possessors of TK which can be explicated through technology. That Explicit Knowledge (EK) can be created, shared and disseminated within the banking organization. This model is also generic in nature and addresses the issue in higher abstraction. This model does not offer any solution for NPLs. It neither directly address liability side nor to loans. It only pertains to general environmental knowledge sharing and dissemination within the banks.

IV.VI. KNOWLEDGE SHARING MODEL FOR BULGARIAN BANKS

Shah et al. (2014) have analyzed the prevailing KM practices in customer service and lending departments for a Bulgarian bank and conceived a model that not only addresses the KM related issues but also provides the solution to improve knowledge sharing practices. There are three building blocks of this model i.e. pyramid showing organization (base), group (middle) and individual (top), structural foundations (vision, mission, structure, strategy, technology, people and culture) and knowledge transformation (creation, retention and transfer). In this research model KM field has a gap concerning financial organizations in developing Eastern European economies. Researchers fail to provide enough perception into the KM practices and their practical implementation and arrangement to the organizational culture. This model fills this gap by analyzing KM processes at a Bulgarian bank and explore how knowledge sharing is entrenched in its organizational culture but again this is a general knowledge sharing model at higher abstraction.

IV.VII. THE CRITIQUE

Foregoing models could not show a balanced mix of IT and people, therefore at times lesser appreciate that technology infrastructure only promotes efficient and effective capture of knowledge (Haslinda & Sarinah, 2009). Technology has a role as a one of the means to foster the communication and it is impossible to capture all expertise in databases (Desouza, 2003). Critical knowledge for organization depends on information and communication technologies for increasing its strategic agility and adaptability (Malhotra, 2005). Models also undermine the concept that knowledge originates in the minds of individuals therefore no IT solution alone can deliver the desired goals in area of KM unless the members of organization are motivated to share knowledge. Models suggested simply point to point repositories and are unable to demonstrate a KM system that should encourage dialogue among individuals. Role of the TK is not valued. Validation and filtration of banking process knowledge have been modeled on IT experts and technicians in some of the models. The models in question are at higher abstraction and demonstrate the processes at generic level hence lesser applied. If there is any direct application represented that too is more representative to explicit dimensions of knowledge and

does not directly deal with the problems of core banking processes. None of the models is supported through empirical evidence hence not validated by community of practice. These models provide foundations for research but do not provide any direct instant solution to the banking problems. For developing any true representative useful model of banking processes, it is necessary to strike a fair balance among operational, behavioral and technological aspects (Ghaziri & Awad, 2005; Nyame-Asiamah, 2009). KM is at very initial stage in banking. Use of KM as solution to the problems is also nascent. There is a little research on KM modeling in banking. Existing models of KM for banking are at higher abstraction level and meant for general theoretical foundations of KM research in the domain. They are either too generic to deal with any specific problem or to specific to be fairly generalized. None of the existing models directly demonstrate core banking business process (i.e. credit process) to provide solution of NPLs. There is no such model which gives an idea to use the TK of bank employees as basis of modeling.

V. METHODOLOGY

Degree of confidence posed in research depends on the approach and methodology followed by the research. This research is based on literature review hence descriptive in nature. The course of literature review has been adopted for formulating a model to demonstrate a solution to the problem of NPLs. An extensive review of the published research in the area of banking (with a focus on asset side of the banks) and KM (with a focus on TK sharing) has been done. Concepts and literature of EK, TK, knowledge creation, knowledge sharing, knowledge retention, knowledge use & reuse, knowledge repositories, organizational memory, organizational wisdom and the knowledge capturing & sharing tools and techniques have been revisited in the specific context of the study. The research models of KM for banks have been critically reviewed from view point of purpose of model, adequacy, precision, usefulness and practicability. Level of abstraction of the models has also been evaluated. Constructs, relations among constructs and the flow processes indicated in the contemporary models have been examined carefully. It has been examined as to whether any model provides workable solution to the problem of NPLs. A fair and just critique has been placed on record which has been derived by evaluating the contemporary models viz-a-viz real-life banking processes. Using the conceptualization, critique, mechanisms of the banking processes and KM processes a new model has been conceived by employing tools of free hand drawing using CorelDRAW 12.

V.I. DEVELOPING TACIT KNOWLEDGE SHARING MODEL (TKSM) FOR BANKS

Idea of use of TK for solving problems of banks is new in the banking research. It is widely agreed that knowledge is a fundamental asset for organizations in contemporary economy. Knowledge is highly productive when it is captured in the minds of people and is funneled to a right level at right time where it is required (Garrick & Chan, 2017; Ghaziri & Awad, 2005). Knowledge production and sharing has been recognized as the key for innovation. Since instant solution to business problem is sin qua non by using TK, therefore, it is appropriate to comprehend the concepts of TK. The study adopted definitions of TK and EK from Nonaka (1994) and McAdam et al. (2007). Knowledge that is tacit, not easily accessible or scarce is often considered more valuable (Cai & Xu, 2008). In spite of conceptual differences TK is considered to be a very valuable form of knowledge (Bouthillier & Shearer, 2002; Nonaka, 1994). There is a widespread agreement that TK is an important phenomenon (McAdam et al., 2007). It is strategically important to capture and codify TK and put it in a common place where all the

organization should have access (Goswami, 2008). In today's changing environment there is a severe need to make the TK explicit particularly to make KM initiatives successful. The ability to create TK and to continue to learn from it is considered as a competitive advantage because interactive knowledge developed today becomes the core knowledge of tomorrow (McAdam et al., 2007).

V.II. THE PROCESS OF LOAN-RECOVERY-LOAN

Loaning is business of banks hence loan-recovery-loan is logical process of banks. Credit personnel lend money and recovery personnel recover it. The process runs in a loop format. Banks deal in documents and explicit form of knowledge sharing is essence of the process. Based on simple logic the authors conceptualized the process as Figure 1.

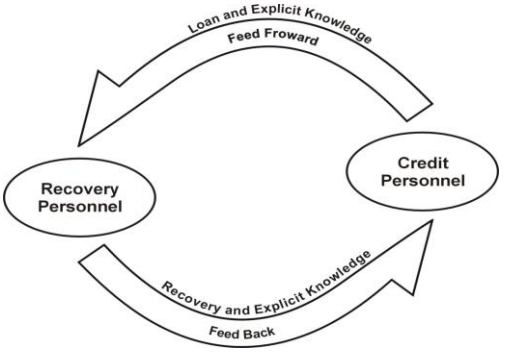

Figure 1: Loan Process

Loan and recovery are the basic and crucial activities of banks. These are performed explicitly on a concurrent circulatory loop format. The loan and recovery have logical relation and are highly interdependent functions. Contemporary banking has mechanistic approach towards the process. But with developments in technologies and a nexus of new disciplines like KM, the process will have to have some harmony. The banks have to shift from mechanist to holistic approach. The process has to be enriched by unarticulated and TK based on social practices. It requires loop of TK. The authors incorporated the concept of TK and converted Figure 1 into Figure 2.

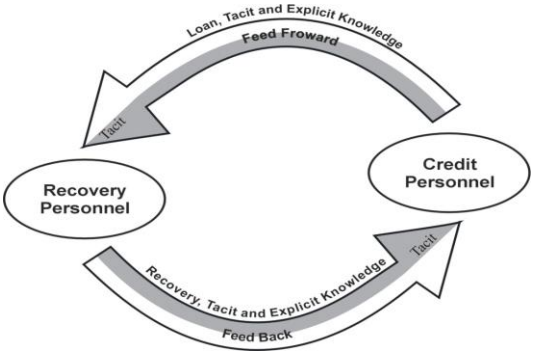

Figure 2: Loan Process with Tacit Knowledge Loop

The process depicted in Figure 2 has additional loop of feed forward and feedback of TK along with the existing process of loan-recovery-loan. The representations in Figure 1 and Figure 2 are higher abstractions of the processes. In real life, these processes are not that simple as shown above. They involve number of variables and are complex. Therefore, it is vital to unfold it further and have to determine the factors material to the process and model them in more practical and practicable manner.

V.III. THE DYAD OF INTERDEPENDENT KNOWLEDGE CONTRIBUTORS AND RECIPIENTS

KM is not just a bunch of isolated facts stored in documents, knowledge basis or repositories. It is shaped by social human factors that require the involvement of knowledge contributors and knowledge recipients (Ghaziri & Awad, 2005). The process of developing and deploying knowledge is not static. It can only be effective within communities of practice (Williams, 2006). Communities of practice are a group of people who have common tasks, interact and share knowledge with each other. They are, in fact, informal structures within and outside organizations that bind people together through informal relationships and the sharing of expertise and experience (Desouza, 2003). Communities of practice-being people together from different departments, to share ideas, involve the process of TK sharing and development of informal networking (Bouthillier & Shearer, 2002). As such, they are effective tools for creation and sharing of organizational knowledge (Wang, Yang & Chou, 2008). Communities where all members have same technical goals, motivated by a common interest, organized on a flat hierarchy, receptive to innovation make the implementation of KM approaches successful (Weber, 2007). Since most of commercial banks rely heavily on social processes for KM, they need to make better use of communities of practice (Vencatachellum & Jeetah, 2008). Credit and recovery personnel are two groups in banks, which make a dyad and have dependence on each other for resources such as information about tasks, information about process of previous tasks, work skills, and knowledge needed to complete the tasks. Credit-risk evaluation is very important and challenging job to financial institutions (Matoussi & Abdelmoula, 2009; Trujillo-Ponce et al., 2014). Credit personnel in banking are in context of credit evaluation. Loan sanctioning and contextualizations are central elements in solving problems of recovery. The relationship between context and the sharing of TK is of strategic importance to the success of recovery. Recovery personnel effect the recovery. The job of recovery personnel is dependent and stated as function of decisions of credit personnel. They have continuous interaction with different communities within and outside banks. They are source of TK relevant to credit decision making. Researchers have provided considerable evidences over the years for co-existence of these two communities in banks (Cai & Xu, 2008). Therefore, any solution to the problem of NPLs, based on the study of the dyad of credit and recovery, is likely to be lasting.

The job of recovery and credit personnel is interdependent and interrelated hence the study of this dyad is vital for banks. People, by nature, try to maximize their gain and minimize their loss while sharing knowledge (Cai & Xu, 2008). Therefore, knowledge sharing behaviors are derived by maximizing gains. The counterparts of a dyad under study are not in competition and sharing knowledge goes in their mutual benefits. The dyad will have knowledge sharing behavior because it put them both in win win situation. Most of the banking functions are interdependent and the individuals share knowledge when they need help of each other and expect new knowledge in turn (Huang et al., 2010). The contents and objects of TK of recovery and credit personnel can be categorized, described, modeled, mapped and embedded in rules of credit decision making. Recovery personnel and credit personnel have Sharable Knowledge Objects

(SKOs) and their usability. They can also give relevancy and utility ratings for their own SKOs as well as that of the counterparts (Wang et al., 2008). These are enough plausible reasons for willingness of possessors and recipients for knowledge sharing. Profiles based on TK that are identified by practice and are considered more trust-worthy than the espoused theory-based descriptions (Stenmark, 2001). NPLs which adversely affect the financial performance of banks are also a resultant effect of clearly identifiable interdependent processes of the dyad under study. The dyad holds TK about the problem and its solution. It is important what is being said and done and how it is being said and done? Therefore, to identify what information to tap, from whom, for what purpose, and how it is to be tapped is important too. It further depends on the right mix of technological, social, human and organizational elements (Ghaziri & Awad, 2005). What is important is to give the dyad room and space to talk to each other as they generate knowledge at individual level. Unless they talk about and share what they know, knowledge will remain untapped (Desouza, 2003). To be able to share TK, the possessors of it after being willing, find a way to express the knowledge. Therefore, it is utmost important to look for a way the dyad can express it TK.

Recovery of loans can be improved by quality of judgment of customer, by the bank, at the time of sanction of loan which speaks in terms of recovery. More the errors of judgment more will be the problems of recovery (i.e. NPLs). Hence both the problem and the solution depend on the quality of credit decisions by credit personnel at the time of sanction. A TK sharing model based on the credit and recovery processes which could improve the quality of credit decisions is needed. The model should help to decide what contents of knowledge needs to be collected, from where and about which attributes and variables (Routio, 2007) to improve the quality of credit decisions. Various contemporary KM models for banking focused on certain general aspects. Material details are missing from these models. Therefore, a model based on the logical loan process and TK of communities of practice has been developed.

V.IV. TACIT KNOWLEDGE SHARING MODEL (TKSM)

The authors have attempted to conceptualized TKSM based on: i) Figure 1, ii) Figure 2 and iii) concepts bolstered and buttressed in contemporary knowledge sharing models in literature referred hereinabove. Borrowing side of the bank is known as liability and lending as asset and the study pertains to the asset side. It, therefore, conceived and constructed a model based on TK of relevant communities dealing in assets of banks i.e. recovery personnel and credit personnel. These communities are major players of the processes of asset side of banks. They perform separate but mutually interdependent functions. Loans (the assets of banks) are always exposed to credit risk. Credit risk contains two sources of uncertainty: the likelihood of default and severity of loss (Smithson & Hayt, 2000). The model (Figure 3) is meant for control of risk of likelihood of default.

The study graphically demonstrated the logical process of loan-recovery-loan in the environment of banks along with TK sharing. The demonstration is based on interdependent interaction of credit and recovery personnel with an indicative post disbursement behavior of customers and communities related to the customers. The sharable knowledge objects or contents and knowledge sharing, storage, retrieval, use and reuse have been presented like a real-life activity model. Due role of IT (tools and infrastructure) is also a visualized part of the model. Implementations of organizational memory systems normally fail for a variety of reasons

including lack of tools which may enable the organizations to capture and reuse knowledge (Conklin, 1996). The IT compartment of the model indicates that there should be an accessible memory with certain filtering and documentation systems. The act of credit decision by credit and voluntary concurrent knowledge capturing and sharing activity of recovery personnel were able to attained focus in the model depicting the ultimate performance of a bank. A bank is, in fact, based on the value additions by effectiveness of top management and feedback of recovery personnel (Okour et al., 2019). Recovery personnel recover the money lent by a bank along with premium of the bank. The premium is profit of a bank and adds value to owners' equity. The model also demonstrates the value addition by way of contribution of management and recovery personnel to the base of a bank. More simply, the model demonstrates that there are two communities of people in banks who possess certain important TK which is shareable and if it is actually shared the quality of future credit decisions will be better and resultantly the recovery of loans (i.e. NPLs will be controlled) and financial performance of banks will be better.

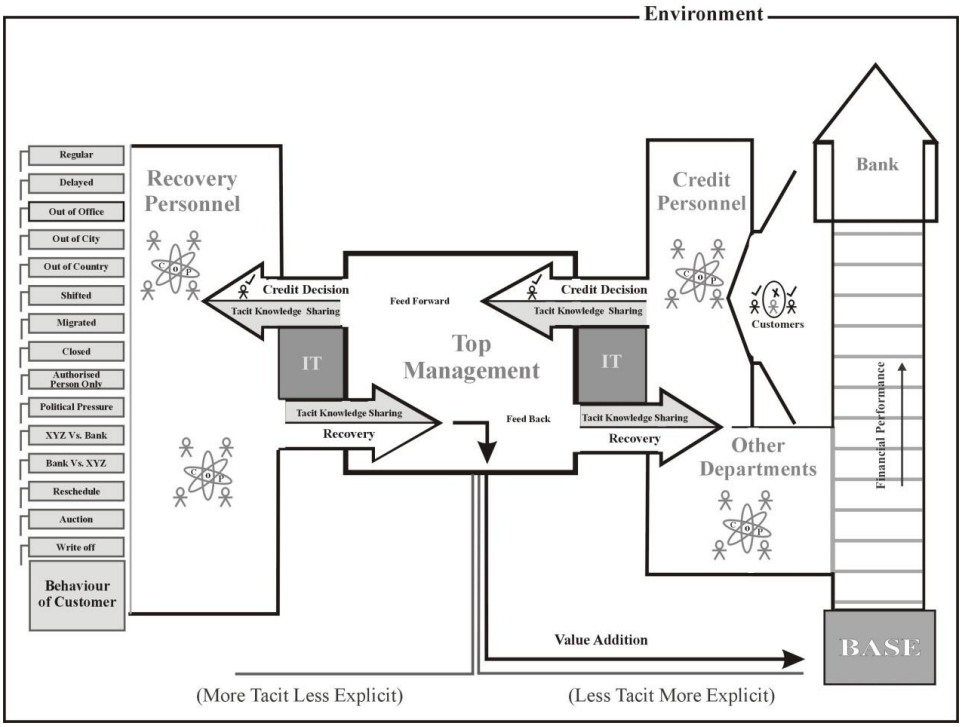

Figure 3: Tacit Knowledge Sharing Model (TKSM) for Banks

VI. CONCLUSION

There is a persistent problem of NPLs which has deleterious effect on economies. NPLs are time and again built-up in the banking sectors and adversely affect the profitability of banks and necessarily drag economies towards crises. The researchers are continuously in search of better solutions to this problem hence the study is aimed to provide a better solution to problem of NPLs. The literature review reveals that recovery of loans is a consequent function of credit decisions. The recovery of loans can only be better and NPLs can only be controlled if the quality

of credit decision is improved. The credit decision is a composite construct having many constituents. The research establishes that there are four major constituents core to the credit decisions. Recovery is also a composite construct and it has two major dimensions namely in time recovery and complete recovery of loans and is a formative variable of financial performance of a bank. In fact, loan-recovery-loan is a cyclical process of a bank that presently runs more in explicit format. The research identified the roots of origin of the problem and evaluates its severity, gravity, magnitude, and deleteriousness. It identifies that a loop of systematic diffusion of TK is missing in the process of loan-recovery-loan and due to this missing loop, the quality of credit decisions is being compromised. The systematic diffusion of TK in the existing loop of loan-recovery-loan can improve the quality of credit decisions and resultantly the recovery and financial performance. In view of the roots and nature of the problem the study suggests a model for diffusion of TK to address the issue. A graphical activity model has been developed based on the logical flow of the banking transactions employing elementary concepts of free hand drawing using CorelDRAW 12 software. Model demonstrates the loop of loan-recovery-loan along with relevant departmental links, behaviors of relevant communities and processes. It contains many features that distinguish the model from contemporary ones. The model (TKSM) focuses on core business of the banking industry and provides a simple way to use the TK and to improve the credit decision making. It has been modeled on the real contemporary banking processes and community of practice. It identifies possessors, potential recipients, use and the way of sharing TK in order to solve the problem. It is a simple precise and useful model of KM having a wide range of practical applications in the banking sector. TKSM does not require any special KM person but suggests an automatic flow of knowledge in contemporary banking systems. The model also demonstrates the use of valuable knowledge in material decisions with likely impact on the financial performance of the banks. The study provides a novel solution of the persistent issue of NPLs in banks. The researchers believe that it is the first research based initiative to address the issue of NPLs in KM perspective. The study is an indication for new aspects of research in banking in future. TKSM is a practical and practicable model has potential to control the NPLs at nascent stage. Admittedly, it is a conceptual model constructed by the researchers based on the concepts buttressed in literature. The validity and sustainability of this model could not be empirically tested because of space, keeping focus on conceptual development and concentrating on technical physiognomies of the model. Future researchers may, therefore, focus on verification of validity and sustainability of this model. Future studies may employ structure confirmation tests, parameter confirmation tests, dimensional consistency tests and behavioral validity tests for structural validation. Whereas, sustainability confirmation tests for verification of sustainability of the model may also be employed.

REFERENCES

Abedola, S.S., Wan Yusoff, W.S., & Dalahan, J. (2011). An ARDL approach to the determinants of nonperforming loans in Islamic banking system in Malaysia. *Kuwait Chapter of Arabian Journal of Business and Management Review*, *1*(1), 20-30.

Abid, L., Ouertani, M.N., & Zouari-Ghorbel, S. (2014). Macroeconomic and bank-specific determinants of household's non-performing loans in Tunisia: A dynamic panel data. *Procedia Economics and Finance*, *13*, 58-68.

Adzobu, L.D., Agbloyor, E.K., & Aboagye, A. (2017). The effect of loan portfolio diversification on banks' risks and return: Evidence from an emerging market. *Managerial Finance, 43*(11), 1274-1291.

Ahmad, F., & Karim, M. (2019). Impacts of knowledge sharing: A review and directions for future research. *Journal of Workplace Learning*, *31*(3), 207-230.

Ahmed, J.U. (2010). An empirical estimation of loan recovery and asset quality of commercial banks. *The NEHU Journal*, *8*(1), 38-58.

Al-Abdullat, B.M., & Dababneh, A. (2018). The mediating effect of job satisfaction on the relationship between organizational culture and knowledge management in Jordanian banking sector. *Benchmarking: An International Journal*, *25*(2), 517-544.

Ali, H.M., & Ahmad, N.H. (2006). Knowledge management in Malaysian banks: A new paradigm. *Journal of Knowledge Management Practice, 7*(3), 1-13.

Atieh, S. H. (1990). A multidimensional model for credit decision process in commercial banks. *Economics and Adm*inistration, *3*(1), 95-106.

Ben Saada, M. (2018). The impact of control quality on the non-performing loans of Tunisian listed banks. *Managerial Auditing Journal*, *33*(1), 2-15.

Bouthillier, F., & Shearer, K. (2002). Understanding knowledge management and information management: The need for empirical perspective. *Information Research, 8*(1), 8-1.

Cai, S. & Xu, Y. (2008). Voluntary knowledge sharing in organizations. *Pacific Asia Conference on Information Systems (PACIS) Proceedings Paper 59.*

Campanella, F., Derhy, A., & Gangi, F. (2019). Knowledge management and value creation in the post-crisis banking system. *Journal of Knowledge Management*, *23*(2), 263-278.

Cham, T.H., Lim, Y.M., Cheng, B.L., & Lee, T.H. (2016). Determinants of knowledge management systems success in the banking industry. *VINE Journal of Information and Knowledge Management Systems*, *46*(1), 2-20.

Chiran. J.C. (2008). Knowledge management in banking industries: Uses and opportunities. *Journal of the University Librarians Association of Sri Lanka*, *12*, 68-84.

Conklin, J. (1996). Designing organizational memory: Preserving intellectual assets in a knowledge economy. *Group Decision Support Systems, 1*, 362.

Desouza, K.C. (2003). Knowledge management barriers: Why the technology imperative seldom works. *Business Horizons*, *46*(1), 25-29.

Dhar, S., & Bakshi, A. (2015). Determinants of loan losses of Indian banks: A panel study. *Journal of Asia Business Studies*, *9*(1), 17-32.

Festic, M., Repina, S., & Kavkler, A. (2009). The overheating of five EU new member states and cyclicality of systemic risk in the banking sector. *Journal of Business Economics and Management*, *10*(3), 219-232.

Firestone, J.M., & McElroy, M.W. (2004). Organizational learning and knowledge management: The relationship. *The Learning Organization, 11*(2), 177-182.

Friday, E.O., & Blessing, U.E. (2019). Knowledge management and employee effectiveness of Nigerian deposit money banks. *International Journal of Management & Entrepreneurship Research*, *1*(1), 31-41.

Garrick, J., & Chan, A. (2017). Knowledge management and professional experience: The uneasy dynamics between tacit knowledge and performativity in organizations. *Journal of Knowledge Management, 21*(4), 872-884.

Ghaziri, H., & Awad, E. (2005). Is there a future for knowledge management? *Journal of Information and Technology Managemen*t, *16*(1), 31-38.

Goswami, C. (2008). Knowledge management in India: A case study of an Indian bank. *Journal of Nepalese Business Studies*, *5*(1), 37-49.

Haslinda, A., & Sarinah, A. (2009). A Review of knowledge management models. *Journal of International Social Research*, *2*(9), 187-198.

Holland, J. (2010). Banks, knowledge and crisis: A case of knowledge and learning failure. *Journal of Financial Regulation and Compliance*, *18*(2), 87-105.

Hu, J-L., Li, Y., & Chiu, Y-H. (2004). Ownership and nonperforming loans: Evidence from Taiwan's banks. *The Developing Economies*, *42*(3), 405-420.

Huang, F., Sheng, Y., & Li, Z. (2010). Evaluation of default risk based on KMV model for ICBC, CCB and BOC. *International Journal of Economics and Finance*, *2*(1), 72-80.

Ikram, A., Su, Q., Ijaz, F., & Fiaz, M. (2016). Determinants of non-performing loans: An empirical investigation of bank-specific microeconomic factors. *Journal of Applied Business Research*, *32*(6), 1723.

Imran, M.K., Ilyas, M., Aslam, U., & Ubaid-Ur-Rahman, U. (2016). Organizational learning through transformational leadership. *The Learning Organization*, *23*(4), 232-248.

Intezari, A., Taskin, N., & Pauleen, D.J. (2017). Looking beyond knowledge sharing: An integrative approach to knowledge management culture. *Journal of Knowledge Management*, *21*(2), 492-515.

Ito, M. (2002). Accelerating Customer-Oriented Banking with Knowledge Management. *Online available from:* http://www.realcom.co.jp/en/doc/case BTM.pdf

Jiménez, G., Ongena, S., Peydró, J. L., & Saurina, J. (2014). Hazardous times for monetary policy: What do twenty-three million bank loans say about the effects of monetary policy on credit risk-taking? *Econometrica*, *82*(2), 463-505.

Karunakar, M., Vasuki, K., & Saravanan, S. (2008). Are non-performing assets gloomy or greedy from Indian perspective? *Research Journal of Social Sciences*, *3*, 4-12.

Khemraj, T., & Pasha, S. (2009). The determinants of non-performing loans: An econometric case study of Guyana. MPRA Paper No. 53128, MPRA.

Kongsilp, W., & Mateus, C. (2017). Volatility risk and stock return predictability on global financial crises. *China Finance Review International*, *7*(1), 33-66.

Kumar, R.R., Stauvermann, P.J., Patel, A., & Prasad, S.S. (2018). Determinants of non-performing loans in banking sector in small developing island states: A study of Fiji. *Accounting Research Journal*, *31*(2), 192-213.

Lee, K.W., & Sharpe, I.G. (2009). Does a bank's loan screening and monitoring matter? *Journal of Financial Services Research*, *35*(1), 33-52.

Leng, L.A., & Nasaruddin, F.H.M. (2008). Application of knowledge management in Malaysian banks-A preliminary study. *Faculty of Computer Science and Information Technology, University Malaya*.

Liff, R., & Wahlstrom, G. (2018). Usefulness of enterprise risk management in two banks. *Qualitative Research in Accounting & Management*, *15*(1), 124-150.

Logojan, A.I. (2009). The greatest financial crises and the economic theories. *Romanian Economic and Business Review*, *4*(3), 7-16.

Louzis, D.P., Vouldis, A.T., & Metaxas, V.L. (2012). Macroeconomic and bank-specific determinants of non-performing loans in Greece: A comparative study of mortgage, business and consumer loan portfolios. *Journal of Banking & Finance*, *36*(4), 1012-1027.

Makri, V., Tsagkanos, A., & Bellas, A. (2014). Determinants of non-performing loans: The case of Eurozone. *Panoeconomicus*, *61*(2), 193-206.

Malhotra, Y. (2005). Integrating knowledge management technologies in organizational business processes: Getting real time enterprises to deliver real business performance. *Journal of Knowledge Management, 9*(1), 7-28.

Manhart, M., & Thalmann, S. (2015). Protecting organizational knowledge: A structured literature review. *Journal of Knowledge Management, 19*(2), 190-211.

Matoussi, H., & Abdelmoula, A. (2009). Using a neural network-based methodology for credit-risk evaluation of a Tunisian bank. *Middle Eastern Finance and Economics, 4*, 117-140.

McAdam, R., Mason, B., & McCrory, J. (2007). Exploiting the dichotomies within the tacit knowledge literature: Towards a process of tacit knowing in organizations. *Journal of Knowledge Management*, *11*(2), 43-59.

Messai, A.S., & Jouini, F. (2013). Micro and macro determinants of non-performing loans. *International Journal of Economics and Financial Issues*, *3*(4), 852-860.

Mielitz, K.S., Clady, J., Lurtz, M., & Archuleta, K. (2019). Barriers to banking: A mixed-methods investigation of previously incarcerated individuals' banking perceptions and financial knowledge. *Journal of Consumer Affairs*. 1-27

Nagarajan K. (2009). *Project Management.* New Age International (Pvt.) Ltd., New Delhi, India, 76-118

Nakano, D., Muniz Jr, J., & Dias Batista Jr, E. (2013). Engaging environments: Tacit knowledge sharing on the shop floor. *Journal of Knowledge Management, 17*(2), 290-306.

Nonaka I. (1994). A dynamic theory of organizational knowledge creation. *Organization Science*, 5(1), 14-37.

Nyame-Asiamah, F. (2009). Exploiting tacit knowledge through knowledge management technologies. *Learning Forum London Conference (EIfEL)* June, 2009.

Okour, M.K., Chong, C.W., & Asmawi, A. (2019). Antecedents and consequences of knowledge management systems usage in Jordanian banking sector. *Knowledge and Process Management*, *26*(1), 10-22.

Okpara, G.C. (2009). A synthesis if the critical factors affecting performance of the Nigerian banking system. *European Journal of Economics, Finance and Administrative Sciences, 17*, 34-44.

Oluikpe, P. (2012). Developing a corporate knowledge management strategy. *Journal of Knowledge Management*, *16*(6), 862-878.

Osei-Assibey, E., & Asenso, J.K. (2015). Regulatory capital and its effect on credit growth, non-performing loans and bank efficiency: Evidence from Ghana. *Journal of Financial Economic Policy*, *7*(4), 401-420.

Rajan, R., & Dhal, S.C. (2003). Non-performing loans and terms of credit of public sector banks in India: an empirical assessment. *Reserve Bank of India Occasional Papers*, *24*(3), 81-121.

Rampini, A.A., Sufi, A., & Viswanathan, S. (2014). Dynamic risk management. *Journal of Financial Economics*, *111*(2), 271-296.

Rose, P.S. (2001). *Commercial Bank Management*. Irwin/McGraw-Hill: USA, 517-550.

Rottke, N.B., & Gentgen, J. (2008). Workout management of non-performing loans: A formal model based on transaction cost economics. *Journal of Property Investment & Finance*, *26*(1), 59-79.

Routio, P. (2007). Models in the research process. Available on http://www2.uiah.fi/projects/metodi/177.htm.

Saif-Alyousfi, A.Y., Saha, A., & Md-Rus, R. (2018). Impact of oil and gas price shocks on the non-performing loans of banks in an oil and gas-rich economy: Evidence from Qatar. *International Journal of Bank Marketing*, *36*(3), 529-556.

Salehi, M., & Mansouri, A. (2016). Banking crisis: Empirical evidence of Iranian bankers. *Indonesian Management and Accounting Research*, *8*(2), 27-38.

Salike, N., & Ao, B. (2018). Determinants of bank's profitability: Role of poor asset quality in Asia. *China Finance Review International*, *8*(2), 216-231.

Shah, M.H., Rahneva, N., & Ahmed, R. (2014). Knowledge management practice at a Bulgarian bank: A case study. *International Journal of Knowledge Management*, *10*(3), 54-69.

Shao, Z., Wang, T., & Feng, Y. (2015). Impact of organizational culture and computer self-efficacy on knowledge sharing. *Industrial Management & Data Systems*, *115*(4), 590-611.

Smithson, C., & Hayt, G. (2000). How the Market Values Credit Derivatives. *Journal of Lending & Credit Risk Management*, *82*(6), 62-62.

Stenmark, D. (2001). Leveraging tacit organizational knowledge. *Journal of Management Information Systems*, *17*(3), 9-24.

Taherparvar, N., Esmaeilpour, R., & Dostar, M. (2014). Customer knowledge management, innovation capability and business performance: A case study of the banking industry. *Journal of knowledge management*, *18*(3), 591-610.

Tanaji, B.S. (2012). Benefits of knowledge management system for banking sector. *BENEFITS*, *3*(1), 133-137.

Taskin, L., & Van Bunnen, G. (2015). Knowledge management through the development of knowledge repositories: Towards the degradation of work. *New Technology, Work and Employment*, *30*(2), 158-172.

Trujillo-Ponce, A., Samaniego-Medina, R., & Cardone-Riportella, C. (2014). Examining what best explains corporate credit risk: Accounting-based versus market-based models. *Journal of Business Economics and Management*, *15*(2), 253-276.

Vencatachellum, I., & Jeetah, V. (2008). The state of knowledge management among the commercial banks in Mauritius. *9th International Conference on HRD Research and Practice across Europe*, Lille, France.

Verincianu, M., Anica-Popa, L., & Anica-Popa, I. (2009). Organizational memory: An approach from knowledge management and quality management of organizational learning perspectives. *Quality Management in Services*, *11*(26), 473-481.

Wang, C., Yang, H., & Chou, S. (2008). Using peer-to-peer technology for knowledge sharing in communities of practices. *Decision Support Systems*, *45*, 528-540.

Waweru, N.M., & Kalani, V.M. (2009). Commercial banking crisis in Kenya: Causes and remedies. *African Journal of Accounting, Economics, Finance and Banking Research*, *4*(4), 12-33.

Weber, R.O. (2007). Addressing failure factors in knowledge management. *The Electronic Journal of Knowledge Management*, *5*(3), 333-346.

Wettayaprasit et al. (2005). Knowledge management for information technology section of Government Saving Bank (GSB) in Southern Thailand", cited in Leng, L.A., & Nasaruddin, F.H.M. (2008). Application of knowledge management in Malaysian

banks-A preliminary study. *Faculty of Computer Science and Information Technology, University Malaya*.

Williams, R. (2006). Narratives of knowledge and intelligence - Beyond the tacit and explicit. *Journal of Knowledge Management, 10*(4), 81-99.

Yeung, G. (2009). How banks in China make lending decisions. *Journal of Contemporary China, 18*(59), 285-302.

Zarrouk, H., & Ayachi, S. (2009). Regulatory environment and banking crises: Case of developing countries. *European Journal of Economics, Finance, and Administrative Sciences, 15*(1), 18-31.

Zhou, W. (2006). The knowledge management in China banks. *International Journal of Knowledge and Change Management, 6*(5), 91-97.