ABSTRACT

Vietnamese banks have significantly suffered from the risks resulting from the threats caused by bad debts. Significant institutional changes have taken place in Vietnamese banking in three main periods. From 2000 up to date, the banking industry has encountered numerous risks categorized into operational risks, the financial risks and market risks associated with higher bad debts and bankruptcy. In fact, the probability of mergers and acquisitions among banks has increased. These current problems of indebtedness and M&A in Vietnamese banking sector will create the relevant context for the research into the risk-taking propensity.

The current study intends to explore the degree to which banking risks explained by post-mergers and acquisition as a form of entrepreneurial venture among commercial banks in Vietnam during the period 2007 – 2018. The research uses the Z-score bankruptcy propensity to evaluate the corporate entrepreneurship intensity of the selected commercial banks. The research applied the modified Z-score model of Nguyen Thanh Duong (2013) and Chiaramonte et al. (2014) to evaluate the possibility of bankruptcy for 40 commercial banks during the period 2007-2018 and examined the different levels of bankruptcy propensity of the Vietnamese banking system. The research also computed the Z-scores to evaluate the entrepreneurial entry mode selection of the banks. Furthermore, the study relied on a quantitative method of data collection; quantify banking risks affecting commercial banks' restructuring in Vietnam guided by the decision No. 254/QD-TTg.

Results from the research indicate that loan loss provisions (LLP), loan loss reserves (LLR), and Leverage ratio (LEV) increased the level of Z-score bankruptcy propensity while Net Interest Revenue (NIR), Cost to Income (CIR), Loan to deposits (LDR), and liquid assets-short term to total deposits (LAD) significantly reduces the Z-score bankruptcy propensity. The study also found that among these 40 banks, there are 14 banks having high possibility of bankruptcy, 1 bank being on alert of bankruptcy propensity, and 25 banks considered as safety to bankruptcy. The key drivers for minimizing bank risks are an advantage, the amount of income, deposits and liquidity of cash. Our results highlight the critical role of recognizing the special effects of liquidity, distribution of income and the development of a saving culture to address the increased banking propensities affecting Vietnamese banks.

***Keywords**:* Vietnam, corporate entrepreneurship, bankruptcy, Z-score, banking, M&A.

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Chapter 1: Introduction

1.1 Research Overview

Over the years, Vietnam banks have suffered from financial fragility brought about by cases of low capital adequacy ratios and non-performing loans. While key policies have been introduced by the government to reduce financial risks, the study argues that M&A serves as the best approach in institutional redesign. Although the banking industry has slightly grown in both quantity and size of the property because of the monetary easing policy of the government, the increase in the number has not come with quality as many banks have a weak finance, capacity, and debt credit, weak corporate governance, inadequate disclosure and contained financial risk. Vietnamese resources, approximately 12.5 percent of the gross domestic product (GDP), were utilized to calm the existing banking framework and solicit for approaches that can reduce the bad debt incurred over the last few years. Unfortunately, the proportion representing the non-performing loans seems to remain too high, spoiling any efforts to reduce the bad debts. The laws of Vietnamese allow for the approval, remortgaging and collateral in a situation that is considered unclear, vague and contradictory to the existing legislation. In the case, numerous contracts among firms are acknowledged as annulled resulting in high charges for the commercial banks.

Recent empirical studies focusing on consolidation concentrate on large consolidations and specific segments of the merged population. This paper considers all the aforementioned issues in investigating merger activities. The key points in this study is that the investigation accounts for all bank mergers, analyzing the impacts of the mergers at bank levels. By considering all the mergers at particular periods, the study is able to draw a conclusive argument on the merger activities and their impact on the individual banks over time.

The Vietnam government has introduced a series of reforms designed to support the transitions from a centrally structured financial sector towards a market-focused one. Despite the fundamental and structural adjustments, commercial practices in the financial industry is still a challenge. Similarly, the banks are structurally fragile, inhibited by cases of bad debts. The fragility is partly due to some inherent problems and partly due to the effects of the Asian financial crisis. Individual institutions have hence resorted to mergers and acquisition as a form of corporate entrepreneurship to steer institutional growth and moderate bankruptcy.

Vietnam's economy progressively assimilated with the global economy as the instability of one market in a particular nation affects another market in another country. As a developing nation, Vietnam should be competent enough to evaluate the requirements of nations perceived from the restructuring of banking gained from the international exposure. The economy of Vietnam has a significant effect on the improvement of the banking framework in 2007-2018. During the above-mentioned period, the adoption of technology and science provided the needed support for quality service and improve on its scale.

1.1.1. The period of 2007-2018

Despite the immense benefits received by the banking sector, the banking framework has faced various potential risks. Vietnamese banking industry has increasingly suffered from numerous risks and other problems such as incompetence, underfunding by the central government, and a growing concern of multi-ownership among various entities that continues to intensify the problems in the last few years.

A bank can be exposed to risks such as liquidity, credit, market, investment, risks associated with the region/country in which it is operating and exposed to, operational, legal, reputational and strategic risks. They all have diverse effects on any financial institution whether it is shielded from it or not. Bad debts are likewise categorized under risks anticipated by banks. Bad debts affect Banks as a business entity, especially when they engage in business transactions between different entities. The debt is an inescapable part of the business and applies to individual/company regarding the debt that is harmful to the firm. This bad debt is eventually reflected in the individual's credit score.

Since the global financial crisis in 2008, bad debts have shackled banks and dragged their development. Banks have largely underestimated the effects of bad debts on the economy (Marcucci and Quagliariello 2008). The significant impact is on the development of the economy as well as to the survival, and the development of the banking system. According to international classification standards (News, 2016), the bad debt threshold level ought to be put on the alert at the limit of 3% of GDP, while the current level of bad debts in Vietnam was at an alarming rate, surpassing the universal standards.

Currently, these risks have caused slowed development; for example, the real estate market has frozen due to increased bad debt. The aggregate bad debts of Vietnam in 2012 were approximately 400,000 billion. The real estate bad debts represented 70%, equivalent to 140,000

billion. Additionally, the banking inspection agency declared that bad debts represented more than 8.8% of GDP (Shinozaki 2014), while Governor of the State Bank of Vietnam asserted for 10% at the national meeting.

Bad debts or non-performing loans (NPLs) in the economy reduced to 4% in 2003 after an increase of 7% in 2002. After 2003, the rate diminished gradually to 4.74 % in 2004 and stabilised at around 3% from 2005 to 2010. In the recent years, bad debts issues have been a major concern as it is rising to alarming levels again. The rate of bad debts has increased relentlessly from 2.4% in the first quarter of 2011 to 4.5% in the second quarter of 2012 and continues on the reach to the highest rate of bad debts in October 2013 to 4.73% recorded by the state bank of Vietnam. In this way, debts in 33 months have increased by 2.33%.

Thus, based on the overall above statistics, commercial banks accounted for 95% of the bad loans. By the end of 2012, eight commercial banks had been listed on the stock market except for Navibank. Their accumulated bad debts were equivalent to a sum of $ 1 billion. This is twice the sum obtained from the various banks in 2011 that is (Vietcombank: 5461.8 billion, VietinBank: 4.890 billion, SHB: 4845.8 billion, ACB: 2570.97 billion, Sacombank: 1,973 billion, MBBank: 1371.6 billion, Eximbank 987.62 billion).

Standing in front of the current troubled situation above, the State Bank sent a message of strong disposition over these banks by merging into greater commercial banks. According to the approved schedule, by 2017, commercial banking system Vietnam will be only about 20 strong banks. Currently, the regulations relating to M&A activities in Vietnam are prescribed in many different documents such as Enterprise Law in 2005 (Kendall 2014), Investment Law in 2005, Competition Act in 2004 and Securities Law.

Based on the decision in 241/1998/QD-NHNN dated 15/07/1998 of the State Bank on the Regulation of merger, consolidation, acquisition of credit institution's shares in Vietnam, the research will have adopted merger, acquisition, and consolidation as key terms that will largely influence the outcome of the study. When the two banks merged, they became greater than the value of the two companies in separate operations. The principle is particularly useful where the business experienced hard times due to competition, market forces or any other factor. Large banks would purchase the smaller and weaker banks. However, a bank after M&A will be able to expand its market share and gain a better performance to create a new bank more competitive and reduce costs.

1.1.2. The effects of M&A on banks efficiency

The liberalization of geographic restrictive practices on the Vietnam banking sector has resulted in rapid consolidations of the baking industry in the country. Mergers have increased since 1988 of which some banks were consolidated under a single charter, as well as others retaining their individual charters but changed ownership by a different bank holding company. The M&A activities have led to a series of continuous transition and notable developments in the sector. The strategy has been particularly common in the last decade, mergers involved about 20% of industry assets every year while the holding companies constituted about 20% of the industry in these years. The wave in consolidation has resulted to a significant growth in the overall size of the banking institution.

There are a series of potential benefits associated with these M&A activities. These includes improved competition, geographic diversification, and elimination of inefficient practices. Further the study demonstrates the effects of consolidation on credit supply to Vietnamese businesses, particularly SMEs that depends on commercial loans. According to a recent study on the growth factors of SMEs, commercial banks are significant sources of business financing (Economy, 2004).

As financial institutions grow in size, the proportions of assets devoted to SME lending declines from nearly 10% of gross total assets from smaller banks to less than 2% for larger institutions. On the surface, these findings imply that banking assets are transferred on net from smaller banks to larker banks through consolidations, the supply of institutional lending may fail substantially. However, the simple examination assumes that the lending propensities are static and depend on the size of the banks. More importantly, it ignores mergers as a complex feature that may constitute crucial adjustments in the institutional behaviors beyond the simple static aggregation of the institutions in the merge. Such assertions also neglect the views of other lenders within the same markets that might benefit from any good loan deals that are no longer offered by the merged banks.

We explore the four implications of M&A on banks growth and bankruptcy management. The static effect is the variation in the lending propensity that is drawn from the simple combination of the books of accounts of the institutions involved into the bigger pro forma institutions with a consolidated feature. As demonstrated before, it assumes that the consolidated institution will show similar propensities in lending as other banks in the same category. Other effects are compelled, the next two of which factor in the facts that merging institutions may shift their focus. The

restructuring effects points out the changes in lending that results from corporate choices to remodel individual institutions in terms of their sizes, financial features and their competitive advantage. The institutions might opt to diverge some of the consolidated assets to minimize the excess capacity in their markets, and this reduction in size after consolidation might change their propensity to offer credit facilities. The direct effect of the merger captures the changes in lending propensities that are attributed to direct changes in lensing above and beyond the changes associated with the static aggregation of banking assets in the M&A and the restructuring of financial characteristics, size, and competitive positions that precedes the M&A. That is, the immediate effect is dynamic, capturing the differences in lending by the newly "restructured" institutions from what other banks of the same sizes and other characteristics that has not experienced M&A would be.

1.2 Why this research is important

The present study finds its relevance to the present-day banking system of Vietnam along with its associated risks. The research is based on the developments through which the economy of the country went, giving a retrospective account of the socio-political situation of the country itself. This paper aims to shed some empirical light on these issues. We explore the static, remodeling, and the implications of M&A on the majority of Vietnamese banks.

Given the significance of the M&A to the banking industry, it is no surprise that analysis and researchers have garnered much attention in the subject; However, in this study, we depart from majority of extranet literature by looking at the dynamic implications of M&As as opposed to basing the arguments on a static relationship. Similarly, the study shifts the focus from the entire literature (including the other complex research of bank M&A on credit) by looking into the overall implication of M&A on banks growth and "indebted" and recognizing that the impact represents a combination of a set of distinct features, and by examining the implications of M&A on lending by other banks in the Vietnam Market. The research also measures the external implications of these strategic measures on the lending of all banks in their local markets, whether or not these banks were individually involved in an M&A. Since the number of policy and issues on research focus on the types of M&As, the study looks for any chance these credit supply effects are different for bank mergers versus bans holding firms' acquisitions, for "mergers of equals" against other M&As, for "family mergers" of banks within holding companies, and for out of state participants. We also establish whether the effects of M&A are different from the relative and absolute sizes of the

subjects. Most significantly is our use of data sets that are of longer time series that allow us to explore the effects of M&A years after allowing plenty of time for enough dynamic effects.

The study decomposes the effects of consolidations on the banks' lending into static effects and its association with a simple melding of the antecedent organizations and dynamic implications concerned with post M&A while looking at the consolidated banks. The research also estimates the reactions of the other institutions in local markets to M&As. The findings demonstrate that the static implications of consolidations that reduces business lending are often offset by the responses of other institutions in the market, and in some occasions also by redirecting its focus to the individual consolidating institutions.

1.3 Summary: Key Findings and Contributions

1.3.1 Key findings of the research

Numerous problems confront institutions taken over by another firm. The acquirer must efficiently combine the newly acquired resources with its own and reap maximum profits from its spending. For the company that acquired, it must discover its position in the newly acquired corporate culture and not lose its morale because of the takeover. These aspects could be resolved using the adoption of corporate entrepreneurship. Corporate entrepreneurial activities aids in the acquisition/merger, which contributes to the development of the firm.

Mergers and acquisitions have effectively been incorporated into firms cannot be denied, while the same mergers/acquisitions cannot be successfully implemented in every solid year after year. It can be noted that businesses which developed a friendly ecology in which they can promote corporate entrepreneurship after merger or acquisition.

This study examines **the role of M&A in improving the performance of organizations while minimizing propensity to risk**. The study analyses quantitative data set from the selected 40 banking firms. These components reviewed through the measured variables, to determine the success or failure of the M&A. All the factors of corporate entrepreneurship vary to some extent and affected by other variables in the internal and external environment of the firms. Therefore, accentuating the effective role of the M&A integration through corporate entrepreneurship is a real management objective. The advancement of the business is affected by numerous external factors.

The acquiring firm's management is usually left in a dilemma on how to assimilate the acquired firm effectively without adversely affecting the unique features the acquired firm has so that it can develop more income for the company. Successful assimilation could suggest

concealment of the character and the acquired firm's distinctive practices over the assimilation into the structures. If the market price settled, then the acquiring firm can only develop the acquired firm if the acquisition process adds value to the company.

Based on the background, the quantitative study will seek to examine the extent to which M&A can explain banking risks as the entrepreneurial entry mode selection of commercial banks in Vietnam. The impact of M&A which banks enter into as required by law will be examined. The study will also look to examine the entrepreneurial inclination arising from the M&A based on the legislation and regulation currently in place.

The results of the research study increased understanding of the correlation between M&A and corporate entrepreneurship as both do affect each other according to their respective regulations and characteristics. The outcomes are vital for commercial banks, regulatory agencies, central banks and government as they attempt to understand how mergers and acquisitions could be used to explain the correlations that can exist between the corporate entrepreneurial intensity of the commercial banks and risk-taking. The results also indicate the extent to which entrepreneurial intensities exist among the commercial banks and the need for stringent regulatory measures to evaluate them.

1.3.2 Contributions of the research

The study explores the relationship between M&A as a form of corporate entrepreneurship and the growth and bankruptcy management of Vietnam banks. In the first section, in an analysis of corporate entrepreneurship journey in the region, the thesis finds a significant and positive relation between organisational growth and the various corporate decisions. For those institutions that do not engage in corporate entrepreneurship, this thesis finds that conservative culture decreases their overall and long term investments. In the second part of this research, the study explored the effects of M&A on the growth of Vietnam banks. This paper finds that consolidation remains the most important factor in the growth of a financial institution in Vietnam.

In the third part of this research, the paper investigates effects of M&A on the management of bankruptcy levels of Vietnam banks. This paper finds that mergers and acquisition is a significant attribute with a positive influence on the liquidity of financial institutions in Vietnam. The result reveals that under controlled conditions, consolidated institutions make more investments than their peers; furthermore, this attribute drives individual firms to increase their investment.

The thesis introduces a new method to explore the nexus between M&A and efficiency in the financial sector which is new to the existing literatures. In the study, the thesis first builds a quantitative model to describe the concept of corporate entrepreneurship and its role in managing the gap in corporate management. This method contributes to the literature on corporate governance and firm investment. Although there have been some related studies on either executive compensation or firm investment, this thesis is among very limited researches to link executive compensation and firm investment from a Vietnam perspective and economic context.

The study reveals that the static effects tend to significantly reduce business financing, consistent with previous studies; however, the effect is largely offset by some of the dynamic effects. For bank mergers, the remodeling and direct implications only offset the static effects, however the external effects suggest a strong positive response of other institutions in the same local market.

The study intends to offer guideline in which the banking sector can effectively function in Vietnam and the factors to concentrate on to embed entrepreneurial conduct in the firm. The strategic management to inculcate corporate entrepreneurship could utilize the outcome of the study. The firms could also utilize the results of the empirical research to establish an entrepreneurial culture among its workers. It could also enhance the company's overall performance and sustainability.

The management can also use the outcome of the research to empower its employees to determine the estimated risk-taking via bold activities and new concepts. The research will contribute to Vietnam's banking industries processed and its future development growth by providing the guidelines for the firm to exercise corporate entrepreneurship and enhance their productivity.

In addition, the study will also assist policy-makers in formulating policies that can protect banks against bank risks and promote growth among banks. It will also determine if M&A as a form of corporate entrepreneurship is the best entry selection for solving the current risk of bankruptcy of the banks due to the credit risk of bad debts. Dilemmatic trade-offs are leading to high pressure on financial performance as to what the banks have to deal with after M&A such as severe bad debt, the unbalanced level of intelligence and the complex systems.

In the academic field, the study will contribute to the body of knowledge particularly to the theory of corporate entrepreneurship in term of measuring the bankruptcy propensity. From past

literature, no study of the relationship between corporate entrepreneurship and risk of bankruptcy conducted. The outcome of the research expected to add to the knowledge of researchers concerning the comprehension of corporate entrepreneurship intensity and bankruptcy intensity among the banks in Vietnam. The results suggested that corporate entrepreneurship intensity related to the extent to which the banks conform to the various forms of entrepreneurship intensity and how mergers and acquisitions contribute to the increased propensities from a strategic perspective. The different forms of entrepreneurship intensity such as "risk-taking, innovativeness, and proactiveness" provided the rate of entrepreneurship among the commercial banks.

1.4 Theoretical Framework and Literature Review

From the corporate entrepreneurship models which were put forward by various authors, it can be noted there is an expansion of knowledge. An increase of knowledge tends to support the notion that corporate entrepreneurship intensity has significantly influenced the organizational productivity, financial performance, and corporate change (Sebora et al. 2010; Zain and Hassan 2007; Gupta et al. 2004). Furthermore, researchers have held the view that greater levels of productivity attributed to the entrepreneurial intensities and the advancement of technology (Autio et al. 2000; Kerr and Nanda 2009). Morris and Sexton (1996) also discovered that the quantity of entrepreneurial intensity has significantly influenced the productivity output in a firm over time.

According to Van der Post (1997), financial performance is a significant pointer of the results towards the changing aspects of a firm. Zahra and Covin (1995) supported the view when they contended that the relationship between corporate entrepreneurship and organizational performance is present for innovation and entrepreneurial activities. The entrepreneurial firms are considered flexible and can be able to handle risks arise. Therefore, corporate entrepreneurship is regarded as a requirement in a vibrant environment where there is enhanced competition to increase its performance (Kahkha et al. 2014; Kolaković et al. 2008).

1.4.1 Restructuring banks and M&A acquisitions

Restructuring of the banking framework is a complex aspect that differs from one sector to another and helps to prevent its failure. Claessens (1999) clarified that restructuring of the banking framework as a design to reorganize and improve the administration of commercial banks to safeguard their framework as well as develop a robust financial system, which can manage risks and products. Research provides empirical evidence indicating that restructuring of commercial

banks can only be applied if signals are pointing towards their inability to repay over 20 percent of its current deposits within the required framework (Waxman 1998). Waxman (1998) adds that the regulatory framework needs to have institutional and policy approach, which are capable of supporting the weak banks and to restoring them to a healthy state. If risks and the flaws of the banking framework are adequately addressed, there is a high probability that these risks will have an adverse influence on the stability of the economy as well as the financial structure.

Based on these legal supports and after the State Bank announced the policy of comprehensive restructuring banking system in October 10, 2011, there were the other nine weak banks required for consolidation, including SCB bank, Ficombank, Tin Nghia Bank, Habubank, Tienphong bank, GP Bank, Navibank, TrustBank and Western Bank. Moreover, restructuring bank for consolidation might be implemented under the form of the merger among banks, name change of bank, but many cases under the form of buying control share acquisition (direct and indirectly) of bank.

The first case of the merger is the first three banks including the Tin Nghia Commercial Joint Stock Bank (TinNghiaBank), the First Commercial Joint Stock Bank (Ficombank), and the Saigon Commercial Joint Stock Bank (SCB) in 12/2011 to form a joint-stock commercial bank of Saigon. The merger was attributed to three causes namely bank liquidity and short-term loans issued for medium and long-term loaned projects. Especially, each bank has a capital of only 1,000 billion VND lower than the miNIRum capital required by the state bank. In the situation, the State Bank has given liquidity support to these three banks voluntarily merged for promoting strength and supporting each other to be a larger bank. However, it can be objectively evaluated that the nature of the merger is just a mechanical unity rather than can bring about efficiency in economic as well as social.

The next case is the case of Hanoi Building Bank (Habubank) which merged with the Hanoi Saigon Bank (SHB) on March 8/2012. In the meantime, Habubank Bank had a high bad debt at 32%. When it merged with SHB, the brand "Habubank" building since 1989 permanently has gone, and there are no members of the board of directors of Habubank elected in SHB after SHB's official acquisition of Habubank.

Unlike other mergers that were forcibly required to restructure by the state-owned bank, on May 12, 2013, Dai A Commercial Joint Stock Bank (DaiABank) was merged with HCM City Development Bank (HDBank) on the willing spirit. The merger strengthens the financial capacity,

governance capacity, bringing benefits to both banks to create a bank with strong potential, energy greater competitiveness in the marketplace. The voluntary merger was the first in history when both sides are a relatively safe bank. Thus, HD Bank after the merger has chartered capital of 8.100 billion VND, more than 4,000 employees, and more than 210 branches and transaction offices nationwide. In fact, before HD Bank, TienPhong joint-stock bank was voluntarily self-restructured in 2012 by making strategic partnerships with DOJI Group (a gold and jewelry group) owning 20% of the bank.

The case with the troubled Vietnam Construction Bank (VNCB) in May 2015 was the first shifting paradigm in the history from a joint-stock commercial bank into state-owned limited liability bank. After a long time, operations were not effective, due to serious loss of capital loans, and several financial frauds discovered by the state investigation agency. The Central Bank decided to acquire all shares of Vietnam Construction Bank (VNCB) at a price of zero VND per share as the first case of compulsory mergers and acquisitions in direct commercial bank restructuring. The name VNCB was renamed from Trust Bank in 2013 and after the takeover, its name changed into One-Member Limited Liability Vietnam Construction Bank.

In May 2015, the State Bank of Vietnam'ye acquired over Oceanbank at a price of zero VND per share. The bank had lost all of its capital and its executive leaders put into jail for their financial frauds. The state bank appointed the Industrial and Commercial Bank of Vietnam (Vietinbank) to operate and manage Ocean Bank after the takeover.

Global Petrol Bank (GP Bank) is the third to be acquired by the State Bank of Vietnam since in July 2015 at no cost. Its former CEO had been arrested for breaching the banking law causing financial loss of over US$246.7 million of the bank since 2011. Additionally, the Bank for Development and Investment of Vietnam (BDIV)'s merger with State-owned Mekong Housing Bank (MHB) in 2015 helps BDIV increasing its charter capital from 28.11 trillion VND to 31.48 trillion VND.

After the decision took effect from the date of 08.12.2015, banks in the system were involved in the implementation of the merger of Commercial Banks in 2016. Saigon Commercial Bank (Saigon Bank) merged with the Bank for Foreign Trade of Vietnam (Vietcombank) while Phuong Nam Bank (Southern Bank) merged with Saigon ThuongTin Commercial Bank (Sacombank). These banks are the largest in Vietnam since they have a stronger charter capital, total assets, but the scale is still much smaller than the other foreign banks in the global region.

Therefore, merging with other banks is the solution that the bank must take to be able to become the strongest financial group in the international integration process.

In addition, another particular restructuring is that of Nam Viet Commercial Joint Stock Bank (Navibank) is one of nine banks was identified so weak that being forced by the state bank to restructure. In the case, the State Bank allowed the bank restructure itself using its resources without having to merge with other banks. Thus, it has changed its name from Nam Viet Commercial Joint Stock Bank to National Citizen Commercial Joint Stock Bank in 2014.

To sum up, 8 weak banks that required for consolidation include **Ficombank, Tin Nghia Bank, Habubank, Tienphong Bank, GP Bank, Navibank, TrustBank and Western Bank**. In contrast to these eight already M&A banks, Maritime Bank's merger with Mekong Development Bank (MDB Bank) in August 2015 was voluntary with the purpose to combine the business culture, products, and services as well as similarity of the corporate culture increasing existing strengths of the two banks. The principles throughout the merger process in Maritime Bank and MDB were inherited and ensured the legitimate rights and interests of customers, shareholders, and employees. The new institution was named Maritime Bank having a charter capital of 11.75 trillion VND and total assets of 113 trillion VND. Following the voluntary spirit of restructuring, in 2015 Southern bank merged with Sacombank known as Vietnam's ninth-biggest bank in term of assets. Post-merger, the new bank will still maintain the name "Sacombank" with charter capital of 18 trillion VND ($861million) and total assets reaching to 290 trillion VND (1.3 billion USD).

From the literature, most studies that have examined the impacts of the mergers or acquisitions have found out that consolidating organizations profited from the merger while others concluded that the mergers had no positive effect on the organizations' financial performance. The study will attempt to determine the extent of which M&A can explain banking risks as the entrepreneurial entry mode selection of commercial banks in Vietnam. The huge bad debts among the Vietnamese banking sector have resulted in "bankruptcy propensity and the corporate entrepreneurship" (Zain and Hassan, 2007). The study will add to the literature by looking at the extent to which the corporate entrepreneurship intensity can explain the bankruptcy propensity of M&A banks. The outcome of the study will reduce the problem of bad debt by facilitating better entrepreneurial and responsible governance.

Researchers conducted great amount of studies in order to find the association between the M&A and the banks' further success. Nonetheless, only some of these research cases at the same

time focused on the impact of M&A on the nuances of strategic growth and bankruptcy. Apart from this, it is hardly possible to find any specific study, which in the presenter is studying the market scenario of Vietnamese banks from a critical angle. Since the banking business in Vietnam is quite diversified and depends on the customers' contentment, it is necessary to learn the topic. Therefore, the current study will provide information on the impact of M&A on the following results of performance, so there was an opportunity to qualify the nuances and points that need to be done better to improve banking services, customer satisfaction, and customer loyalty.

Particularly, Zain and Hassan (2007) found that the critical factors of success for South Pacific entrepreneurs are government support, possession of managerial skills, and access to resources in addition to autonomy and smallness of the company size. Nevertheless, no author investigated interdependence of M&A and strategic economic growth. This point has not been researched and the reasons for failed outcomes are frequently reviewed from the point of view of lack of governmental support. In fact, most researches were conducted to explain the causes of bank industry failures. It was found that failing institutions carried out great amount of non-performing loans before bankruptcy. Hult, Hurley, and Knight (2004) found that banks, which approached failure phase, experienced big loans and had low cost efficiency. In addition, Ireland, Covin and Kuratko (2009) have outlined negative correlation between efficiency among banks, particularly those that do not fail, and problem loans.

However, in Vietnam, most of the mergers fail to achieve the desired outcome. Thus, the study will offer a solution for establishing a stable merger, which can lead to a reduction of debts and achieve the intended objectives. The findings of the study will help many commercial banks in Vietnam to shift into entrepreneurial mode thereby minimizing the bankruptcy propensity.

1.4.2 Existing literature gap

A lot of studies were already done on the topic of mergers and acquisitions. A majority of the studies examined the influence of the mergers or acquisitions in several organizations in a single study. Investigations of the kind have delivered blended results; some have found that consolidating organizations profited from the merger but others made a conclusion that the mergers had no positive impact on the financial performance. The contradicting discoveries can be explained by the way that organizations vary in some aspects. Past researchers have comparatively neglected to look at the qualities of specific banks prior and then afterward they merged or acquired.

Subsequently, the literature on the subject is quite conflicting and is excessively broad. It is challenging to make solid conclusions on the premise of the current literature.

The effectiveness of mergers and acquisitions as a strategy for the growth of corporate entrepreneurship and the moderation of bankruptcy has not been investigated enough. There are still numerous answers and issues for the future researches. In particular, there is still no clear answer to the reasons for the poor performance of banks in Vietnam. Many players in the banking sector find it difficult to understand why financial institutions continue to work poorly. The project will help financial institutions understand various strategies for expanding mergers and acquisitions, thereby increasing their effectiveness. Mergers and acquisitions have become a key strategy for many banks.

The key motivation for the study is the existing knowledge literature gap on the effectiveness of M&A as a strategy for corporate entrepreneurship growth and moderation of bankruptcy. Particularly, there is still no clear answer on the reasons of poor performance of the banks. It is difficult for many players in the banking sector to understand why the financial institutions continue to perform poorly. The project will help financial institutions understand different strategies for enhancing mergers and acquisitions thereby improving their performance. M&A has become a key strategy for many banks.

1.5 Research Design

From The study examines the implications of the listed & the unlisted banks in general and M&A banks in particular in Vietnam in regard to growth and management of "indebtedness" The methodology permits quantitative analysis of the vast majority of Vietnamese banks` M&A. The focus of this thesis is to investigate the correlation between corporate entrepreneurship (M&As) and growth and bankruptcy of Vietnam banks. The study is divided into three steps.

The first step investigates the dynamics of corporate entrepreneurship in Vietnam Banks. In this step, this thesis constructs a market-oriented corporate model as the benchmark for institutional growth. At this stage, we evaluate the post-merger performance of consolidated banks. The central issue is whether the M&A contributes to the growth and long-term performance of the individual banks. This section refers to the business entrepreneurship model by Barrett and Weinstein (1998) developed to find an explanation on how the organizational strategy function from the context of corporate entrepreneurship, its elasticity, how it is oriented to the market and organization productivity. From their model, they acknowledge the mutual effect that existed between the firm's

strategy, the variables from the internal environment and productivity of the business as shown in Figure 1.

The model envisaged that the orientation of the market was directly related to the linked between advertising and corporate entrepreneurship and formed the foundation of viable competitive advantage (Barrett et al. 2000). The orientation of the market has enabled the firms to articulate the information faster, which has, in turn, has increased the level of flexibility in the enterprise.

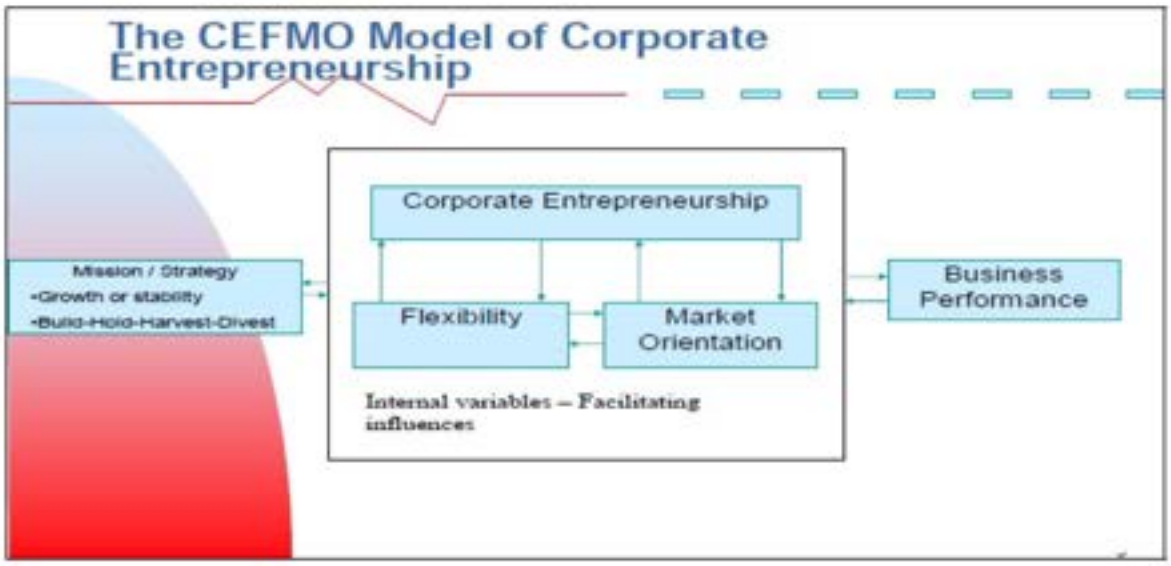


Figure 1: Barrett and Weinstein's dynamic model of corporate entrepreneurship.

Source: Barrett and Weinstein (1998)

Based on the model, it is expected that the administration of the firms has an enormous duty to maintain and develop the firm and sustain the performance levels. However, the management of the company usually fails to recognize the main elements, which could lead to business productivity. The management tends to promote their interest in the firm's interest.

The study also examined other integrative models related to corporate entrepreneurship intensity. They include the entrepreneurship model (Hisrich and Peters 2002), the integrative model of entrepreneurship (Breton-Miller et al. 2004), the interactive model (Hornsby et al. 1993) and the strategic integration of entrepreneurship (Morris and Kuratko 2002). These models suggest that corporate entrepreneurship is an enormous concept encompasses several factors. The researchers of the models specified that the factors selected categorised into three main groups namely the

individual factors, firm-related elements and the ecological elements factors that related to corporate entrepreneurship intensity (Covin and Slevin, 1991; Hornsby et al., 1993).

The second step examines M&A as a form of corporate entrepreneurship and its role in the growth of financial institution in Vietnam. The study defines the measures of efficiency and bank performance and review the underlying data. The study uses regression analysis to estimate the primary determinants of changes in the performance of the unlisted banks in general and merged and M&A banks in particular. In the third step, the thesis investigates the relation between M&A and banks' bankruptcy. The study demonstrates that M&A helps institutions boost their liquidity ratios. With an initial effort to address the limitations of the literature, the research explores the determinants of institutional efficiency in financial institutions. Particularly, attempts were made to explain variations in the intensity of corporate entrepreneurship activities among Vietnam banks by examining the different perception s of the external environment, the dimensions of the organizational structure and the strategies pursued. A more comprehensive comprehension of the processes involved in initiating corporate ventures was sought by empirically exploring how these factors influence risk taking propensity.

1.6 Thesis Structure

Since There are Six chapters in this thesis. In the first chapter, this thesis introduces the research background, a brief research framework, and the research design. In the chapter 2, the thesis discusses the literature review on levels of banking risks, corporate entrepreneurship and risks taking propensities - Z score as the possibility of bankruptcy.

The chapter 3 discusses the adoption of on research design & methodology while the chapter 4 discusses how to collect the Data and Methodology. In the chapter 5, Results and findings of hypotheses to the research questions are examined to explore the relation between the prospects of M&A and the management of bankruptcy in Vietnam Banks. In addition, the chapter 6 provides a conclusion, limitations and a discussion of future studies.

1.7 Introduction on Summary of Data-setting

The researchers conducted considerable amount of studies to investigate the correlation between mergers and acquisitions and the further success of banks. However, only some of these research cases at the same time focused on the impact of M&A on the nuances of strategic growth and bankruptcy. In addition, it is hardly possible to find any specific study, which in the leading

study of the market scenario of Vietnamese banks from a critical angle. Since the banking business in Vietnam is quite diverse and depends on customer satisfaction, it is necessary to study the topic. Therefore, the current study will provide information on the impact of M&A on the following performance results, so that it becomes possible to qualify the nuances and points that need to be improved in order to improve banking services, customer satisfaction and customer loyalty.

The research is trying to make empirical attempts to examine the effects of merger and acquisitions on the corporate entrepreneurship that affected the banking system in Vietnam. The methodological framework offers a comprehensive understanding of the economic development in context to the commercial banking along with their associated risks. Bad debts and inefficient market lead to the obstruction in the development of the strong financial image of the banks operating in Vietnam. The country has witnessed a significant reduction in listed and unlisted banks because of the M&A, which determine a newer framework of capital generation. However, controlled mergers play a vital role in restructuring the economic framework of operation by cumulative legal bad debts. The current study intended to investigate the degree to which banking propensities can facilitate and encourage mergers and acquisitions among 40 Vietnamese commercial banks in the country during the period 2007 – 2018 in order to accomplish the desired goals of increased scale and efficiency. From the study, it is quite evident that the banking system is considerably affected by the M&A, which is restructured and manipulated according to merger and acquisition regulations.

1.7.1 Summary of chapter 2: Literature Review

To deploy the study, the thesis first constructs a corporate governance model to determine its success rate level. The study demonstrates that corporate entrepreneurship plays significant roles in the development of Vietnam banks. Corporate entrepreneurship is often referred to as intrapreneurship. The concept offers institutions strategic options to refine their business concepts to meeting client needs and expectations and to enhance their competitive advantage (Tran, Ong and Weldon, 2015).

The presumed advantages of corporate entrepreneurship notwithstanding, there exists uneasiness among researchers concerning the future of this strategic options. However, the domain has not been sufficiently refined. Also, the development of these ventures has not been sufficiently explored. The variables that determine institutions pursuit of corporate entrepreneurship have not been identified in a systematic fashion. This study conceptualizes the definition of corporate

entrepreneurship as a process of "extending the firm's domain of competence and corresponding opportunity set through internally generated new resource combinations".

Corporate entrepreneurship embodies the formal practices that an institution partakes in its innovation, risk taking and proactive responses (Urban and Nikolov, 2013). A proactive posture on corporate entrepreneurship is best described by an organizations emphasis on the long term horizon in its planning activities. Hence, if a banking institution undertakes new ventures to stimulate the long term growth of the bank, the firm can be viewed to have engaged itself in corporate entrepreneurship.

The above discussion emphasizes on the multiplicity of potential corporate entrepreneurship dimensions. Since previous research have barely accounted for these dimensions, the operationalization of Corporate entrepreneurships proved to be unsatisfactory (Zahra, Nielsen and Bogner, 1999). Hence, the study considers corporate entrepreneurship as a multidimensional construct. While researchers have focused on larger corporations (Zain and Hassan, 2007). This study sets itself apart from the common practice and examines institutions across the board. This focus is then justified by the role of corporate entrepreneurship in the growth of Vietnam banks. Additionally, smaller firms are found on innovative practices and are committed in practices that enhance their growth (Zahra 2015)

Literature has examined the influence of restructuring actions on the productivity of financial firms and has provided mixed results. According to Shin (2017), Harwood et al. (2016), Swanepoel (2005), Robbie and Wright (1995), Smart and Waldfogel (1994), Bowman and Singh (1993) and Gibbs (1993), they discovered a statistically considerable correlation between restructuring of the firm and the productivity of the company. On the contrary, Billett and Vijh (2004) and Elder et al. (2005) were of the contrary opinion regarding the relationship between restructuring of the firm and productivity. The results were consistent with the outcomes of Savović (2016) when he discovered that the performance of the firm and restructuring adopted by the firm were not statistically significant and it adversely affected post-acquisition productivity. The results obtained by Savović (2016) also suggested there is statistically significant variation concerning the firm restructuring activities among the service industry such as commercial banks and the manufacturing sector.

Based on the individual-related elements, McClelland et al. (1976) contend that the inclination to perform an entrepreneurial activity builds on the motivation of an individual, which

determined by a person's inherent traits in the context of the ecology and firms in when the action happens. From the perspective of the firm, Morris and Kuratko (2002) supported that the notion that corporate entrepreneurship must view from a wide angle to understand its contribution to the company. It entails the administrative and social aspects put in place to model the conduct of individuals in the firm the strategic management oversee. The firm-related elements incorporated the commitment by the management, reward schemes, structures of the firm and its administrations, enhanced availability of resources, and the autonomy to performance and model the conduct of individuals. Based on these factors, the study examined the following four models.

In brief, a lot of studies were already done on the topic of mergers and acquisitions. A majority of the studies examined the influence of the mergers or acquisitions in several organizations in a single study. Investigations of the kind have delivered blended results; some have found that consolidating organizations profited from the merger but others made a conclusion that the mergers had no positive impact on the financial performance. The contradicting discoveries can be explained by the way that organizations vary in some aspects. Past researchers have comparatively neglected to look at the qualities of specific banks prior and then afterward they merged or acquired. Subsequently, the literature on the subject is quite conflicting and is excessively broad. It is challenging to make solid conclusions on the premise of the current literature. As such, there is a need for a study to be conducted on 40 banks in Vietnam and the discoveries could be generalized to others banks with similar attributes. The study will seek to examine the risk-taking propensity of 40 banks in Vietnam developing the economy to determine if prospect for M&A can be explained by banking risks they face.

1.7.2 Summary of chapter 3: Research design and Methodology

Chapter 3 discusses the research methodology based on the reference of Saunders et al. (2003) and (Gephart 2004) to claim that in order to have consistent, coherent, logic research methodology, the study chooses to embrace the Positivism paradigm as the Research Philosophy and Deductive or Quantitative design as the Research Approach to guide the study to the target of examining the impact of the risk-taking propensity of listed & Unlisted banks in general and M&A banks in particular in Vietnam's developing business sector. Besides, the study's Epistemology is to seek to provide answers to the following inquiries of the study:

- To what extent the banking risks can be explained by M&A as the entrepreneurial entry mode selection of commercial banks in Vietnam from 2007 to 2018 with the

measurement of Z-score bankruptcy propensity and the reference to corporate entrepreneurship? Whether the listed banks & Unlisted or M&A can moderate the possibility of bankruptcy?

- What are the factors of banking risks (Credit risk, operation risk, leverage risk, liquidity risk, and market risk) of the banks? What would help to explain a significant amount of variance in bankruptcy?

From the above research inquires, the specific hypotheses adopted in the study and its measurements are as follows:

- Hypothesis 1: M&A facilitates the market efficiency of the participating banks.
- Hypothesis 2: Large banks engage in many mergers and acquisitions, unlike small banks.
- Hypothesis 3: Responsible entrepreneurship increases the risk-taking propensity in financial institutions.
- Hypothesis 4: Cutting salary of banking employees increases the risk-taking propensity to fraud and corruption.
- Hypothesis 5: Imposing punishing stimuli promote the proper risk-taking propensity

Lastly, the study also sought to determine the relationship between corporate entrepreneurship intensity and Z-Score bankruptcy propensity among 40 selected banks in Vietnam by evaluating Z-score model as the possibility of bankruptcy.

1.7.3 Summary of chapter 4: Data and Methodology

Based on the adopted research methodology, the study utilizes the appropriate methods of data collection, techniques, and strategies used to gather valid and reliable data which allows concluding and narrowing the possible directions of the formation of the study. Thus, the most appropriate used sources of data of collection for the adopted research methodology are historical data, official statistics, government reports, web information, previous researches….. to be able to answer 5 hypotheses and examine the Z-score model. Besides, the literature review of the study is conducted via the reliable online sources such as "the state bank, Duo blackboard– online library, OECD library, Econlit, Google scholar, IntelliConnect, and RePEC…..". Besides, the Keywords used to search for the information from these databases are Merger & Acquisition, corporate entrepreneurship, bankruptcy, and risk-taking propensity…... After collecting data, the finding

results, and the main related contents were conducted and distributed in various forms before it was utilized.

For sampling, the study empirically examines the risk-taking propensity of 14 listed banks and 21 unlisted banks having the possibility of entering into M&A with each other or with the other institutions because of high bad debts in Vietnam.

Besides collecting data sources of financial ratio such as ROA, ROE, ROCE… and Asset, debt of the banks, the study gather the data of the risks taking propensities of banks suggested by Nguyen Thanh Duong (2013) such as LLR, LLP, LEV, NIR, CTI, LDR, and LAD which all are carefully sought from the reports of the State Bank, the official source of the banks, annual report of commercial banks including balance sheets, profit and loss statements, and financial ratios from the main links such as **www.vietstock.vn, www.cophieu68.vn, and specially from the official site of the state bank of Vietnam: www.sbv.gov.vn, www.vietdata.com …..**

For data analysis, several statistical methods will be used in the research to outline the main characteristics of hypotheses and variables based on the (SPSS) program. Thus, the Pearson's Coefficient of Variance, and ANOVA, and regression analysis will be conducted to explain the banking risks by using the measurement of and Z-score bankruptcy propensity with reference of corporate entrepreneurship.

1.7.4 Summary of chapter 5: Results and Findings

This chapter shows the empirical results from the analysis of 40 commercial banks in Vietnam's developing business sector economy from 2007 to 2018. Through these results, the study determines the extent to which M&A can explain the banking risks as an entrepreneurial entry mode selection of commercial banks in Vietnam using the measurement of Z-score bankruptcy propensity with the reference of corporate entrepreneurship. The results can be briefly summarized as the followings:

- Hypothesis 1: the research supported the alternate hypothesis
- Hypothesis 2: the research accepts the null hypothesis.
- Hypothesis 3: the research accepted the null hypothesis
- Hypothesis 4: the research supported the null hypothesis.
- Hypothesis 5: the research reject the null hypothesis.

Besides, For the prospects of bankruptcy among the banks, the study found that there are 14 banks having Z-score below 1.81 suggesting that the commercial banks in Vietnam were experiencing a high level of bankruptcy propensities (Altman 1968), and especially 10 banks out of this 14 banks having negative Z-Score below 0 and particularly, 8 banks out of them have been already merged or acquired before the year of 2015. Besides, there are 12 banks out of 14 banks with high possibility of bankruptcy belongs to the unlisted group

Group Statistics

	EXCHANGE	N	High Bankruptcy	On Alert	Safe
LLR	LISTED	14	2	0	12
	UNLISTED	26	12	1	13

In fact, the results of the prospects of bankruptcy among the banks are calculated basedly on the equation of the Z-score model can be represented as follows

$$\mathbf{Z_{BT} = 18.007 + 0.177(LLR_{bt}) + 0.022(LLP_{bt}) + 1.434(LEV_{bt}) - 1.765(NIR_{bt}) + 0.003(CIR_{bt}) - 0.119(LDR_{bt}) - 0.121(LAD_{bt}) + e_{bt}}$$

The results also indicated that LLR, and LEV were positively correlated to the Z-Score bankruptcy propensity while NIR, LLP, CIR, LDR, and LAD were negatively correlated to Z-Score bankruptcy propensity.

1.7.4 Summary of chapter 6: Discussion

Vietnamese banks have suffered significantly from the risks associated with the bad debts as well as increasing likelihood of mergers and acquisitions among banks. From 2000 to the present, the banking industry has faced many risks classified as operational risks, market risks, and financial risks associated with bad debts and bankruptcy. It significantly increased the likelihood of mergers and acquisitions among banks. These current problems of the bad debts and bank mergers and acquisitions in the Vietnamese banking sector will create the appropriate context for researching the propensity to take risks. In this study, we study the extent to which banking risks are explained after mergers and acquisitions as a form of entrepreneurial enterprise among Vietnamese commercial banks.

The study claims that most of the banks considered to less capital, more problematic assets, and lower regulatory ratings. Thus, they has high likelihood to be merged or acquired by other banks. The result emphasizes that a bank with high debts acquired by another bank to minimize its

capital dependency it has created. In fact, the results of the study have significant influence on commercial banks and recognition of the fundamental elements of risk-taking propensity. The results of the research suggested that ROE and ROCE were significant at $p = 0.00$ (< 0.05), but ROE had a higher t value as compared to ROCE. It indicates that acquisitions of a firm heavily related to increased debts. The research recommends for more funds to allocate to the reserves of the banks so that they can cushion themselves against credit risks.

The research also found out that the bank's age and size were statistically significant to the chances of a bank being either acquired or entering into a merger ($p<0.05$). It implies that when credit risks increase, there is a tendency for more losses to occur. Besides credit risk, Liquidity risk of a bank is associated with a reduction in NIR which has relatively the same effect as compared to ROE and ROCE. In addition, liquidity is considered one of the conditions for determining an ability of a bank to pay back its loan. It suggests that bank risk propensities negatively connected to LLP to reduce the chances of banks going into bankruptcy shortly. Besides, it is appropriate for commercial banks to hold larger quantities of the loan loss reserve (LLR) to promote the financial strength of the firms as well as survive any plausible crisis.

In fact, Although the research found out that LLR, and LEV were positively correlated to the Z-Score bankruptcy propensity while NIR, LLP, CIR, LDR, and LAD were negatively correlated to Z-Score bankruptcy propensity, LLP, LEV, CIR, and LAD were found to be the main factors, which contributed to the high levels of variance between listed banks and the unlisted banks in Vietnam. Thus, essential for banks to take into consideration the solvency disparity of the various assets and liabilities, which the bank owns, to quantify the liquidity of the bank under examination.

It was proved that corporate entrepreneurship intensity and Z-Score bankruptcy propensity significantly influenced mergers and acquisitions. Based on the found Z-Score, the likelihood of bankruptcy was outlined that there are 14 banks experiencing a high level of bankruptcy propensities and especially 10 banks out of these 14 banks having negative Z-Score having very high risk of bankruptcy and has high likelihood of going into merged or acquired. Besides, there are 12 banks out of 14 banks with high possibility of bankruptcy belongs to the unlisted group. Thus, these unlisted banks in general and 12 banks out of them in particular all having high prospects of bankruptcy should be seriously taken into policy maker's attention for choosing the

appropriate entrepreneurial entry mode selection which might bring better performance and control of risk.

To minimize the risk of bankruptcy, a considerable number of researches has been conducted regarding risk-taking propensities and corporate entrepreneurship intensity. In general, it was not an easy task to establish the extent to which banking propensities explain the processes of mergers and acquisition. However, the study found that the banks can take more risks indicative of the high variation between risk-taking propensity and responsible entrepreneurship, so that it is applicable for the commercial banks to consider a framework that guides performance and the strategic roles on risk-taking propensities and especially entrepreneurial management needs to be addressed alongside it.

Besides, responsible entrepreneurship. the study also believes that reducing the employees' salary will lead to fraud and corruption among the management as a form or risk-taking propensity. It suggests that the mergers and the acquisitions can militate against risk-taking strategic choices. Along with the salary policy, punishing stimuli is proven that if the banks cannot pay their loans (high liquidity risks or NIR is great), they might attract a lot of regulatory penalties or fines.

The study will also determine the other factors affecting financial capacity and thereby help the managers at the micro level, macro-based offering possible solutions competition aims to achieve micro: banks operate more entrepreneurially but efficiently, and pushing back the risk of collapse, sustaining development and healthy competitiveness with joint venture banks and foreign bank in Vietnam. Thus the study recommends an additional research on the effect of the restructuring of the banking system about the credit risks among Vietnam banks. It is a critical area for more extensive research based on the view that the empirical results into the corporate entrepreneurship model of the bank propensities and bankruptcy can be represented as a form of mergers and acquisition. Therefore, the commercial banks must take caution against argumentative risk-taking results.

Chapter 2: Literature Review

2.1. Introduction

Scholarly writing on entrepreneurship has expressly suggested there is a significant association between the performance of the company and corporate entrepreneurship (Moreno and Casillas 2008). Presently, there is no agreement on what entails corporate entrepreneurship. Various researchers have offered some definitions of corporate enterprise and corporate entrepreneurial intensity, which they have derived from other research papers. The reason for the study is to determine the extent to which the banking risks can be explained by M&A as the entrepreneurial entry mode selection of commercial banks in Vietnam from 2007 to 2018 with the measurement of Z-score bankruptcy propensity and the particular reference to corporate entrepreneurship.

This section has the following four areas: M&A in the banking sector, the theoretical framework, different bankruptcy propensity, M&A as entrepreneurial entry mode selection, and the factors that help to explain a significant amount of variance in bankruptcy. Such writing audit helps in identifying a knowledge gap that will prompt a way forward for the study. The exploration study will seek to determine if the listed & unlisted banks in general and M&A in particular as the entrepreneurial entry mode selection of commercial banks in Vietnam explain the possibility of banking bankruptcy risks. The research critically examines corporate entrepreneurship intensity and bank risk propensities. In Vietnam, adequate research has not been performed to test the relationship between corporate entrepreneurship intensity and bank risk propensities in the banking sector empirically. Thus, the current study relies on the collected data from the banking industry.

2.1.1. Existing literature gap

There is a great literature gap for the topic of the research. The effectiveness of mergers and acquisitions as a strategy for the growth of corporate entrepreneurship and the moderation of bankruptcy has not been investigated enough. There are still numerous answers and issues for the future researches. In particular, there is still no clear answer to the reasons for the poor performance of banks in Vietnam. Many players in the banking sector find it difficult to understand why financial institutions continue to work poorly. The project will help financial institutions understand various strategies for expanding mergers and acquisitions, thereby increasing their effectiveness. Mergers and acquisitions have become a key strategy for many banks.

The researchers conducted considerable amount of studies to investigate the correlation between mergers and acquisitions and the further success of banks. However, only some of these

research cases at the same time focused on the impact of M&A on the nuances of strategic growth and bankruptcy. In addition, it is hardly possible to find any specific study, which in the leading study of the market scenario of Vietnamese banks from a critical angle. Since the banking business in Vietnam is quite diverse and depends on customer satisfaction, it is necessary to study the topic. Therefore, the current study will provide information on the impact of M&A on the following performance results, so that it becomes possible to qualify the nuances and points that need to be improved in order to improve banking services, customer satisfaction and customer loyalty.

2.2 Commercial Banks

Commercial banks in any economy are perceived as vital building blocks, which represent economic development that is mainly based on two main reasons (Focarelli et al. 2002). First, it is expected that they will assume a critical role in supporting major projects financially. Secondly, they expected to meet the requirements of its current customer base. Concerning the functions, the commercial banks anticipated increasing the capacity of the marketplace by motivating more financial activities.

Several definitions provided in the literature concerning the participants of the study, in the case, the commercial banks. According to Alhadab and Alsahawneh (2016), commercial bank is seen as a financial firm that takes up the role of a facilitator between two different categories of customers. These classes include those individuals who have money and want to increase their investment while the second type includes people who need funds for development (Alhadab and Alsahawneh 2016). On the other hand, Fiordelisi and Marques-Ibanez (2013) eluded the commercial bank as an institution, which relies on acquiring access to deposits for funds within a given period. Fiordelisi and Marques-Ibanez (2013) further added that the commercial bank performs two functions, which include converting money from one currency to another void of losses and provide equity to facilitate development and growth in an economy. Chen Goh (2005) also provided a definition of a commercial bank, which suggested that these firms deal with debts or where account holders are given with a high return based on their deposits and assume the role of paying interest on loans they have been awarded.

From these definitions, which been given concerning commercial banks, the study contends that the commercial banks are innovative firms, which accept deposits from either persons or other entities and in turn provide interest based on the level of their deposits. The deposits considered useful in the development of the economy with loans due to paying back with interest after a given

period. However, when they fail to pay back the loans, considered bad debts, reduces the growth of the economy. Too many bad debts incurred by commercials lead to bankruptcy or its total collapse. The only options available for reviving these commercial banks are through mergers or acquisition as directed by law.

2.3 M&A in the Banking Sector

A search on the journal articles quickly reveals that most of the studies in the banking M&A mainly focused on the examination of what are the motives in M&A and its advantages. For instance, Focarelli et al. (2002) in their study examined 359 Italian commercial banks towards the end of 1984, and 135 mergers, 66 acquisitions, and 253 banks towards the end of 1996. They found out that after M&A, there was an increase in labor and operation costs compared to the gross profit due to an increment in the pay rates to motivate employees of the passive banks. Furthermore, an increase in the operating expenses prompted a reduction in return on assets (ROA) for the initial three years from M&A, yet the bank productivity stayed unaltered in the long run. Despite what might be expected, ROE (return on equity) stayed unaltered for the initial four years, but it increased eventually. Higher operating costs post-M&A diminished bank profitability in the long term. However, it was repaid by a decrease in equity.

There are various reasons why banks opt for M&A as cited by different researchers. As indicated by Mountis (2012), pay rates and cost-cutting are critical issues of concern and are the motivators for M&A. Another reason for M&A among banks is an advantage of "cost synergy and revenue synergy" (Cornett et al. 2006, p. 45). Furthermore, their research on a large sample of bank mergers during 1900 – 2000 discovered there is an increase in bank profitability (ROA, ROE, and NIR). The study concluded that these profitability indicators are different not only in the scale of the bank mergers (large versus small banks) but also the activities of mergers (focusing versus diversifying mergers). For example, larger bank mergers would have a larger increase in ROE. Besides, the bank mergers enable cost reduction leading to higher operating efficiency and revenue improvement. However, the liquidity ratio remained unchanged before and after bank merger.

Caiazza et al. (2012) also alluded that M&A in the banking sector during the 1980s, a massive wave of mergers and acquisitions (M&A) were enlisted in the United States (followed by Europe, cultivated by the II EU Directive on Single Market) increased the effectiveness of the credit allocation. They further added that bigger and more productive banks usually procure weaker and smaller banks, with the expectation to restructure and build on its efficiency. The managerial

effectiveness (Cost, ROA, and ROE) of commercial banks' domestic and cross-border consolidations from 14 Europe countries from 1998 to 2004 claimed there was the effectiveness of Europe bank mergers from 1998-2004. In addition, commercial banks in cross-border M&A were more efficient than those in domestic M&A, so "cross-border M&A in the new environment has the higher survival rate in the long run due to its better performance (Lozano-Vivas et al. 2011, p. 56). ROE declines due to decreased investment in securities that implies "bank profitability is increased if assets are shifted from securities to loan" (Lozano-Vivas et al. 2011, p. 56).

2.4 Theoretical Background of Banking Risks

Many studies are present on the banking risks, which can be viewed from different levels within a company. They are discussed as follows:

2.4.1 Risk identification at multi-level

Banking risks endured by a bank can adversely impact on the management of a banking system as well as the entire economy. Therefore, the recognizable proof of risks for managing banking operations in general and credit activities specifically assumes a critical role part in enhancing the effective performance of a commercial bank, the banking system and the entire economy (Focarelli et al. 2002). Risk can be viewed as unforeseen occasions if it will prompt the loss of property, profit decrease than anticipated or bring about an increase in extra cost to accomplish financial functionalities in banking exercises.

According to Roy (2008), the banks' key activity is to oversee risks in "their intermediate process" with a specific end goal to create value for their products. The banking risks can be classified into three hierarchical levels, including:

- Operational risk at micro level: operational expenses, fraud, corruption, business operations, efficiency, supply chain, business cycles, among others;
- Credit risk at meso level: the risk of capital, credit, liquidity, leverage, among others;
- Market risk at macro level: exchange rates, interest rates, fluctuations in bond, commodity prices, and equity among others.

In addition, banks are confronted with several other key risks amidst M&A and the current risks stemming from asymmetric information and conflict of interest among members as depicted in Figure 2.

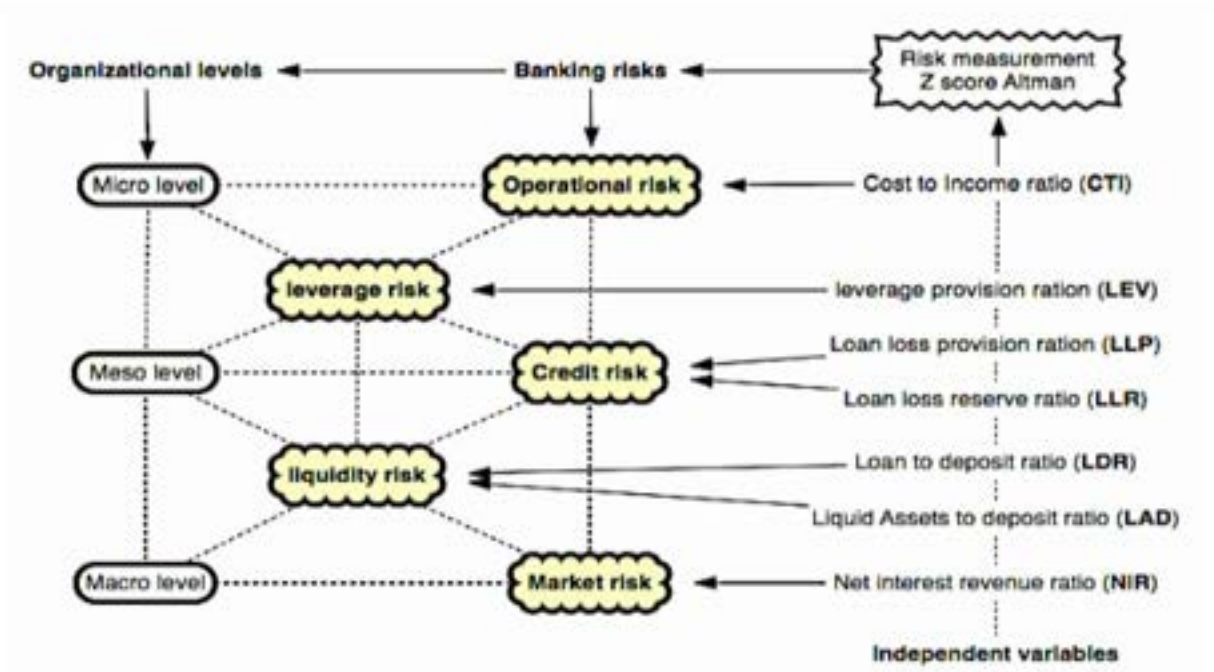


Figure 2: All the risks anticipated by the firm categorized into three organizational levels. Source: Roy (2008).

2.4.1.1 Operational risk at the micro level

Berger and Humphrey (1992) and Wheelock and Wilson (1995) demonstrated that insolvent banks operate inefficiently. In their research, they claimed that bad debts and cost-effectiveness of banks were indirectly related. It stems from the bank's weak administration in observing expenses as well as credits for borrowers. Moreover, the non-performing loans brought about by external factors, (for example, regional economic delay) led to extra costs related to an increase in bad debts producing low-cost efficiency. Sufian and Abdul Majid (2005) also obtained the same result while utilizing "Stochastic cost frontier" to quantify cost-effectiveness and "Tobit model" to decide the correlation between bad debts and cost-effectiveness of commercial banks in Singapore and Malaysia. Their study also demonstrated that the relationship between cost-effectiveness and bad debts is contrary. Moreover, Tsai and Huang (1999) utilized the cost function to test the association between quality management and cost efficiency in the banking industry of Taiwan. They found out that the association between asset quality and profitability was not directly related.

By ascertaining the risk elements and quality in measuring the cost-effectiveness of the Bank of Japan in the period from 1993 to 1996, Altunbas et al. (2000) exhibited the level of bad

debts have the positive association with the bank's inefficiencies. As such, if the bad debts increase, the cost-effectiveness also increases. Truth be told, when administrators notice an increase in credit risk, they tend to increase the expenses and designate more assets to monitor quality control for loans and bad debts. It tends to bring about a reduction in the productivity of the bank, but it also makes the NPL proportion diminished.

As indicated by research on the role of state ownership in numerous nations around the globe, the state ownership has a tendency to decrease working proficiency while increasing risk. Thus, banking administrators need to fortify their supervision on loans and provisions, and firmly controlled interest expense, staff expenses, and capital expenses.

The operational risk information is specific, as there exist as random events that cause extreme losses any financial institution. Banks, in particular, must be mindful of these losses as they have huge financial ramifications for the organization (Chernobai et al. 2008). High recurrence portrays most of the loss events with low severity. These events are not vital for a bank and can be averted by utilizing mitigation methods.

2.4.1.2 Credit risk at meso level

Credit is the key activity of commercial banks. Income gained by the credit operations always occupy a significant proportion of total banking revenue and provides the most part of profit for the bank. However, the credit activity is the riskiest and complex activity. Credit activity is related to all areas of the economy. All the risks are potential ones in credit operations of commercial banks. Therefore, commercial banks are to maximize profits and minimize the risks. In any case, it requires commercial banks to respond appropriately to manage and prevent credit risks.

The consequences of the credit risk are usually substantial since it is the primary activity of banks. When credit risk occurs and the bank that is not able to recoup the debt, it will be prompted with an imbalance of incomes and expenditures (Focarelli et al. 2002). Such a case tends to lessen liquidity leading to bankruptcy. Besides, with the relationship among banks today, the spreading effect will prompt the insolvency of the bank lines and another budgetary system can cause the economy to collapse. When a bank encounters unreasonable credit risk or bankruptcy, its customers/depositors would be frenzy and withdraw cash in the bank. The majority of withdrawal will create related financial challenges for banks, as it cannot complete it transactions consequently

giving way to a collapsing financial system. In addition, it leads to an economic crisis, far-reaching unemployment, and social instability.

The study of Angbazo (1997) showed that credit risk could affect the Net Interest Revenue (NIR) of the bank. The bank giving many loans may be riskier, and thereby they have to make loss provision correlatively to the given loans. Accordingly, they must calculate the higher returns to compensate for the expected risk amounts.

2.4.1.3 Relation between credit risk and liquidity

Until now, there was a great amount of concepts of liquidity risk. However, liquidity risk is understood as the risk if banks cannot afford to pay its debts or to raise funds with high costs to satisfy the urgent demand for cash payment. There are subjective reasons, which result in the solvency of the banks. The conditions are required to adhere, but they are not followed resulting in unwanted consequences and thus reduces Net Interest Revenue (NIR) (Angbazo 1997; Rose et al. 2009; Duttweiler 2011).

According to Duttweiler (2011), for commercial banks to maintain liquidity they have to ensure that, the entire asset value is greater than the debts at all time. If the loan business is irrecoverable and trading securities are sold at a loss, the asset values will reduce greatly leading to bank solvency. Otherwise, they will be forced to liquidate their fixed assets to continue with their financial operations.

Taking into account the data from the balance sheet report and income statement in the period 1985-2003, the study of Aspachs et al. (2005) provided a comprehensive look at the determinants of liquidity policy of the Bank of England. Furthermore, they provided an association between macroeconomic policies within the central bank and the economic cycle for supporting liquidity buffer. The Central Bank assumes an extremely critical role to maintain liquidity and can give financial assistance if there should arise an occurrence of business bank's liquidity emergency.

Another research performed by Valla et al. (2006) also showed that macroeconomic factors and decisive factors might affect the liquidity of the Banks in England. The researchers assume that the liquidity ratio is dependent on the factors like short-term interest rates, loan growth, the growth of the total gross domestic product, and bank profits negatively correlated with liquidity. However, the size of the banks is considered to be a negatively correlated with liquidity.

Rather than concentrating on financial support from the Central Bank or the macroeconomic policies, Lucchetta (2007) utilizing panel data from the accounting report and income statement of

5066 European banks during the periods 1998 - 2004 to determine the relationship between banks and interbank market. It was not consistent with Aspachs et al. (2005). This study alluded to the process of inter-bank lending in the light of changes in financing costs. The study highlighted there was a statistically important relationship between the normal interest rate in inter-bank and the risks and liquidity of the banks. The risks and liquidity were perceived in term of the conduct of banks on the interbank market, interbank financing cost, the basic rate of government loans to aggregate assets and non-performing loans, and the extent of the bank.

If the size of the bank has a positive relationship with the liquidity of the banks, it demonstrates that more banks are scaling the bar increase their liquidity and create new opportunities for the banks to mobilize other capital sources together to enhance its liquidity. Conversely, if the case seemed to demonstrate a negative relationship, then further scaling can make increasing costs and the improvement of the management and human resources cannot keep up development of the regulations implying that the bank's risk increases tremendously including liquidity risk. Previous research by various researchers such as Aspachs et al. (2005), Lucchetta (2007), Vodova (2011), and Hưng (2013) identified that the discovered there is no relationship between the size of the bank and its liquidity. In the case of Vietnam, the study anticipates a positive correlation between size variable of the bank and the liquidity of banks.

2.5 Causes of the Credit Risk in the Banking System

Many studies have been carried out regarding the causes for the credit risk are diverse, but the study will tend to adopt credit risk that stems from the accompanying reasons:

a) The agency problems in banking

Jensen and Meckling (1976) suggested that the theory of agency problem plays a critical role in ownership structure in controlling risk-taking behavior. In fact, in the banking industry, the agency problem happens mainly between the management and the shareholders whenever the bank managers have the risk-taking incentives to satisfy their needs at expenses of bank shareholders (Agrawal and Knoeber 1996). Thus, it can be said that the consequence stems from the poor bank governance.

Bank managers have specific skills in human capital and benefits of control that tend to have less risk-taking incentives than the stockholders with fewer liabilities and interests. In other words, the bank managers tend to accelerate their risk-taking incentives to obtain the reward for high return investments if they hold significant equity or stock options in the bank. Alternatively,

the managers holding less bank stock tend to be the less perceived risk-taking incentive. Thus, to control the ownership structure between manager and shareholder toward rights and responsibilities of the stockholder is problematic and dilemmatic for effective bank governance.

Besides, Demsetz et al. (1997) claimed that the agency problem and moral risks might be interrelated as they share common characteristics of asymmetry information and lack of actual monitor system leading to uncontrolled loan growth, which results in bank risks. In other words, Moral risks tend to arise in a principal-agent problem when they pursue their self-interest, and the agent knows stuff that the principal does not.

Taking (2008) conducted a study to examine investors' response to changes in bank risks as proxies by their fundamentals in Nigeria utilizing panel data from the Deposit Money Banks. In his study, two-stage structures namely (observing and impact), and a two-channel approach (quantity channel and financing cost channel) was used. The outcomes acquired results recommend that deposit development be moderately sensitive to bank risks. However, the interest rate of the contributors was not clear. The inter-bank deposit rates shown concerning the bank essentials. The total deposit interest rate and time deposit rates are considered to be less than the required levels of the bank essentials. Besides, there is no proof that banks do react to signs from the contributors as proposed by market discipline hypothesis.

b) Adverse-selection and moral hazard

For credit markets, due to asymmetric information, if the bank deals with the situation of demand for loans by outsiders excessing the lending capacity by the banks, the banks might raise interest rates to reduce the demand for loans. The action might lead them to problems from the operating, financial, and market risks in the future. These problems of risks are known as adverse selection and moral hazard. For financial risks of the banks at mesa level and the market risks at the macro level, the banking moral hazard is derived from information asymmetries. Normally banks want information about their customers, but the information is often incomplete and imprecise.

There are two common types of risks. The first is the selecting the wrong customers for loans leading to high-risk of recoverable capital. The second category is the moral hazard: the risks for those who give loans are the cause of borrowers' moral. In fact, the borrowers deliberately provided incorrect information, false information to convince people with loans to misappropriate

the loans or using for improper purposes with initial commitments. Consequently, the debt becomes irrecoverable for repayment to the bank.

Besides, after finishing the loan, if the interest rate is higher than the interest rate they want, customers can change the purpose of the loan to increase profit returns and to compensate for the higher interest rates. If the purpose of the loan is more profitable than the anticipated risks, then the repayment capacity of the customer will be adversely affected. Therefore, the market price of credit is not always possible to restrict the lending needs of the customers. However, the problem of financial risk resulting from moral hazard can be solved if banks are sufficiently capitalised (Brusco and Castiglionesi 2007). In support of this, Myerson (2012) suggested that to solve the financial, moral hazard, and the bankers must build "some long-term relationship with communities of investors." Besides, the rate of deposit insurance and other government interventions for the banks also play a critical role in controlling moral hazard (Boyd and Graham 1986). Similar vision was represented in the study by Marques, Correa, and Sapriza (2013) on the government support of bank risk taking and the measures and sources of support.

For operational risks of the banks at the micro level, if there is a cut in salary payment for banking staffs to deal with excessive labor, the banks might also encounter two problems mentioned above: the morally upright individual will quit the job, while immorally straight people will stay. As a result, the accumulated bad labor in the organization (adverse selection). Moreover, it is riskier when bad employees could make an advantage on their own without considering the rights of employers to make up for low wages (moral hazard). As a result, the banks might encounter the riskier and the harder fraud, corruption, while the quality of their working has been taken worse.

2.6 Market Risk at Macro Level

The bank ought to have a structure with defined skills and responsibilities for managing the market risk, which correlates to its size, and complexity of its operations undertaken by the bank. The operational unit performs the functional performance of market-risk management. The market-risk is planned out in advance to anticipate the problems it can cause the operations. The bank needs to comply with the standards set for market-risk management and provides a plan thereunder (Zahra 1991, p. 321). The procedure of developing a market-risk plan is an isolated activity from its usual trading activity and back-office operations. Therefore, the study did not consider it an important source of banking risk.

2.7 Measuring Bankruptcy Propensity Using Z-score

Business failures are common events that take place in the economic system while the companies entering and leaving as an element of general business activity and desires (Altman and Loris 1976). Diverse factors cause the failure of most ventures. The literature supports the ratio analysis as a determinant of bankruptcy propensity.

Smith (2015) cited that bankruptcy propensity anticipation is fundamental for the anticipation or relief of negative financial cycles in a national economy. It is especially applicable after the collapse of banks amid the financial crisis. The significance of bankruptcy anticipation has turned into a critical concern for the corporate administration.

Altman in 1968 envisaged research into bankruptcy propensity determination. He utilized multivariate analysis to conduct an investigation of 33 organizations that entered into bankruptcy amid the period 1946-1965. He looked at 22 proportions of five different classifications in particular: liquidity, profitability, financial, solvency and activity of the organization. Altman developed an indicator that is the Z-score, which depends on five financial proportions.

Deakin (1972) also utilized multivariate analysis to study 97 insolvent organizations and 97 organizations data utilizing 14 financial proportions for three years. The findings of the survey demonstrated that the model could explain 94% of the bankruptcy propensity among organisations a year before bankruptcy. According to Laeven and Levine (2009), the Z-score considered an indicator that utilised to evaluate risks from a cross-national banking perspective. It is obtained by the getting the aggregate of the return on assets (ROA) and the capital asset ratio (CAR) of the individual commercial banks divided by the deviation of ROA (Laeven and Levine, 2009). Laeven and Levine also added that the Z-score used to measure the extent of liquidity of the various commercial banks (Laeven and Levine, 2009). When the value of Z-score is higher, it is expected that the commercial banks perceived to be less risky.

Saunders and Cornett (2003) used diverse forms of indicator to evaluate credit risks such as the problem-loans proportion, the risk resources proportion, the solvency proportion, and the capital proportion. In the study, the Z-score considered useful in evaluating risk-taking among commercial banks. It is considered a useful tool for measuring credit risks as well as marketplace risk. It also provides a concise, brief description of the findings based on Saunders and Cornett (2003). From the literature, the use of the problem-loans proportion and the risk resources proportion in measuring credit risks has been associated with their inability to provide a comparison across

nations of regulatory variation (Beaver 1966). On the other hand, the solvency proportion completely not been utilized in evaluating risk-taking. Lastly, the capital proportion considered a key factor of the Z-score. Saunders and Cornett (2003) used the capital proportion to measure the influence of governmental support on the risk-taking propensities of commercial banks and its strength.

As per Altman (1968), the Z-score is a weighted normal of five financial proportions with independent coefficient values. Based on the model, an organization with a Z-score < 1.81 is categorized with a high level of bankruptcy propensity, or they are confronting serious issues with a great inclination to fall into bankrupt while organizations with a Z-score > 2.67 are perceived as successful and safe from bankruptcy. The financial strength of an organization with a Z-score around 1.81 and 2.67 is considered indeterminate and should be carefully observed to diminish odds of it going bankrupt.

This study evaluates the entreZ-score model application and examines its predictive power to the listed and unlisted banks in Vietnam. According to Altman (1968), the z-score model and its boundary values are represented as follows:

$$\boldsymbol{Z\ Score = 1.2\,X_1 + 1.4X_2 + 3.3X_3 + 0.6X_4 + 1.0X_5}$$

Where:

- $X_1 = \frac{Working\ Capital}{Total\ Assets}$
- $X_2 = \frac{Retained\ earnings}{Total\ Assets}$
- $X_3 = \frac{Earnings\ Before\ Interest\&Tax}{Total\ Assets}$
- $X_4 = \frac{Market\ value\ of\ equity}{Book\ value\ of\ Total\ liabilities}$
- $X_5 = \frac{Sales}{Total\ Assets}$

Based on Altman (1968) the boundary values are:

- Z > 2.99: Safe Zone (Financially healthy)
- 1.81 < Z < 2.99: Grey Zone (Could go either way)
- Z < 1.81: Distress Zone (Risk that company will go bankrupt within two years)

2.7.1 The empirical analysis of bank risks based on Z-score index

Although the Z-score is widely known for evaluating bank risks, it is still affected by many unresolved concerns. One of the inquiries left unanswered in most research related to a method in which the risk portfolio of the commercial banks can transform over time and subsequently, the relative strength of measuring risks. The inquiry partially elucidates the techniques in which the Z-score has been developed in various prior studies. From these studies, it can be noted there are no inquiries on the different methods could affect the evaluation of the Z-score and its efficiency in determining bank risks.

There is a general shortage of consensus concerning the methods developing a time-dependent score to represent the Z-score. The techniques of calculating the factors of Z-score, in a time-dependent scenario, the entire period sample, or the combination can significantly influence the outcome of Z-score. On the contrary, Lepetit and Strobel (2013) elaborated that the factors calculated from the entire period sample can develop consistent results of Z-score and give outcomes for extended durations. The method perceived not to ignore the original clarifications. If longer durations are used, it is expected that the risk portfolio of commercial banks can significantly adapt and so will the commercial bank's approach and loaning trends. Previous studies have advocated for the use of time-dependent scenario while considering the length of time ranging from five quarters to four years (Zhang et al. 2016).

Despite its increased use in evaluating banks, there has been no conclusion, which has been attained on how to develop a time-dependent scenario for Z-score. Some aspects which have been attributed to the include determination of the necessary elements, the identification of the time-dependent scenario, and evaluation of the systematic risks which can be used in determining the Z-score.

Following the successful insolvency prediction of the Z-score index in the manufacturing sector, the researchers in the banking sector are also working to investigate the model of Z-score index which can predict the potential failure of the banks, and Boyd and Graham (1986) were one of the first having launched Z-score index for the banking groups which have investments outside the banking sector. Afterwards, the index was utilised and changed by Hannan and Hanweck (1988), Boyd and Rankle (1993), and Cihak and Hesse (2008) to evaluate the ability of bankruptcy of the banks, which was further supplemented by Foos et al. (2010). The studies of Hannan and

Hanweck (1988); Nguyen Thanh Duong (2013), Boyd and Graham (1986) and Chiaramonte et al. (2015) applied the latest Z-score model for banking analysis:

Despite the adoption of a different calculation formula, the meaning of indicators Z-score has not changed. In fact, the nature of the Z-score index is that the higher Z-score claims for, the lower ability of bankruptcy and vice versa. The research pioneered by Boyd and Graham (1986) focused on the bank holding company for the period from 1971 to 1983 to explore whether the expansion of operation and investment outside the banking sector increase or reduce bank risk. The result of the full data for 13 years showed that the banks' investments outside the banking sector did not significantly affect the risk of banks.

Beck et al. (2009) studied the stability of the German banking system by collecting data from 3810 banks from 1995 to 2007. The research methodology adopted random-effects (RE) and the estimated model including variables related to characteristics of the banks, macro variables, dummy variables representing the saving banks and dummy variables representing cooperative banks. The results generated an extremely low R-squared but could be a basis for the adoption of these variables in the model for further bank risk analysis.

A different approach by Altman (2000) is also significant by using Z-score index to study the factors that affect the risk of 155 commercial banks in Europe from 2005 to 2011. The Z-score calculation of Altman (2000) was formulated in the study of Beck et al. (2009) applying for German banks. However, Altman (2000) used logarithmic regression methods to estimate the factors that affect the Z-score. The factors are classified into two groups: a group of individual variables of banks and groups of macro variables. From the estimated results, the authors found that the ratio of equity to assets (capitalization), profitability increasing Z-score resulting in reducing the possibility of bankruptcy. Meanwhile, the proportion of cost to income reduces the Z-score; consequently, increases the ability of the bank failure. They also found that less competitive markets, low-interest rates, high inflation combined with economic crisis might increase the risks for the banks. It can be noted that these results of their research complying with the financial rules should contribute much valuable experience for future studies.

Another study of Z-score index, also worth for reference, is the study of Nguyen Thanh Duong (2013) collecting data from 2006 to 2011 with 144 observers from 24 banks of the Philippines, 110 observers from 22 banks in Thailand and 180 observers from 36 banks in Vietnam. The author used the same two model, which comprised seven key variables. These variables

included the loan loss reserves (LLR), loan loss provisions (LLP), leverage (LEV), Net Interest Revenue (NIR), cost to income and income diversity (CI), loan to deposits ratio (LDR) and liquid assets-short term to total deposits (LAD). However, the Z-score index was calculated differently and tested for all three countries to choose the model relevant to the conditions of each country. It was done to find the factors affecting the ability of the bank bankruptcy. The results showed that the percentage of the cost of credit risk provisions, the rate of wages and pension costs were positively related to the risk of a banking failure, while the ratio of loans and liquid assets ratio of important systems posit against risks.

Through the empirical study of risk analysis of the banking system based on Z-score index, the model adopted in this study is the Z-score model of Nguyen Thanh Duong (2013) and Chiaramonte, Croci & Poli (2015) to evaluate the possibility of bankruptcy of Vietnamese banking system. However, the research has modified the model to suit the current situation and the equations of the model are as follows:

$$\mathbf{Z_{BT} = \beta_0 + \beta_1 LLR_{bt} + \beta_2 LLP_{bt} + \beta_3 LEV_{bt} + \beta_4 NIR_{bt} + \beta_5 CIT_{bt} + \beta_6 LDR_{bt} + \beta_7 LAD_{bt} + e_{bt}}$$

Where:

- Dependent variable: $\mathbf{Z_{BT}}$ (Z_Score Altman) = $\mathbf{ZScore} = \frac{\mathbf{ROAA} + \frac{E_{bt}}{A_{bt}}}{\delta_{ROAA}}$
- Independent variables:
  - LLR_{bt}:Loan Loss Reserves ratio of bank "b" at year "t"
  - LLP_{bt}: Loan Loss Provisions ratio of bank "b" at year "t"
  - LEV_{bt}: Leverage ratio of bank "b" at year "t"
  - NIM_{bt}: Net Interest Margin ratio of bank "b" at year "t"
  - CIT_{bt}: Cost to Income and Income Diversity ratio of bank "b" at year "t"
  - LDR_{bt}: Loan to Deposits Ratio of bank "b" at year "t"
  - LAD_{bt}: Liquid Assets-short term to total Deposits ratio of bank "b" at year "t"

2.7.2 Dependent variables for analysis:

Dependent variable: $\mathbf{ZScore} = \frac{\mathbf{ROAA}+\frac{\mathbf{E_{bt}}}{\mathbf{A_{bt}}}}{\delta_{\mathbf{ROAA}}}$

Where:

- $ROAA = \frac{Annual\ Net\ Income}{Average\ Total\ Assets}$: is Return on average assets of the bank "b" at year "t"
- $\frac{E_{bt}}{A_{bt}}$: The ratio of average equity on average assets of the bank "b" at time "t"
- $\delta_{ROAA_{bt}}$: The standard deviation of return on average assets of the bank "b" at time "t"

Note: The annual net income = income remaining after tax in the income statement of the bank.

The ROA and ROE are usually used the bank managers, investors when evaluating business performance of the bank.

The ROA and ROE are usually used the bank managers, investors when evaluating business performance of the bank. They are critically examined as follows:

a) Return on average assets (ROA)

$$ROA = \frac{\text{Net Operating Income}}{\text{Total Assets}}$$

ROA is the measurement of the efficiency of the banking assets because all property of the bank is considered investments. ROA is a result of an unprofitable investment policy, inefficient loans or excessive operating costs of the bank. In contrast, high level of ROA reflects a reasonable asset structure, business policy and efficient property investment used by the bank

In other words, profitability ratio to total assets (ROA) shows the bank's ability to use its assets to generate earnings. The higher the ROA illustrates the ability of the bank's management board to manage the transfer of funds into the bank's net profit. However, too high ROA is not a good signal for the banks because, in that situation, banks are at the high risk due to positive relationships between the expected returns and risks.

Brown and Davis (2009) claimed that capital management affects the business results of the Australian banks period 1991-2004. In fact, the research's results show that the higher capital adequacy ratio demonstrates, the larger soundness of the banks, the higher return on assets (ROA) asserts that the financial capacity of the banks would be better, efficient capital management will make the bank more efficient, leading to better financial development.

The study of Wagner (2007) on the liquidity of bank assets in England from 1999 to 2004 conducted at the higher liquidity of bank assets might make the banks stably develop and attract

more deposits; as a result, the profitability and financial viability for banks increase. The author also provides a solution for banks to raise liquidity by selling risky for debt buying companies.

ROA indicator indicates the efficiency of the bank's assets as a measure of bank efficiency because the bank's all of the properties stems from investments. It is commonly used to compare a bank's ROA to other banks to evaluate how efficient use of total assets or total liabilities of a bank is.

- The low value of ROA might be the result of a productive investment & policy for a loan or excessive operating costs of the bank.
- Conversely, the high value of ROA often reflects good results of effective business operations, bank's stable asset structure and flexible mobilization of the asset portfolios before the fluctuations of the economy.
- However, if ROA is too large, the banks might also face the significant risks by implementing risky investment too or reducing the loss reserves below the threshold of safety.
- At the same time, if the bank does not have the status of such risks over, the high value of ROA is an opportunity for banks needs to take advantage, exploit the advantage through financial leverage, increasing ROE as the value. Indeed, the objective of the bank is to maximize asset value for the owners.

b) Return on equity (ROE)

$$ROE = \frac{Net\ Income}{Stokholder\ Equity}$$

ROE is a profitability indicator for the bank, reflecting the effective governance of banks in the use of equity. The higher the ratio shows the use of bank capital in investment, lending is more efficient. The bank management always wants to increase ROE to meet the satisfaction of shareholders through the measures of controlling risk efficiently and limiting bad loans...

The studies of Bonfim and Kim (2014), Bunda and Desquylbet (2008), Bryant (1980), and Diamond and Dybvig (1983) found a positive correlation between the rate of return and the liquidity of banks. However, other studies also found the opposite effect of the rate of return on the banking liquidity (Aspachs et al. 2005; Rauch et al. 2009; Vodava 2011; Lucchetta 2007).

Barnes and Lopez (2006) focused on the effect of the cost of equity, the return on equity and payment systems on the financial performance of French banks from 1990 to 2003. The study

found out that the greater the cost of capital would adversely affect the financial viability of the bank. In addition, the study discovered that higher return on equity (ROE) of the banks showed their efficiency, concurrently representing the better financial capacity of the banks and payment system.

Through this, the study can see that the core factors affecting ROE include the ability to raise revenue, expense management, asset management, and financial leverage. Splitting the value of ROA and ROE are two most important values in not only evaluating business performance of banks but also depending on the objective of the bank on its business operations.

Based on these empirical results, the research uses the ratio of ROE for not only evaluating the possibility of using equity but also considering the impact of the factor on the liquidity of banks. Besides, the study expected the rate of ROE to be affected the same direction with the liquidity of the bank. Relationships of the formula between ROA and ROE indicate that the bank's earning incomes are very sensitive to the asset financing methods by using more debt (including deposits) or by more equity of owners. Even low ROA banks can achieve relatively high ROE with multiple debts (financial leverage) and miNIRal use of capital holders. The relationship between ROA and ROE reflected a fundamental trade-off between risk and earning an income of the bank as the results of the bank's decision on its selection.

According to the Moody's standards, the profitability indicators were evaluated in the following frame: ROA≥1percentage; ≥12-15percentage ROE. In Vietnam, there have been recently some studies of Z-score to estimate the probability of default. The research results are only preliminary but confirm that the application of the model Z-score completely can be applied in Vietnam. There is an opportunity for commercial banks to research and successfully implement the criterion of Basel II. It is worth noting that a bank invests in its assets (loans granted). To do it, it uses the equity (capital) and debt and deposits that are the interest-bearing liabilities. Therefore, more capital is needed to finance the assets and to control the level of leverage (Gilbert et al. 2002).

2.7.3 Independent variables for analysis

After studying the empirical studies on the risks of the bank, Nguyen Thanh Duong (2013) suggests there are seven factors representing the risks of banks. They incorporate LLR, LLP, LEV, NIR, CTI, LDR and LAD. They represent the different types of risks: credit risk, interest rate risk, and liquidity risk.

- Credit risk related to asset portfolio LLR, LLP.
- Liquidity risk is represented by two variables: LDR and LAD. LDR response variable demand and supply liquidity plans and reflect LAD variable supply liquidity to banks.
- Leverage risk LEV represents the risk to the bank capital in term of mobilization structure. Two variables LLP and CIT represent the cost. LLP represents bad debt costs and can be combined with LLR variables to assess credit risk.
- Operational risk: LLP and CIT
- Market risk: Interest rate risk expressed through the variable NIR.

Independent variables	**Abr**	**Expectation related to Z-Score**	**Expectation related to Risk**
Loan Loss Reserves ratio	LLR	Negative	Positive
Loan Loss Provisions ratio	LLP	Negative	Positive
Leverage ratio	LEV	Positive	Negative
Net Interest Revenue ratio	NIR	Positive	Negative
Cost to Income ratio or efficiency ratio	CIR	Negative	Positive
Loan to Deposits Ratio	LDR	Negative	Positive
Liquid Assets-short term to total Deposits ratio	LAD	Positive	Negative

Table 1: Independent variables for Z-Score model as bankruptcy propensity

Source: (Author 2018)

Each of the independent variables is discussed as follows:

a) Loan loss reserves ratio of bank (LLR):

$$\boldsymbol{LLR} = \frac{\text{Loan Loss Reserves}}{Net\ Loans}$$

The provision for loss is the amount of money set aside in reserve for losses that might occur due to the small scale of the customer's financial institution leading to being unable to fulfil the obligations toward the loan commitment. Ng and Roychowdhury (2013) cited that the loan loss reserves (LLR) permits financial organizations to take some measures so that it can avoid risks. From their study, they suggested that the gap left by the loan loss reserves tends to decrease the level of risk in which the commercial banks confront while simultaneously reducing the amount of net income expected. Also, loan loss reserve is recorded on the balance sheet, it is seen as asset deduction (contra-asset) reduces the total assets of the banks.

The proportion of loan loss reserves to net loans (LLR) shows that the higher bad debt, the higher loan loss reserve. In other words, the higher ratio, the more difficult the bank gets the loan back. It was supported by Ng and Roychowdhury (2013) when they indicated that banks with a greater value of loan loss reserves suggest that they are more probably to suffer from liquidity losses in the immediate future, especially during a financial crisis. Empirical evidence from the literature suggests commercial banks are supposed to reserve a large percentage of their loan loss provisions (LLP) to strengthen the loan loss reserves, make their operations economically feasible and increased the business performance (Floro 201; Balla et al. 2012). According to the research of Halling (2006), the results showed that the loan loss reserve ratio was negative with the risk because the banks with the sound financial condition often actively increase reserve and reduce risks. However, the banks experienced financial difficulties which lowered the level of reserve and consequently face the higher risks.

Moreover, another aspect of previous studies by the Lucchetta (2007), Sufian and Chong (2008), Vong and Chan (2009), and Growe et al. (2014) showed a negative correlation between the rate of credit risk reserve and liquidity of bank. The research is expected to find the inverse relationship between LLR and the bank's liquidity.

When higher LLR is, the higher the credit risk of the loan portfolio becomes. As a result, there is a decrease in the quality of assets based on the assumption that the board's policy of solving bad debt is unchanged in the business strategy. Expectations related to Z: (-); related to risks: (+). As usual, provision for loan loss reserve (LLR) of banks requires the safe threshold above 100%, but the majority of banks in Vietnam have not yet reached to half of the criterion.

b) Loan loss provisions (LLP) of the bank (allowance for bad debts)

$$LLP = \frac{Loan\ loss\ expense}{net\ interest\ income}$$

This variable represents the business performance rather than credit risk assessment. Analysis of LLP supports the better explanation of the effect of credit risk on banking activities. The results might improve the prior studies. To explain the positive relationship between the LLP and bank risk, the loan loss expense raises an important implication that the quality of asset-based lending declines, and bad debt increases. To repay the bad debt by using the loan loss provision might significantly affect earning income. In other words, an increase in costs brings about a drop-in banking income and increase in LLP. Some studies have provided evidence to the effect that commercial banks tend to use their inclination towards the loan loss provisions (LLP) to manage their capital ratios (Fernando and Ekanayake 2015; Bouvatier and Lepetit 2008; Bouvatier and Lepetit 2012; Floro 2010). Two previous studies of Whallen (1988) does not reflect the effect of bad debt on total earning assets to the banking risks, and Halling (2006) could not denote the bad debt might affect interest income on the bank and revenues from other sources.

Results can overcome such weakness. LLP implies the use of loan loss reserves might handle the bad debts of the banks. Ng and Roychowdhury (2013) supported the when they alluded the loan loss provision (LLP) to an indication of strength that minimizes the probability of a financial institution going into bankruptcy. In fact, bad debt comes from credit risks because it is assumed that the bank has established risk levels. Results showed credit risk driving banking profit to the opposite direction reduces profits. Alhadab and Alsahawneh (2016) revealed there was an adverse correlation between loan loss provisions (LLP) and the financial performance of financial institutions. Bad debt is considered a decline in bank asset quality. Loan loss expense directly reflects the process of solving bad debt during the operation.

According to Vong and Chan (2009) and Olokoyo (2011) discovered that commercial banks which had no capability to deal with risky loans mainly enhanced their necessities for bad debts while at the same time diminishing their earnings significantly. Vong and Chan (2009) supported these findings when they discovered the LLP and the level of loans offered substantially related to the bank's performance. On the contrary, Dong et al. (2012) found out that the necessities for bad debts were significantly correlated to the commercial bank's NIR, which suggested there was a need for more provisions to be made for bad debts among the commercial banks. It was used to

safeguard the bank against extreme shocks from the environment. Alkassim (2005) indicated that the proportion representing the provision for bad debts had less influence the commercial bank's returns.

Prior studies have examined the influence of LLP on the productivity of the commercial banks. For instance, Caporale et al. (2015) scrutinised the factors of LLP among 400 Italian commercial banks during the period 2001-2012 and discovered that the elements of LLP are considered inflexible, and the management's anticipation concerning future losses did not have a significant effect on LLP. In addition, Caporale et al. (2015) discovered that the relationship between the level of loans that paid in full and had miNIRised the degree of credit risks in the Italian economy and bad debts incurred was statistically insignificant. On the hand, Fernando and Ekanayake (2015) investigated the usage of LLP to increase revenue among commercial banks in Sri Lankan during the period 2003 – 2012. Their findings indicated a statistically significant relationship between the loan losses provision (LLP) and the returns expected before the levy was imposed. The study also discovered that the publicly listed commercial banks did not completely utilize the LLP in overseeing their revenues.

Tahir et al. (2014) in Alhadab and Alsahawneh (2016) also inspected the influence of the LLP on the bank's performance in Pakistan and strategic control of other recognised bank-specific factors. In their study, they adopted the use of the ROA and ROE to represent the bank's performance. The analysis from the study indicated there were several outcomes as follows. First, they discovered there was a statistically insignificant association between LLP and bank's performance regarding ROA and ROE. It suggests that a higher LLP could significantly reduce bank's performance and economic stability of the commercial bank and also implies that a higher LLP reduces the returns expected from investments. Secondly, the study found out there was a statistically insignificant link between deposits made and the effectiveness of commercial banks. Thirdly, the study discovered there was a significant association between the size of the commercial bank and ROA. Lastly, the study examined the association between the loans awarded and the profits obtained by the bank regarding ROA. The study found there was a positive relationship. In a separate study, Tahir et al. (2014) in Alhadab and Alsahawneh (2016) discovered there was an adverse association that existed between the absence of legal framework, which can guide the commercial banks in bankruptcy propensities, and the productivity of the commercial banks.

Hussein (2010) looked at the impact of LLP on the productivity of 15 commercial banks in Pakistan during the period 2001 – 2009 using panel data. The results obtained were consistent with the results of Tahir et al. (2014) in Alhadab and Alsahawneh (2016), that is, there is a statistically uNIRportant correlation between LLP and bank's performance.

Most of these results have shown there is augmented awareness on the role of LLP on bankruptcy propensities, bank performance and its determinants among commercial banks. Unfortunately, there have been attempts to examine the effect of LLP and its relationship with other elements for Vietnamese banks.

LLP has shown both asset qualities, keeping a track on how bad debt is processed, affecting the income. When income is not enough to offset the risk, then the bank is given away to replace the goal of generating profit. Expectations related to Z-score (-); associated risks.

c) Leverage (LEV)

$$LEV = \frac{Stockholders\ Equity}{Average\ Total\ Assets}$$

$$LEV = \frac{1\ tier\ Equity}{Exposure\ measure}$$

Enterprises in general and banks in particular have used the debt to supplement the capital with the aim of serving production and business processes. However, using financial leverage has two sides:

- If used correctly and efficiently, it has benefits for banks, such as the tax shield, increasing profitability ratios for owners of capital and diversify investment portfolios;
- If used inappropriate or ineffective financial leverage have the opposite effect such as reducing the rate of profitability on equity and especially increasing the risk of bankruptcy for banks

It can be seen that equity in commercial banks is usually much lower than total assets, so the degree of benefit in the banking sector is extremely high. In fact, some banks are raising great advantage than the stipulated standards, if the leverage is too large, it might lead to a risk of the loss of liquidity as well as the collapse of the bank.

It is simply defined that the leverage is how much total loan is mobilized from the structure of equity and assets. By collecting data from 80 countries over the period 1988-1995, the study of Demirguc-Kunt and Huizinga (1999) show that an effect of the bank is affected by many factors

such as "the characteristics of the banking business, macroeconomic conditions, the size of bank assets." Especially, the greater equity scale of the bank proves its strength and capacity in diversifying the banking activities to increase profits for the banks.

Moreover, Heid (2007) applied the Basel II rating system for measuring the financial capability of the Norwegian credit institution during 1998-2002. According to Heid (2007), the capital adequacy ratio (CAR), equity of banks, and venture capital (total assets) might affect the business financial performance and operation of the banks. It suggests there is need to implement the Basel I and II rating system. The rating system could assist the banks with strategies to avoid risk. In Vietnam, the commercial banks leveraged, indicating that a minor variation in non-paid loans could have a significant influence on the capital base of most banks (Tran et al. 2015).

The study by Logan (2001) found the leverage of the bank is negative with the risk of bankruptcy the banks in the UK at the time before their failure. Moreover, the result claimed that a leverage ratio is tier 1 capital total assets having an inverse relationship with risk of the bank. In other words, the higher the leverage, the risk of bankruptcy decreased. In contrast to Logan (2001) and Montgomery et al. (2005), leverage is equity to the total assets positively correlated with the banking risk. It means the higher leverage might result in a much greater risk so that the weak banks might go bankrupt. Equity plays an essential role in the backup liquidity of capital to comply the rule that the bank cannot mobilize capital for loans more than its current equity. However, expectation of the research: Z-score (+); related to the risk: (-).

d) Net Interest Revenue (NIR)

$$NIR = \frac{\text{Net Interest income}}{\text{Average Earning Assets}}$$

Average earning assets = average loans

This indicator reflects the level of efficiency in the use of interest-earning assets of the bank. An increase in the liquidity risk of the bank related to a reduction in the Net Interest Revenue (NIR). Concerning the liquidity risks affecting a bank, it is determined using some of the necessary conditions for determining a bank's financial position based on CAMELS, which is a confidential supervisory risk rating. CAMELS stands for the capital adequacy (C), asset quality (A), management quality (M), earnings (E), and sensitivity to market risk (S). Jurkšas (2017) also added that the Net Interest Revenue (NIR) significantly influences the use and the safety of borrowers.

The performance of the non-performing loans (NPLs) among individuals and firms greatly affected the net interest revenue (Jurkšas 2017). The higher net interest income reflects, the more active bank using the earning assets to generate net interest revenue and vice versa.

In the research of Logan (2001), the ratio of net interest income to earning assets positively relates to the risk of banking bankruptcy. Reliance on net interest income might increase bank risk. It means that the diversification of incomes, reducing interest income, can increase the possibility of bank failures due to unable to retain market share and loyal customers. It is worth noting that the ratio is not similar to NIR but excepts for the denominator of the NIR is the total interest-earning assets (shown the ability of the bank to leverage cheap capital or a large difference between the interest rate for lending and interest rate for deposit). An assumption of NIR is that asset quality is unchanged for the trading period. However, the assumption is easy in violation of Vietnam law in term of long-term loans and investments in debt securities due to their instability.

According to Reda et al. (2016), the Net Interest Revenue (NIR) been used to signify a significant increase in the business performance concerning the financial ratios such as ROE, ROA, and ROCE. The net interest margin utilised to evaluate the efficiency of the financial institution as a result of significance in determining the size interest revenue and interest cost on interest. They were considered the traditional functions of the commercial banks' activities and the operating revenue (Reda et al. 2016).

Ayaydin and Karakaya (2014) examined the relationship between bad debts incurred, the capital of the commercial bank and their influence on the commercial bank's performance. The study examined various factors such as quality of resources in the firm, the solvency of the company, sufficiency of capital available among others, which are utilised as bank-specific elements. The study found out there is a negative relationship between the bad debts incurred and their influence on the commercial bank's performance.

The success of the commercial banks is purely dependent on its capacity to make a profit within a given duration is over. According to Rose and Hudgins (2014), the Net Interest Revenue (NIR) is considered essential in evaluating both the performance and efficiency of the bank by suggesting how the administration has done and the extent to which the workers have been able to maintain the increase in the bank's earning through loans and savings. For the commercial bank to be considered profitable and attract significant investment, the administration ought to be able to anticipate a certain level of risk, which they might confront.

Angora and Roulet (2011) demonstrated that there was a higher proportion representing the liquid resources to aggregate deposits made implying that the inability of the commercial banks to repay its debts was associated with the demand for its liquid assets. Decker (2000) also supported these findings when he added that liquidity of the commercial banks was significantly correlated to the bank-specific components, which adversely led to the failure of the firm and probably being merged or acquired by another commercial bank to stimulate growth. Thus, it vital for commercial banks to take into account the solvency difference of its assets and liabilities, which the bank has incurred to measure the liquidity of the bank on examination amicably.

In addition, the valuation of assets according to fair value measurement is not popular. Thus, to ensure the risk of interest rate and its impact on operational risks in the bank, the best application is the use of NIR. Besides, the paper believes that NIR represent M&A because NIR indicator the level of efficiency in the use of interest earning assets. Liquidity risk of a bank is associated with a reduction in NIR. In addition, liquidity is considered as one of the conditions for determining a bank's condition apart from capital adequacy (C), asset quality (A), management quality (M), earnings (E), and sensitivity to market risk (S) based on the confidential supervisory risk rating (CAMELS). This suggests that most of the banks were considered to have less capital, more problematic assets, and lower regulatory ratings. Thus, they were acquired by other banks.

In fact, this ratio increases due to higher net interest income (related to interest rate risk and structure of asset-liability-equity sensitive to interest rates). On the other hand, the ratio decreases in total assets (about the reduction in investment/loans and lower deposit activities) or because both of them can reduce the risk for the bank. Expectations related to Z: (+); related to risk: (-).

e) The cost to income ratio or efficiency ratio (CIR)

$$CIR = \frac{Operating\ expenses}{Total\ income}$$

CIR monitors the effectiveness of business operations of the bank. It is computed by the determining the division between the aggregate operational expenditures incurred against the aggregate operational income obtained (Phan 2015). It demonstrates the capacity of the commercial bank to make returns from its revenue stream. The higher ratio of CIR reflects the low level of efficiency in business operations of the bank, which requires the banks to use effective measures to impact on either cost or income to improve business performance. The lower ratio reflects, the

higher level of efficiency in the bank. According to Kim et al. (2016), the high levels of the proportion representing the cost-to-income ratio and loan loss provision (LLP) attributed to the lower level of profitability among Vietnamese banks.

It should be noted that in Vietnam, banking income primarily from the interest rate. The rate CIR might decrease due to an increase in banking income. The higher income stems from the higher difference between interest rate for lending and interest for deposit bringing about the efficiency of profitability. To use the CIR rate, the bank should avoid the incomes from its affiliates, or from investing activities in Short-term assets because it would distort the nature of the CIR. The lower, the better. Expectations relations with the Z: (-); risks related to: (+).

f) Loan to deposits ratio (LDR)

$$LDR = \frac{Net\ Loan}{Total\ deposits}$$

The strategic studies by Montgomery et al. (2005) between the ratio of net loans to total assets (LAR) and the ratio of net loans to total deposits (LDR) show that the rate of loans to total deposits (LDR) is positively related to bankruptcy risk for both Japan and Indonesia. Explained that the troubled banks tend to concentrate on the credit growth to seek profits and tend to loan a higher risk at higher interest rates. According to Coopers (2006), net loan to total deposits (LDR) helps to evaluate the liquidity of the bank at current and contribute to identifying the trend of its liquidity during the operation. Tran et al. (2015) portrayed the LDR as a proportion represents the commercial bank's aggregate loans to the aggregate deposits. They further added that when the proportion is too high, it implies that the commercial banks do not have enough solvencies, which can shield against any unanticipated needs (Tran et al. (2015). A high LDR also stop commercial banks from accomplishing the top targets, which have been set for credit development.

On the other hand, when the proportion low expected that, commercial banks are not making as much as required. In 2015, the LDR was 82 percent, which is too high suggesting that they had liquidity problems.

Using to measure liquidity, the ratio increases, the risk of liquidity increases. Total short-term deposits include deposits and short-term borrowing from other banks. Expectations related to Z: score (-); risks associated with :(+).

g) Liquid assets-short term to total deposits (LAD)

$$LAD = \frac{Liquid\ Assets}{Total\ deposit}$$

Along with the study of Montgomery et al. (2005), the ratio between liquid assets and total deposits is positively related to the risk of banking bankruptcy but not statistically meaningful. According to Coopers (2006), the ratio LAD helps to assess the short-term liquidity and contributes to identifying the trend of banking liquidity during the operation.

Liquid assets are viewed as a reserve to deal the problem of people rush to banks to withdraw money. The higher the ratio is; the better liquidity of the bank becomes. Furthermore, the measure is an interesting ratio very in the Vietnamese reports of liquidity status. Expectations related to Z: (+); related to risk: (-).

2.7.1.1 Psychological characteristics of an entrepreneur

In fact, the psychological approach to entrepreneurship has received not only the considerable and growing interest due to its contribution to the understanding of the behavioral intention of entrepreneurs but also much-contradicting criticism due to its lack of recognized definition of entrepreneurship and an entrepreneur. In fact, the article of Shaver and Scott (1991) maintains the following prominent points:

- The study of psychologists is to explore the behavior of the person.
- The future research for "the psychology of entrepreneur" should focus on "persons, process, and choice."
- The motivational factors and the environmental determinants play important roles in driving the behavioral choices.

In the regard, Chye Koh (1996) also briefly states that the psychological characteristics school assumes that entrepreneur is someone who has "unique values, attitudes and needs" which not only drive but also differentiate him or her from non-entrepreneurs. Adding up to the point, the early literature by Cunningham and Lischeron (1991), as discussed previously, also asserts that the first stage of the entrepreneurial process is estimating self whose sole purpose is to examine individual psychological characteristics of entrepreneurs. However, at the juncture, there has existed a debate over whether entrepreneurs are "born or made." As shown above, the vast school of thought believes that entrepreneur is born, but the psychological characteristics are based on the assumption that there are some prominent personal values. These values include the need for risk-

taking, achievement, and locus of control, which can drive his or her behavior to become an entrepreneur and these attributes can be "acquired by individuals through learning and experience" (Gibb and Ritchie 1982; Chell 2001).

On the other hand, Chell (2001) maintains there is no universal agreement on which entrepreneurial attributions can be used to explain entrepreneurial intention to be entrepreneur due to lack of evidence to support the empirical research to become valid and reliable. In connection with the perspective of Chell (2001) and Kirby (2006) have highlighted the following criticisms of entrepreneurial behavior:

- No standardized instruments can be used to measure entrepreneurial traits
- Lack of definitional consistency of entrepreneur and entrepreneurship brings about the difficulty in comparing findings from various studies and failure to make a generalization.
- Different types of entrepreneurs need different instruments for measurement
- Under these circumstances, Hisrich et al. (2002) also argue there is no true entrepreneurial profile to typify the individual psychological characteristics of entrepreneur because entrepreneurs come from "a variety of educational backgrounds, family situations, and work experiences."

Despite the fact there is no single unified theory of learning which can be found in the literature, there have existed commonly agreed psychological characteristics attributed to entrepreneurs. These include the "need for achievement (Nach), locus of control, risk-taking propensity, desire for autonomy, and innovation," logically reviewed with hypothesis development as follows:

a) Risk taking propensity

Having shown an awareness of the attribute, the classical economic theory, as cited in the early book of Knight (1921) refers entrepreneur as "a risk-taker" who makes innovation and bears moderate risk or uncertainty. Indeed, there have been many studies such as Sexton and Bowman (1985), Chye Koh (1996), Carland et al. (1999) and Markman and Baron (2003) indicating that "risk-taking behavior" of potential entrepreneur seems to be more than those of non-entrepreneur. Given the evidence, that would be consistent with the belief that "risk aversion" is considered one of the psychological traits to distinguish entrepreneurs from non-entrepreneurs (Knight 1921; Ray 1994; Chye Koh 1996; Hisrich et al. 2002). Nevertheless, the research by Brockhaus (1980) found

that risk-taking ability between Brockhaus (1980) found that risk-taking ability between entrepreneur and manager has no significant discrepancy has no significant divergence. In addition, another work by Busenitz (1999) found a consistent result that entrepreneurs take more risk but do not have "higher risk propensity." Simply stated, due to these contradicting views, whether risk-taking propensity is an attribute of entrepreneurship is still an arguable issue. Some of the findings from the literature are as follows:

Brockhaus (1980) provided a definition of the risk propensities, which implies that it is associated with receiving awards related to the success of a particular situation. The alternative is that they are given fewer returns or severe penalties. It is usually a prerequisite by a business entity before they are exposed to the magnitudes of a failure. To understand the risk-taking propensities much better, Nicholson et al. (2005) developed the prospect theory in line with the banking sector. They stated that risk-taking was disproportionate around a particular point. Based on this, concluded that individuals are more opposed to risk-taking when they recognize some degree of gain and tend to pursue risks when confronted with losses. It implies the results concerning the risk-taking and its relation to an individual are full of mixed, inconsistent results.

In their study, Sitkin and Pablo (1992) postulated that depending on the environment in which an individual is making a decision, the decision could assume or avoid risk. About the position taken when making decision. The authors also referred risk propensity to the tendency of an individual to take or avoid risks. It tends to affect their perception towards risk. Based on this, there is a high probability that an individual who is opposed to risks to reflect on the undesirable results can be instigated by overemphasizing the likelihood of the loss against the probability of again. On the other hand, Sitkin and Weingart (1995) portrayed risk perception as the capacity of an individual to evaluate risks within a scenario using the likelihood of unknown in a situation combined with their ability to anticipate the unknown.

The relationship between risk propensity and corporate entrepreneurship was, established by Aaby and Slater (1989). They suggested that a high-risk propensity level is significantly connected to an enhanced performance of the firm. The study of Aaby and Slater (1989) was based on the exports and its relation to the economy of the nation. Thus, the outcome obtained was constrained regarding its applicability to the banking sector. Mitton (1989) extended these findings by added that entrepreneurs tend to assume both uncertainties and risks. Thus, by accommodating risks, entrepreneurs have knowledge regarding how to reduce risks as well as avoid risks.

Masters and Meier (1988) and Gasse (1982) in Carland et al. (1999) and Stewart and Roth (2001) perceived entrepreneurs as persons who can take more risks as compared to managers as they are held responsible for their decisions. Stewart and Roth (2001) also discovered there was a large difference among the numerous forms of entrepreneurs. In their study, they classified entrepreneurs into two groups that are those who were after venture growth and those who were concerned about their welfare.

Carland et al. (1999) accredited the differences to the various features, which are influenced by the different commercial banks such as risk-taking, innovativeness, pro-activeness among others. Thus, their ability to assume more risks was indicative of the high disparity between risk-taking propensity and responsible entrepreneurship.

Bakar and Yi (2016) found out high-risk behavior portrayed by the investors while two major factors mainly influenced trading in the stocks. These factors incorporate risk-taking propensity of the entrepreneur and their perception towards risk. Furthermore, investors in the stock market are to participate in a risky venture of the anticipated returns expected and have a tendency to portray riskier conducts regarding how they select their trading options. Based on the two types of banks examined in the research, it implies that listed commercial banks are to enter into risky agreements as opposed to unlisted commercial banks. Asker et al. (2011) specified that the commercial banks, which listed on the stock exchange, have been characterized by enhanced risk behaviors particularly exhibited by its management. Concerning the commercial banks not listed in the stock exchange, they have been unresponsive to the changes in the stock prices.

Carland III et al. (1995) clarified that entrepreneurs whose objectives consist of creating returns for funds at hand and increasing the growth of the business are more to exhibit high levels of risk-taking propensities. It is contrasted to those who have a small capital base, they are unlisted in the stock exchange and their primary goal is to fulfil their family needs or immediate needs. The firms, not listed on the stock exchange, are usually not cautious about the activities of the stock market as they are not entirely convinced that their financial position will improve in near future because of the list. Regasa (2014) supported these findings when he cited that the passion for risk among the unlisted firms seems to be moderated somehow.

The association between risk-taking and corporate entrepreneurship considered significant with higher intensities of entrepreneurship portrayed by individuals with more inclination to assume risks (Douglas and Shepherd 2002). Aaby and Slater (1989) enhanced the association between

individual propensities and firm-related one by elaborating that firms with a positive perception towards business transactions and the readiness to assume risks are more to stir the firm to greater performance.

Although there is no universal agreement, there has been another perspective on the risk-taking propensity of entrepreneur suggested by Ray (1994) and Delmar and Davidson (2000). They indicated that the risk-taking behavior had been found to be influenced by entrepreneur's age, experience, gender, ethnicity, motivation, and education (Ray 1994; Delmar and Davidson 2000). In other words, due to the differences in "incentives and experience," the entrepreneurial risk is context dependent and driven by environmental factors (Chell 2001). Palich and Bagby (1995) advanced the findings of Brockhaus (1980) concerning risk-taking propensity. Palich and Bagby (1995) adopted cognitive psychology to explain the difference of the entrepreneurial risk-taking behavior between entrepreneur and non-entrepreneur. They concluded that the entrepreneurs do not perceive themselves as "having a greater propensity to bear risk" than non-entrepreneurs.

However, Lumpkin and Dess (1996) have asserted that the level of entrepreneurial risk propensity might bring about a positive behavioral intention of the entrepreneur to start a new venture. Furthermore, to demonstrate the degree of risk faced by entrepreneur, recent research by Kuratko and Hodgetts (1995) believe that "the higher the rewards, the greater the risk entrepreneur will face." Besides, they also believe that "successful entrepreneur is not a gambler." In other words, Entrepreneur is someone who has confidence not only to confront but also to enjoy the carefully calculated risks (McClelland 1965). More to the point, the types of risks commonly confronted by entrepreneurs, according to Lumpkin and Dess (1996) and Hisrich et al. (2002), can be categorized into groups: "financial risk, personal risks such as family and psychic risk and business risk including social risk and career risk."

b) Locus of control

The locus of control, initially developed by Rotter (1966, p. 45), shows the correlation between individual behavior and the reinforcements including rewards and punishments. Simply stated, people with an internal locus of control seem to believe that "their destiny or rewards is controlled by themselves or their expectancy of success which might drive their behavior toward their actions. By contrast, people with external locus of control might believe that their destiny or the achievement of the goal is determined by fate, luck, or other external circumstances (Chell 2001). In general, within psychology, the attribute locus of control, one of the entrepreneurial traits,

refers to people's perception of their lives to be contingent on internal and external control of reinforcements (Sexton and Bowman 1985 and Hisrich et al. 2002). Additionally, in response to support the correlation between psychological characteristics of entrepreneurs and locus of control, the article by Lumpkin and Dess (1996) has asserted that the higher the subjective belief of entrepreneur, the greater the risk-taking propensity and the proactive behavior of entrepreneur. More to the point, Kuratko and Hodgetts (1995) also maintain that locus of control of entrepreneur is closely linked to "need for achievement, self-confidence, and desire to take personal responsibility." Besides these correlations, the study by Boone at al. (1996) has emphasized the role of entrepreneur's locus of control in explaining the organizational performance. More recently, Lumpkin and Dess (1996), Kirby (2006), and Hisrich et al. (2002) all believe that behavioral intention to become entrepreneur seem to be associated with people with high internal locus of control

It is evident from the above discussion that the entrepreneur should believe in himself or herself and do not believe in external forces such as fate or luck (Kuratko and Hodgetts 1995). Based on the findings of Chen et al. (1998) and Chell (2001, p. 56), they maintained a contrasting argument to those found in the previous research that "locus of control just appears to distinguish entrepreneurs from general public. However, they failed to differentiate entrepreneur from non-entrepreneur and manager due to their similar tendency toward internality. Thus, there is a different perspective on whether the locus of control is "an essential entrepreneurial attribute" (Kirby 2006, p. 56).

c) Need for achievement (nAch)

The attribute "need for achievement" is deeply embedded in psychological traits of an entrepreneur. Indeed, with the support of empirical research, McClelland (1965) notably learned needs and achievement motivation theories have maintained the presence of a positive correlation between behavioral intention of the entrepreneur to start a new venture due to entrepreneurial motive and a need for achievement. Furthermore, he has believed that the higher the necessity of achievement, the greater the motive and the confidence of entrepreneur to take and enjoy calculated risks. From the unique perspective, the major implication is that the risk-taking behavior associated with the need for achievement has been empirically documented in the literature (McClelland 1965; Chye Koh 1996). Besides, there have been many studies focusing on the realization motivation such as the following:

- The study by Collins et al. (2004) found the steadiness of the outcome in the association between accomplishment motivation and entrepreneurship and that it is context dependent and influenced by environmental variables
- The study by Bateman and Crant (1993) has claimed there is the positive correlation between achievement motivation and entrepreneurial proactive behavior to "manipulate and control environment."
- The study by Ward (1995) has maintained that entrepreneurial motivation for competitive advantages associated with the need for achievement is empirically documented.
- The study by McClelland (1965), Hertzberg (1968) and Kirby (2006) have suggested that the primary source of motivation to drive entrepreneurial behavior is "the prospect of achievement" rather than financial gain in money instrument because money is just considered "a measure of entrepreneurial success."

Despite these findings and suggestions, Sexton and Bowman (1985) have argued that McClelland's motivation theories might weakly make a great generalization and validity because he did not clearly point out the correlation between "a high need for achievement with the behavioral intention of the entrepreneur to establish a new venture." (Chell 2006, p. 56). More recently, the book of Chell (2001) argues that "when tested it did not demonstrate a direct connection between the need for achievement with the decision to own and manage a business." Although the issue is still disputable, the literature believes that the attribute "nAch" is one of the necessary psychological traits to become an entrepreneur.

d) The desire for autonomy

The literature of previous research claims that the attribution "entrepreneurial desire for autonomy" is closely associated with locus of control of entrepreneur (Lumpkin and Dess 1996, p. 56). In fact, people with high internal belief in control of their life have been found to have a high need for autonomy (Kirby 2006). According to the article of Lumpkin and Dess (1996), the role of need for autonomy is to stimulate behavioral intention of the entrepreneur to establish a new venture. Moreover, they also explain the correlation between entrepreneurial desire for autonomy and organizational effectiveness that might result in competitive advantage. For simplicity, people with high autonomy can put their best effort to work independently, efficiently, and effectively due to clear authorities and responsibilities. As far as the attribution is concerned, according to Lumpkin

and Dess (1996), "lack of coordination" is suggested to be the result of considerable entrepreneurial autonomy.

e) Innovativeness

Besides the attribution "risk-taking behavior," the "innovativeness" is attributed to the entrepreneur as an essential entrepreneurial characteristic (Schumpeter 1934, p. 56; Pinchot 1985; Baumol 1968; Brockhaus 1980). Okpara (2007) alluded innovativeness of an entrepreneur as an approach something different is introduced to the current products or procedures. As noted earlier, the attribution "innovativeness" needs to be promoted due to its usefulness in entrepreneurial process at the stage of "recognizing opportunities," so that Gartner (2007, p. 53) believes that entrepreneur is someone whose innovativeness enables them to start a new business where there was none before. More recently, the empirical study by Chye Koh (1996) on Hong Kong MBA bank staffs found a consistent result with the previous research, indicating, "There is a close relationship between innovativeness and entrepreneurship. Okpara (2007) emphasized there be a need for entrepreneurs to exhibit some form of innovation to be able to works in a dynamic environment, which comprises of numerous aspects, risk, and prospects and ability to mobilize the firm's assets to influence the outcome of each process. There is also a need for the firms to be able to anticipate future direction, and how to get there.

2.7.1.2 Entrepreneurial cognitive psychology

Without any doubt, the literature on psychological characteristics of entrepreneur will be deficient if the achievement models, engaged in the theory of cognitive psychology, are not discussed. In fact, the cognitive models of entrepreneurial behavior, mainly consisting of "achievement models and attitude models," play a substantial role in differentiating entrepreneurial patterns of thought between entrepreneurs and now- entrepreneurs (Baron 1998, p. 3; Kirby 2006).

a) Achievement models and psychological characteristics

The entrepreneurial literature has questioned why people riskily behave with enjoyment to become an entrepreneur. There are many studies present on the achievement models including "perceived self-efficacy and intrinsic motivation" (Kirby 2006) which explain the behavioral intention of the entrepreneur to start a new business.

Despite the conflicting arguments discussed earlier, under the theory of cognitive psychology, the entrepreneurial locus of control has been associated with perceived self-efficacy,

which refers to the extent to which the people believe in their capability to accomplish the goals (Delmar and Davidsson 2000). Indeed, individuals with high level of self-efficacy might have great confidence and subjective belief in control of their life to take calculated risks (Chen 1998; Kirby 2006).

According to Kirby (2006), there are many empirical studies consistently claiming that entrepreneurial intention is closely linked to perceived behavioral control as motivation to maintain a strong commitment to the challenging goals. It takes place because "people will start a business if they believe they have ability and knowledge to do it." In contrast, people with low self-efficacy shrink from difficult tasks, which are perceived as personal threats due to their doubt to their capabilities leading to low aspirations and weak commitment to the predetermined goals.

According to Delmar and Davidsson (2000), the level of self-efficacy might be driven by the previous experiences of the successful or unsuccessful outcome. In fact, successes might bring about a strong belief in their capabilities and failures lead to less confidence to retake risks.

The perceived self-efficacy of entrepreneurs can affect the strategies pursued by organizations and organizational performance such as "profitability, customer satisfaction, and ability to survive" (Krueger and Dickson 1994, p. 56). Some studies highlighted a positive correlation between high-perceived self-efficacy and higher business performance with a higher probability of "establishing ventures and exploring new opportunities (Krueger and Dickson 1994; Chen et al. 1998).

On the other hand, Bandura (1995, p. 45) believes that intrinsic motivation can be considered both "an antecedent and consequence of self-efficacy." The intrinsic motivation refers to "interest and enjoyment" as sources of motivation intrinsically encouraging entrepreneurs to successfully do what they want and enjoy doing (Kirby 2006, p. 56). Conversely, the extrinsic motivation is when individual behavior is influenced by external factors such as financial reward rather than "interest and enjoyment" by themselves. In fact, there are statistical studies that have proven the existence of a positive link between the business performance and intrinsic motivation (Delmar and Davidson, 2000, p. 34).

On that ground, the banking employees with high level of intrinsic motivation might entrepreneurially act because their prospect motivates them for achievement, which might bring about the high need for achievement and make them feel enjoyable to take the calculated risks as challenges.

As discussed earlier, the achievement models can be formed and distorted by the previous experiences of the entrepreneur or entrepreneurial heuristics. In fact, the assumption of cognitive psychology, mentioned by Kirby (2006), is there is information asymmetry leading to unbalanced knowledge among people who have different experiences and see opportunities differently, so that "an entrepreneurial opportunity for one person is a problem for another."

According to Chen (1998), Baron (1998), Chell (2001), and Kirby (2006), the entrepreneurial literature believes that the likelihood of achieving certain outcomes or the prospect for achievement might directly influence entrepreneurial decision to start a new business. The reason is they will proceed to what they think they can successfully do. Hence, in support of an attempt to develop best practice, cognitive psychology aims not only at explaining entrepreneurial behavior but also at advancing the psychological characteristics of the entrepreneur by taking achievement models and entrepreneurial heuristics into account.

b) Attitude models and entrepreneurial intention

The intention of entrepreneurs, according to Chell (2001), is governed by their attitude towards the predetermined action. In connection with the perspective, Krueger (1993) and Kirby (2006) asserts that entrepreneurial attitude towards entrepreneurship might shape their behavioral intention to act entrepreneurially. However, Kirby (2006) has realized that the previous empirical findings fail to establish the correlation between entrepreneurial attitude and entrepreneurial intention. Thus, although there are conflicting results, the study aims at examining how students' attitudes toward entrepreneurship influence their entrepreneurial tendency to establish new ventures.

2.8 Theoretical Background of Entrepreneurship at Multi Levels of Analysis

Research work cannot be completed without the in-depth study of the earlier researchers. Moreover, the paper defines the entrepreneurship as a scholarly examination of these themes at multi-level of analysis. Entrepreneurship takes place across five analysis levels: individual, group, organization, industry, and society in the end. Furthermore, adapted from Veciana (2007) and Galindo et al. (2009) the paper will categorize theoretical approaches to the study of entrepreneurship into three levels of analyses: micro (individual level), meso (firm level), and macro (country level).

2.8.1 Micro level (individual entrepreneurship)

Adapted from the book of Daft (2006), micro level of entrepreneurship might be related to organizational behavior because of its concentration on the person within the organization. Davidson and Wiklund (2001), Cuervo et al. (2007) and Cukier et al. (2011, p. 5) claimed that entrepreneurship research is dominated by micro-level analysis aiming at psychological characteristics of "individual entrepreneur." They further explained the psychological characteristics by using the "great man theory" of innovation and inspired by the psychological theories such as traits and motivational factors to be entrepreneurs. Adding to the points, Rauch et al. (2009) believe that the concept of the psychological or sociological approaches at the micro level of entrepreneurship, viewed as internal factors, might affect "the successfulness of his or her entrepreneurship."

The article by Abuye (2009) not only emphasizes these agreed perspectives but also suggests the supplementary view that the independent variables related to the micro level of entrepreneurship. It might include "psychological characteristics, entrepreneurial cognitive psychology (intrinsic motivational factors, working experience), and demographics (education, gender, age)" (Abuye 2009, p. 34).

2.8.2 Meso level: corporate entrepreneurship

Galindo et al. (2009, p. 34) claim that meso approach to entrepreneurship primarily focuses on "objective of the whole firm rather than the personal interest of entrepreneur." Agreeing to the perspective, Cukier et al. (2011) emphasize that the meso theories look at the entrepreneurial process as "the way for innovation" and to analyze the process of organizational change for achieving organizational goals. Additionally, the paper mainly focuses on the level for its application to the bankruptcy propensity.

2.8.2.1 Entrepreneurial process for corporate entrepreneurship

"Good science has to begin with the good definition" (Bygrave and Hofer 1991, p. 45), but currently, the concept of entrepreneurship is an emerging and evolving field of inquiry without acceptable universal definition. Currently, there is no theoretical framework which has been studied and built from a variety of academic subjects or perspectives including sociology, economics, psychology, and management (Gartner 2007; Bygrave and Hofer 1991; Virtanen 1997). In addition, economic point of view and behavior perspective are two controlling interests of entrepreneurship research, but entrepreneurship research has been surrendered by economic theorist to behavior

theorist because economic models seem to be "mechanistic" and domineering in term of "entrepreneurship analysis" (Baumol 1968, p. 34). Besides, to effectively understand academic disciplines or subjects, we must approach them as systems of thought to see how they support or conflict with each other. Based on the ground, there is another method to describe entrepreneurship by looking at schools recommended in the article of Cunningham and Lischeron (1991).

Besides, the concept of entrepreneurship does not have an adequate definition because entrepreneurial behaviors and skills do not keep constant in each situation of the entrepreneurial process. For specification, the approach, mainly consisting of the psychological characteristics school, the great person school, leadership school, management school, classical school, and intrapreneurship school, will be adopted as the framework to demonstrate each category in the entrepreneurial process generally:

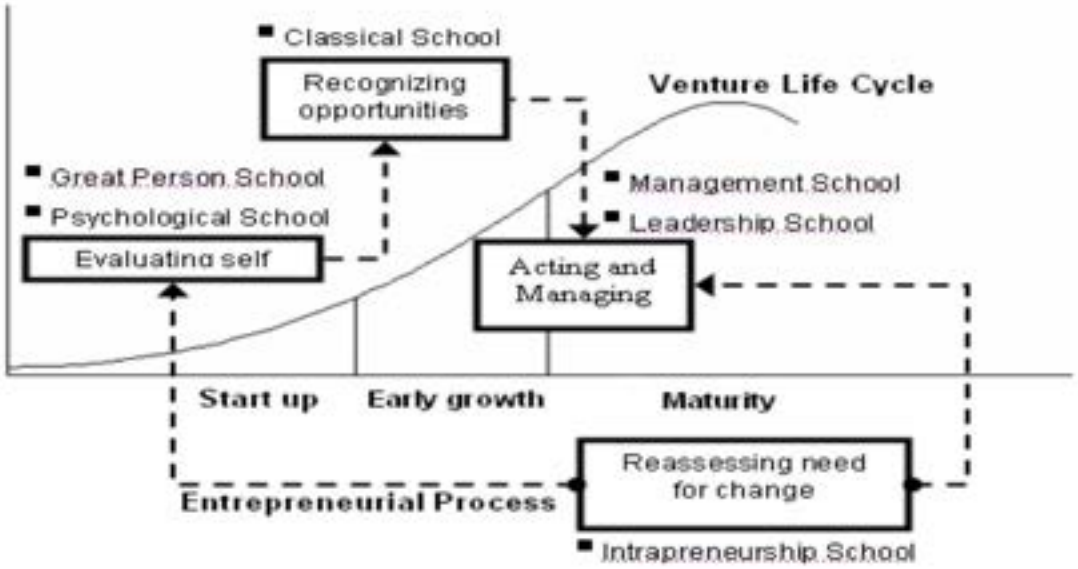


Figure **3***: Entrepreneurial process and venture life cycle.*

Source: Cunningham and Lischeron (1991)

a) Accessing the personal qualities

The literature of the part will only present the general focus and the assumptions of the two schools but for further specific information on the aspect, see below. The article of Bygrave and Hofer (1991, p. 34) stated the definition of the Entrepreneurial Process which involves "all the functions, activities, and actions associated with the perceiving of opportunities and the creation of organizations to pursue them" and argued that the further research on entrepreneurship should direct the focus on "the nature and characteristics of entrepreneurial process" rather than on "patterns and

functions of entrepreneur." In contrast to the view, Cunningham and Lischeron (1991), McClelland (1965), Gartner (2007), Shaver and Scott (1991), and Thompson (2004) believed that to understand entrepreneurship, it is necessary and fruitful to look at the entrepreneurial qualities of an entrepreneur. There are two schools of thought in accordance with the belief: "great person school and psychological characteristics school." Thus, the research will also adopt the argument from these two schools with the research assumptions suggested by Cunningham and Lischeron (1991) as the following:

- The assumption of Great person school: he or she is naturally born with "an intuitive ability, sixth senses, and traits as instinct" to become an entrepreneur;
- The assumption of the psychological characteristics school: entrepreneur's personal values including the need for risk-taking, achievement, and locus of control can drive his or her behavior to become an entrepreneur.

b) Recognizing opportunities

Regardless the fact that the economic theory of the firm, as cited in the book of Knight (1921), the entrepreneur is considered "a risk bearer," based on the economic theory of the firm. Schumpeter (1934) considered an entrepreneur as one of the pioneers in highlighting importance of entrepreneurship as a distinct field of economic study. It suggests that the entrepreneur should not be simply viewed as a risk taker but as an innovator who "actually carries out new combinations. These include the development of a new product, process, and organization" through the process of "creative destruction" of the existing combinations of resources (Krueger and Dickson 1994, p. 45). In other words, he believes that the entrepreneur is someone who engages in the entrepreneurial process as a combiner rather than just an owner of a venture because the entrepreneur behaviors will be differently required according to different situations of the entrepreneurial process. Referring to Schumpeter's belief on the above assumption, its central focus of classical school of thought about entrepreneurship is to examine the differences between "manager and entrepreneur." It does the by taking into account the "innovation, creativity, and discovery" as "central characteristics of entrepreneurial skills and behaviors" (Baumol 1968; Brockhaus 1980; Cunningham and Lischeron 1991; Baumol 1993; Chell 2001; Kuratko and Hodgetts 1995). On the other hand, the definition of Gartner (1985, p. 45) concisely stated that entrepreneur is someone "who started a new business where there was none before." The classical point of view highlights the understanding of the entire entrepreneurial process instead of the characteristics of an

entrepreneur. The whole entrepreneurial process contributes to the understanding of entrepreneurship, and it refers to it as "a process of creating or recognizing opportunities" (Gartner 2007, p. 34). The result of the entrepreneurship is an innovation of most of the process in the firm (Schumpeter 1934; Cunningham and Lischeron 1991; Bygrave and Hofer 1991; Baumol 1993; Kuratko and Hodgetts 1995; Gartner 2007).

c) Acting and managing

The literature of Klapper (2004) maintains that the management school and leadership school are two representative schools of thought whose research interest emphasizes "the acting and managing functions" in the entrepreneurial process. The management school of thought assumes that entrepreneurship can be "taught and trained in technical functions of management" and views entrepreneur as a manager who "organizes, plans, controls and manages" an economic venture (Chell 2001, p. 45). In addition, the perspective of an entrepreneur from the leadership school refers to a people manager or "leader of people" who takes a variety of roles. It includes the management of a new venture and the "motivation, directing and leading of people" (Timmons 1989; Bird 1988; Cunningham and Lischeron 1991; Klapper 2004). On the other hand, the leadership skills are also criticized and viewed by Great Person School as intuitive and instinctive capabilities. The literature of Thompson (2004) also indicates the distinctions between "entrepreneur" and "leader entrepreneur." It states that entrepreneurs are someone who set up and manage a new venture to satisfy their own needs such as "freedom, and independence," since they do not like "bureaucratic and structured organization." However, when the business is developed, there are increases in the level of formalization and complexities in management. In the sense, some entrepreneurs, who can cope with changes and obstacles by applying their leadership skills in flexible and innovative ways, are considered leaders. Others might decide to sell their business and recognize other opportunities. On the other hand, the book of Fiedler (1966), as cited in Cunningham and Lischeron (1991), suggests that the leadership skills should be regulated to adapt the requirements of each circumstance rather than the rigid and unfit leadership styles. Thus, since the level of management becomes more complex at "the early growth and maturity stages," the entrepreneurs are required to obtain the sufficient management capabilities and adequate leadership skills with the belief that everything can be trained and adjusted according to each situation (Chell 2001, p. 45).

d) Reassessing and adapting

A distinction between the entrepreneurship and the intrapreneurship exist in the literature. For more details, the entrepreneurship is the term referring to the entrepreneurs who start-up and run their business on their own, but the intrapreneurship indicates to the intrapreneurs who have a creative mind and are working within the organization. Furthermore, the concept is still arguable, but all of the entrepreneurial theorists agree that although the corporate entrepreneurship is inadequately defined, both the entrepreneurs and the intrapreneurs all have the same entrepreneurship characteristics known as a spirit of creativity and innovation to invent something new by thinking out of the box.

Due to an essential role of "innovativeness and competitiveness" in making organizational success, the term "intrapreneurship" or corporate entrepreneurship was initially highlighted by Pinchot (1985, p. 45). Pinchot (1985, p. 45) argued intrapreneurship as a useful concept enabling the organization to adapt to the changing environment by "encouraging people" to work as entrepreneurs who can create new business products or entrepreneurial opportunities. It eventually continually contributes to the growth and improvement of an existing organization (Cunningham and Lischeron 1991; Klapper 2004; Eesley and Longenecker 2006; Sharma and Chrisman 2007). In other words, since intrapreneurship is viewed as entrepreneurship in an existing organization, it can inherit entrepreneurial characteristics and attributions from both organizational and individual entrepreneurships.

Based on that ground, the focus of Intrapreneurship School is to study on intrapreneurial skills, behaviors, and activities of "the team" regarding how they exploit entrepreneurial opportunities together within the organization, what motivates them, and how intrapreneurs turn entrepreneurs. In fact, the main implication of Intrapreneurship School is that a successful company is a corporation whose employees with entrepreneurial behaviors and skills can act as entrepreneurs and do not want to leave the organization for the purpose to become entrepreneurs of their new business venture. In other words, the company failing to create an entrepreneurial climate and entrepreneurial management within the organization might face the outcome of the entrepreneurial process, which is "organizational closure" due to "brain-drain" or lack of innovation for development.

In addition, the "reassessing and adapting" stage of the firm is the stage of "firm consolidation" for a redefinition of its business concept (Veciana 1988, p. 23). Besides, the terms

"organizational closure," and "firm exist," have been extensively been mentioned in the research of Birley and Weasthead (1990). They used these terms to indicate the outcome of entrepreneurial process reflected in the decision of the owner-manager as an entrepreneur who chooses to exist from "ownership of company" by using some choices. These incorporate "sale to the third party, sale to the management, public quotation to the stock exchange, or liquidation" as the forms of corporate entrepreneurship in the stage of "reassessing and adapting."

2.8.2.2 Forms of corporate entrepreneurship

The research of how to advance corporate entrepreneurship in an organization is taken into consideration by the multidisciplinary studies to create a competitive advantage. In addition, the term corporate entrepreneurship or intrapreneurship as cited by Zahra (1991) alludes to "the process of creating new business within established firms to improve organizational profitability and enhance a company's competitive position or the strategic renewal of existing business." In addition, another research by Chang and Christensen (2004), maintains that the corporate entrepreneurship focuses not only on the innovation within the company but also on the innovation to develop new venture outside the enterprise.

The studies of Collins and Moore (1970) and Sharma and Chrisman (2007) present a hierarchy of terminology in entrepreneurial selection when they are at the stage of reassessing and adapting:

- Independent entrepreneurship is "the process of individual or group of individuals independently acting with an existing organization to create a new organization (Collins and Moore 1970, p. 45)."
- The corporate entrepreneurship is "the process of individual or group of individuals in association with an existing organization to create a new organization, or instigate renewal, or innovation" under the entrepreneurial forms of "corporate venturing, Innovation, and strategic renewal (Collins and Moore 1970, p. 45).

The corporate venturing is categorized into two types:

Sharma and Chrisman (2007) have described three types of corporate entrepreneurship: innovation, corporate venturing (external and internal corporate venturing), and strategic renewal. For more details, internal corporate venturing is directed at entrepreneurial activities to develop business opportunity within an existed organization, and external corporate venturing focuses on

corporate venture activities such as corporate venture capital, venture alliances, transformational arrangements.

Instead of the three forms of corporate entrepreneurship, Morris et al. (2010) have re-categorized corporate entrepreneurship into two different forms in which corporate entrepreneurship can occur. These two ways include the "strategic entrepreneurship and corporate venturing and briefly redefined corporate venturing as entrepreneurial activities." (Morris et al. 2010, p. 45). They have been several thoughts which have led to the creation of new business via an equity investment and strategic entrepreneurship. These have been referred to as innovations in the "company's strategy, product offerings, served the market, internal organization (structure, processes, and capabilities) or the business model" to stimulate competitive advantage as shown in figure 4 below (Collins and Moore 1970, p. 45).

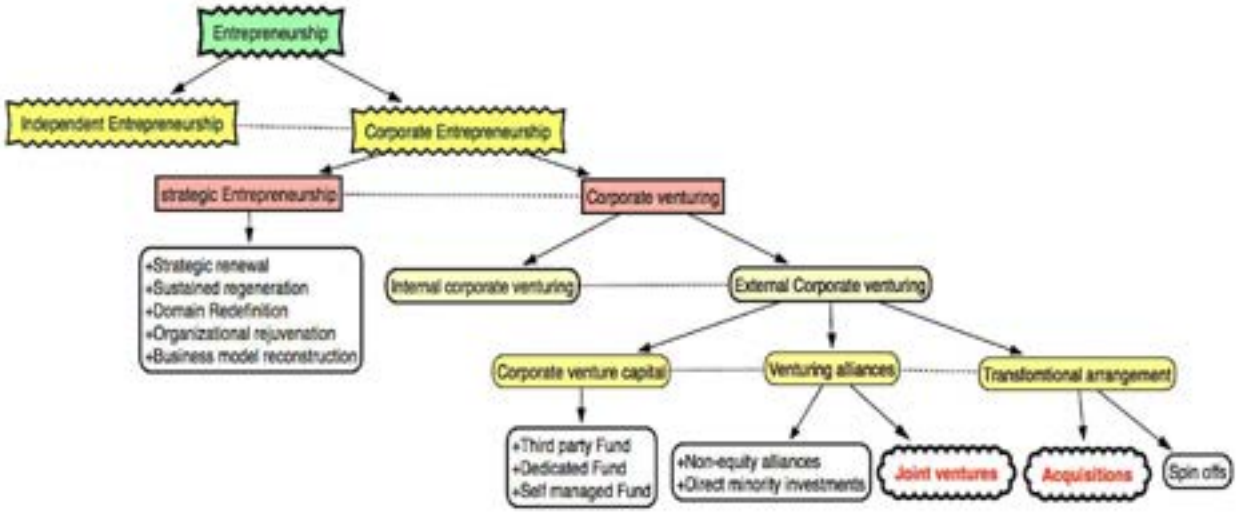


Figure **4***: Forms of corporate entrepreneurship*

Source: Collins and Moore (1970), Sharma and Chrisman (1999, 2007), Morris et al. (2011), Hisrich et al. (2002)

In contrast to the concepts of corporate entrepreneurship above, there are entrepreneurial venture's four organizational forms: acquisition of an existing organization through the franchise, inheritance and development of family businesses, purchase of an existing company via buy-in or buy-out, and corporate venturing. They are the one concept but different perspectives on equity and management. According to Hisrich et al. (2002), Sharma and Chrisman (1999, 2007), and Bygrave and Zacharakis (2008), franchise, joint venture, acquisition, merger, and leverage buyout are entrepreneurial forms of expanding a venture.

It should be noted that leverage buyout (LBO) is a type of acquisition whereby a company uses borrowed money to secure an acquisition. Additionally, a management buy-out is also considered an acquisition form where a company's shareholder or managers receive a large part and even all of the company either from the private owners or from the parent company. Corporate venturing, bringing new businesses to the corporation, obviously connects with merger and acquisition (M&A) considered another way "to position themselves in a new market" (Bygrave and Zacharakis 2008; Morris et al. 2011). The merger is adopted as an entrepreneurial form for venture expansion in which two companies join into one, with one surviving and the other disappearing. An acquisition is whereby one company takes control of another. M&A allow entrepreneurial businesses to grow and expand quickly over time.

For the perceptive of corporation toward equity, the sources of equity are dissimilarly mobilized for different business stages of a venture. It can be seen that in term of M&A in corporate venturing, the corporation's entrepreneurial activities play the role of the bidder or the acquirer.

Furthermore, the highest level of mobilizing capital might be at stock market or "going public" through the stock market exchange to access to the capital market. In fact, when going public, the venture is at a mature stage of business whereby the entrepreneur and equity holder of the venture "offer and sell some part of a company to the public" (Hisrich et al. 2002). The research shows that the bidder or acquirer banks are entrepreneurial banks.

2.8.2.3. Corporate entrepreneurship intensity

Covin and Slevin (1989 & 1991) have represented the scale of measurement including the variables "innovativeness, risk-taking, and pro-activeness" used to explain corporate entrepreneurship intensity. The study of Keh et al. (2007) show that corporate entrepreneur orientation (includes three building blocks: innovativeness, proactiveness and risk-taking) has a direct and indirect impact on business performance. Zahra et al. (1999, p. 45) show that entrepreneurial orientation also has a direct influence on learning orientation. Moreover, business with high entrepreneurial orientation is the pioneer in monitoring the market and customer service in response to competition and changing the macro environment (Lumpkin and Dess 1996). Thus, the business orientation will receive a positive correlation with the market response.

a) Innovativeness

The first dimension is organizational innovativeness in which innovative activity is implemented not only in "product, market, or technology" but also in "management, process or new ways to accomplish the function." Morris et al. (2011) mention the term "management of innovation" for the manager and believe that managing innovation simply means controlling the unknown but traditional organization is unable to manage the unknown and only corporate entrepreneur can accomplish innovation by breaking "rules of thinking and doing." In fact, Innovation works only in the entrepreneurial organization with a given "level of freedom, autonomy, and discretion in term of rules, budgets, controls, and process, among others," to employees.

Schumpeter (1934) indicates that the relationship between the degree of innovation of the enterprise and firm size is in the converse direction. It means the growing scale of the company might hinder the innovative ability of organization. In addition to firm size, organizational structure elements, represented by two factors: centralization; and formalization, directly affects and limit the level of business innovation. To increase the flexibility and keep the level of its innovative ability, Shane (2003) proposed two ways namely (1) decentralization" and (2) de-formalization. Decentralization was intended to reduce the concentration of decision rights, division of power aimed at flattening the organizational structure. On the other hand, de-formalization was designed to reduce the procedure, process, paperwork cumbersome to speed up communication and information in the organization. Additionally, Morris et al. (2011, p. 45) believe that "more horizontal and less vertical design" along with "less formalization of roles and positions" within the structure of a company might foster entrepreneurial behavior.

In addition, the level of innovativeness of business (large or small) is influenced by leadership style, but the most significant level is at CEO. Research by Ling et al. (2008) showed transformational leadership of CEO, as leadership style of openness and taking empowerment, correlates with the ability and level of innovativeness of enterprise.

Many studies show that entrepreneurial orientation of business has, directly and indirectly, the impact on the business performance. For example, according to the results of research of Hult et al. (2004), the entrepreneurial orientation and innovation of the business are two separate concepts, and both have the same direction on business performance.

b) Risk-taking

The second dimension is risk-taking. According to Morris et al. (2011), risk-taking in corporate entrepreneurship can be viewed as both "an individual trait" at the micro level, and "organizational concept" at meso level. Moreover, risk-taking reflects in the decision making of individual or organization toward "resource allocation," and "the strategic choice of products, services, and markets (Hisrich et al. 2002, p. 45). However, to compare the risk taken by the traditional manager as "a careful risk taker," the risk-taking in corporate entrepreneurship is not a reckless but a moderate risk taker (Hisrich et al. 2002; Morris et al. 2011).

From a general point of view, Dionne (2013) provided a synopsis of risk-taking based on World War II, where engineers came up with several innovative risk administration models. He further came up with several forms of risks, which can be used as alternatives to commercial banks as they are costly (Dionne 2013). Crowe and Horn (1967) delineated that risks could be the probability that a business entity could incur losses. In their definition, they further explain that losses imply that it is the methods used by the entity to increase their returns. On the other hand, the terms incur employed in the definition means that the business entity suffered from the losses is not aware of how it happened. Sitkin and Pablo (1992) provided a definition of risk, which suggested that it is associated with a particular decision that classified based on the uncertainties associated with it. In the case, the uncertainties refer to the likelihood of significant or unsatisfactory outcomes that could be achieved (Sitkin and Pablo 1992). The definition was advanced around various dimensions, which tend to enhance the understanding of risks. These dimensions comprise of the likelihood of the result, prospects of the result and the possibility of the result. Tsai and Luan (2016) also provided an improved definition of risk-taking when he portrayed risk as the likelihood of obtaining the adverse result in a particular framework. In the case, the negative result is considered the unexpected stemming from the framework with the risks of the contrary outcome.

On the other hand, Erasmus and Scheepers (2008) related risk-taking with the purpose and audacity to mobilize resources for a particular project, which is associated with uncertain results. They further added there are efforts made towards the administration of these risks through critically examining the market, soliciting and hiring trained workers, among other appropriate strategies. From these definitions, it is easier to conclude that risk-taking can be associated with high probability of uncertainty pooled with many losses or correspondingly adverse consequences. The loss suggested referring to a financial cost that spans a significant scope.

Furthermore, Morales-Gualdrón and Roig (2005) suggest that it is better to consider two sides of risk: The perception of risk level when establishing a new firm and the perception of bankruptcy propensity. Conversely, their finding shows a negative correlation between the fear of failure and a higher level of income with the intention of a start-up business. In addition, the study suggests the financial expectation of the future of the family or the country might affect the new venture decision in the positive direction. Morris et al. (2011) claim that the innovativeness and risk-taking are positively correlated. It implies the higher innovation of the firm is, the higher risk it will take.

c) Pro-activeness

In addition to three dimensions proposed by Covin and Slevin (1989, 1991) namely pro-activeness, innovativeness, and competitive aggressiveness, Lumpkin and Dess (1996) added two more dimensions namely:

- The autonomy alludes to the extent of reliance on an individual or group to propose and provides an idea or vision for the final success despite being binding.
- Competitive aggressiveness referred to the tendencies of a company to directly challenge its rivals to join or improve its position to overcome the existing competitors in the market. Lumpkin and Dess (1996) supported the when they associated competitive aggressiveness with the propensities to strongly contest against its competitors to gain entry in the market or enhance their locus in the market. This point was consistent with Wang (2008), Lassen et al. (2006) and Antoncic and Hisrich (2003). Antoncic and Hisrich (2003) claimed that the motive behind competitive aggressiveness was to outdo its competitors in the market.
- Unlike the proactiveness as proactive action with market opportunities and the role of strategic leadership in the market as well as future direction of the firm, competitive aggressiveness alludes to the action with its competitors in the market at present. Covin and Slevin (1991) support the view when they provide a distinction between proactiveness and competitive aggressiveness derived from the work of Lumpkin and Dess (1996).

Additionally, dimensions of CE including innovativeness, risk-taking, pro-activeness, and competitive aggressiveness are statistically explored to have a positive correlation with the companies' financial performance (Zahra 1993, p. 319; Lumpkin and Dess 1996; Aktan and Bulut

2008; Shamsuddin et al. 2012). It should be noted that the financial performance in these previous investigated papers is "market share growth, return on sales, return on assets, profitability."

2.8.2.4 Entrepreneurial conduct

It was noted that corporate entrepreneurship attributed to the growth of most business entities. According to Ireland et al. (2009), no consensus exists on the various dimensions of corporate entrepreneurship. Several scholars added that the association between the entrepreneurial orientation (EO) of corporate entrepreneurship and corporate entrepreneurship itself. Construct is limited due to the amount of empirical evidence available (Covin and Slevin, 1991). It has also resulted in lower performance as well as the amount of empirical evidence available. Covin and Lumkpin (2011) considered entrepreneurial orientation as a significant aspect of corporate entrepreneurship while Lumpkin and Dess (1996) postulated entrepreneurial orientation as a necessary condition in which the organization has the desire to engage in effective corporate entrepreneurship.

Phan et al. (2009) and Fayolle et al. (2010) classified corporate entrepreneurship into five main dimensions namely development of new business entities, innovations for services and products, innovativeness, pro-activeness and adapting to change easily. Agca et al. (2012) also considered risk-taking as a key element of corporate entrepreneurship. Some authors like Kuratko and Audretsch (2009) eluded that risk-taking characteristic of corporate entrepreneurship was established at the strategic level of management. Among the corporate entrepreneurship dimensions, development of new business entities considered company venturing is regarded as the significant element which results are easily displayed since it is linked with the development of the present firm (Ahmad and Seymour 2008; Sáez-Martínez and González-Moreno 2011).

Research suggests that both entrepreneurial conduct and outlook are required in the organization irrespective of size to compete and succeed in the vibrant marketplace (Lumpkin and Dess 1996; Zahra 1993). Literature has failed to establish a link between the management's approach towards propensities and its corporate entrepreneurship intensity. On the contrary, most studies have looked at the features enhance entrepreneurial conduct in a firm from a broader perspective as opposed to the management's position on entrepreneurial intensity.

The study assumes that corporate entrepreneurship is considered an entrepreneurial conduct in which the entire firm's activities and processes are founded in a conceptual continuum, which is within a very convenient to extremely risk-taking. From this, the position of the organization in the

theoretical continuum is considered entrepreneurial intensity. Thus, entrepreneurial firms are characterized as risk-taking, pioneering, and practical. On the other hand, the conventional firm is considered less inventive, avoid risk, assume a wait, and see attitude.

Based on this, the main aspect, which is an exhibit by the examination of the literature related to corporate entrepreneurship, is that the organization's level of entrepreneurial intensity is determined by external and internal elements from the perspective of a corporate (Zahra 1991, p. 259). Organizations which have undergone a stiff competition in the marketplace as opposed to those who are operating in a stable environment tend to be extremely creative, risk-taking, and practical (Naman and Slevin 1993). Literature has identified various qualities embodied in an entrepreneurial organization that distinguishes them from firms displaying lower entrepreneurial intensity (Grossmann 2009; Szirmai et al. 2011).

2.8.2.5 Relationship between entrepreneurial intensity and bank propensities

The various scholars have attempted to define the term corporate entrepreneurial intensity (CEI) with the aim of increasing their understanding and its role in the growth of the business. For instance, Dess et al. (2003) eluded corporate entrepreneurial intensity (CEI) to the extent of the development of new, vibrant business concepts and prospects in a firm. He further added that corporate entrepreneurial intensity (CEI) tends to explain the entire process where the established firm act in an innovative, risk-taking and practical way (Zahra 1993, p. 324; Lumpkin et al. 1999; Fayolle et al. 2010), while intrapreneurship implies the conduct of an individual. Guth and Ginsberg (1990) suggested that corporate entrepreneurial intensity (CEI) could refer to attempts made to concentrate on some resources using innovative techniques to add value.

Despite the fact that corporate entrepreneurship intensity (CEI) is considered to be potentially significant, it is considered volatile, messy and ambiguous entrepreneurial event which cannot be managed that easily. Every entrepreneurial activity is associated with different phases, for example, the identification of new prospects, development of the business concept to guide the process, evaluation of the resources needed, resource acquisition and monitoring of the results (Morris and Kuratko 2002). Thus, the capacity to act entrepreneurially is associated with the perception of a new prospect.

To evaluate the extent to which corporate entrepreneurship used in the Malaysian-banking sector, Mahmood and Wahid (2012) used Covin and Slevin's scale representing the entrepreneurial conduct (Covin and Slevin, 1989). The results indicated that the Malaysian banking sector was

associated with statistically significant entrepreneurial intensity and the entrepreneurial behavior of the commercial banks significantly contributed to enhanced competitions, effective performance of the banks and sustainable growth of the sector.

The relationship between entrepreneurial intensity and bank propensities is still vague, and little done to understand its effect on the entrepreneurial orientation of a banking institution. Various researchers have attempted to examine the relationship and have found mixed results. For instance, Erasmus and Scheepers (2008) looked at the link between entrepreneurial intensity and the value creation among business entities for the period 2003 – 2005 from the shareholders' perspective. The study also sought to comprehend the relationship between entrepreneurship and financial performance.

The results indicated that banks with a higher level of entrepreneurship obtained improved productivity within a longer period. It implies that firms with a higher standard of entrepreneurship developed a greater return from the shareholder's contribution from the shares many times beyond the market's value. The study also discovered that the leadership of the listed firms more inclined to new opportunities, promotion of start-ups among the employees, increased competitiveness, and enhanced service innovations. Despite discovering a positive relationship between entrepreneurial intensity and the value creation, the research found a negative association between the product development and innovations indicating that some charges associated with the entrepreneurial venture were relatively high.

According to McGrath (1999) in Peng et al. (2010), there is a high probability that the outcome of an entrepreneurial venture is not always favorable. As long as it can be able to create more jobs and income for the nation and the society, they perceived to create value. From a firm's perspective, the rationality indicates that managers can intelligently anticipate which entrepreneurial tendencies can stimulate financial growth (Birley and Westhead 1990; Lumpkin and Dess 1996). When the same managers fail to perceive which entrepreneurial tendencies are not favorable for the firm, they increase the risks propensities of the firm and the possibility of going bankrupt.

Dixon et al. (1993) discovered that bankruptcy among banks adversely affected the frequency of loans and lender liability conferred to borrowers. Lender liability noted to be an essential element when awarding loans and it decreased the likelihood of an average loan from the bank (Dixon et al. 1993). ECONOMY (2004) cited that inappropriate policies tend to promote

bankruptcy propensities in such a way that they are inefficient and less accountable. By looking beyond the relationship between bankruptcy propensities and risk-taking entrepreneurial activities, there is a probability that the risks presented incurred from the debts can be corrected.

When the age of banks is examined about the bankruptcy propensities, Fisman and Love (2003) suggested that young firms are associated with attempting to reduce the flaws of the banking framework while the old and established commercial banks tend to utilize their trade credit for financing most operations.

When another firm acquires a firm, it is expected that the efforts of each firm during the acquisition process merely add up to the combined effect among the firms especially for the acquiring firms, which perform the reforms at a broader scope (Davies 2000; Greve and Zhang 2016). According to Xia and Li (2013) and Savović (2016), the position of formerly acquired firms based on the strategic decision of the business and provides support in adjusting the financial and structural situation of the company. Research also offers various options, which could explain the acquisition of the firms such as strategic role, fulfilling the requirements set for compliance, improved productivity by eliminating the obstacles in the processes informed by prior acquisitions, promote accountability and transparency among others (Maher and Andersson 2000; Eckbo and Thorburn 2008). Damodaran (2008) indicated that firms are increasingly acquired based on the restructuring of its resources and recapitalization. Damodaran also added that most acquisitions are attributed to increased debts and the managers of the organization initiated most of the negotiations (Damodaran 2008).

Literature has examined the influence of restructuring actions on the productivity of financial firms and has provided mixed results. According to Shin (2017), Harwood et al. (2016), Swanepoel (2005), Robbie and Wright (1995), Smart and Waldfogel (1994), Bowman and Singh (1993) and Gibbs (1993), they discovered a statistically considerable correlation between restructuring of the firm and the productivity of the company. On the contrary, Billett and Vijh (2004) and Elder et al. (2005) were of the contrary opinion regarding the relationship between restructuring of the firm and productivity. The results were consistent with the outcomes of Savović (2016) when he discovered that the performance of the firm and restructuring adopted by the firm were not statistically significant and it adversely affected post-acquisition productivity. The results obtained by Savović (2016) also suggested there is statistically significant variation concerning the

firm restructuring activities among the service industry such as commercial banks and the manufacturing sector.

It is worth noting there has been increased productivity and performance of listed firms in the stock market after merger activities over time. It would be the case when the primary motive behind the acquisition or merger is undervaluation (Klonowski 2014). Nguyen (2017) provided several reasons why most acquisitions are inclined towards an increased in debts. These incorporate the inability of the commercial banks to comprehend and implement the restructuring changes as directed by the legal framework, partial compliance while ignoring other sections entirely and constraints related to the risks have been set as mandatory requirements. These reasons suggest that the reforms on the restructuring of the commercial banks and its management by various State agencies indicated there was partial adherence to or there have been entirely ignored by the commercial banks (Nguyen 2017).

Numerous researchers have examined the influence of take-over on a firm's worth from the context of the targeting and bidding firm (Mallikarjunappa and Nayak 2013; Möhlmann 2012; Fuller et al. 2002). Results suggest that investors of the target firm are victors in a take-over (Möhlmann 2012). It was supported by the fact that they obtained significant earnings during the declaration of the acquisition activity. These results are more inclined towards listed firms as opposed to unlisted companies in the stock market. According to Fuller et al. (2002), some take-overs completely flop for two main reasons. These incorporate pulling out of the intended proposal on the side of the bidding firm and the defiance by the target firm concerning the proposal provided. Mallikarjunappa and Nayak (2013), Filipović (2012) and Neuhauser et al. (2011) examined the impact of take-overs failed on the perception of shareholders of the targeting firm and discovered that the primary response to the declaration was statistically insignificant.

Angbazo (1997) and Altunbas et al. (2000) found a positive association between the level of bad debts and the bank's inefficiencies. It is expected that as bad debts increase exponentially, the cost of bankruptcy statistically increases significantly. According to Duttweiler (2011), the valuation of the firm's assets should be higher than the incurred debts for the commercial banks to maintain a higher level of liquidity at all times. From the perspective of listed firms in the stock market, the obligation of resolving bad debts incurred taken over by the agency in charge of asset management and the bank-restructuring agency guided by the directive of assuming the specific responsibility of the non-performing resources of the distressed commercial bank (Amin et al.

2014). Amin et al. (2014) also added that the commercial banks are left with the responsibility of resolving the accumulated bad debts based on the flow approach. It suggests that the asset management and the bank restructuring agencies will expect the commercial bank to depend on the efficient administration of the balance sheet and its income comes forth it to clear the bad debts. To increase the incentives obtained by the bank, there is a need for assistance to be given to banks to remove their losses which increase bad debts. There is also a need for the flow approach adopted that complements with legal reforms and accounting values (Amin et al. 2014).

According to Ghasemi and Rostami (2016), variations in the interest rate attributed to some financial ratios, which are essential for any financial institution. These financial ratios incorporate proportions representing the net resources and the aggregate resources as well as the percentage of the loans awarded to the aggregate resources. In addition, there is the size of the commercial bank estimated using the aggregate commercial bank resources, the percentage of the operating charge to aggregate resources of a firm, the inflation rate, and the interim interest rates among others. Ghasemi and Rostami also added that the ratio of net interest on revenue to the aggregate resources is indirectly associated with the variations in the interest rate (Ghasemi and Rostami 2016). In a separate study, Angbazo (1997) discovered that credit risk could adversely affect the Net Interest Revenue (NIR) of commercial banks.

Nguyen (2017) concluded that the activities of commercial banks should be safe and capable of handling risks through the appropriate legislative framework in place. In addition, it is essential for commercial banks to adopt an efficient internal evaluation and supervisory framework. Nguyen (2017) also suggested the necessity to empower the assessment and monitoring framework such that it can counter-check every action during and after the execution, in line with the rules and regulations.

Morris and Kuratko (2002), Barringer and Ireland (2008) and Stevenson and Jarillo (2007) eluded that entrepreneurship to the process of adding value by combining resources to take advantage of an upcoming opportunity. From their definition, there are four aspects, can be noted. Thus, incorporate entrepreneurship differs concerning the degree and frequency of occurrence; entrepreneurship happens within a context, easy process that adds value. The corporate entrepreneurship intensity connotes to three main forms of entrepreneurship are considered essential in evaluating the entrepreneurial conduct of financial institution. On the other hand, Morris (1998) and Erasmus and Scheepers (2008) depicted the varying degree of entrepreneurship as

entrepreneurial intensity. Their study also established a linear association between the extent and frequency of entrepreneurship as indicated in Figure 5 below.

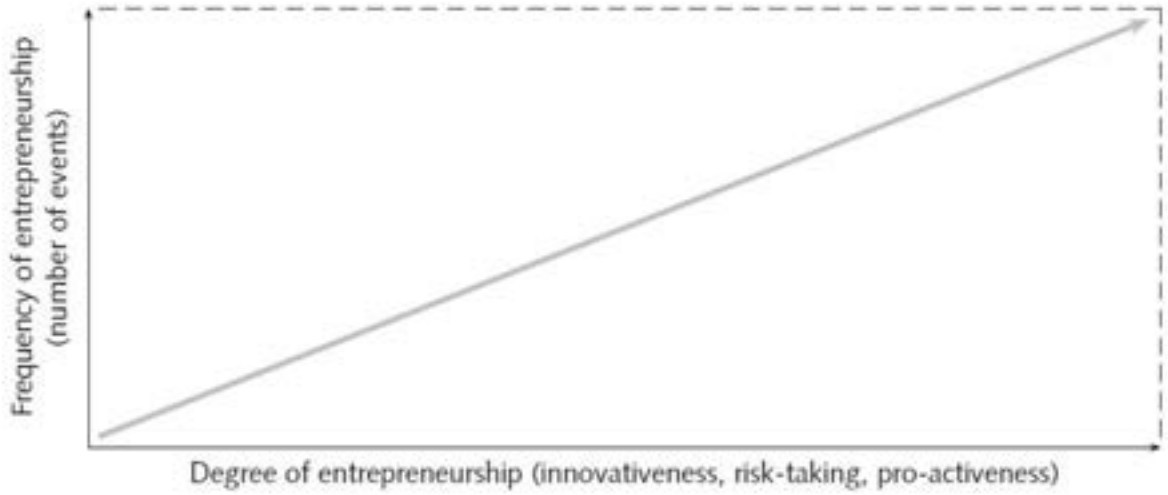


Figure **5***: A linear representation of entrepreneurial intensity.*

Source: Erasmus and Scheepers (2008)

Based on figure 5 above, it noted that entrepreneurial intensity is the resultant of the supposition that the extent of entrepreneur orientation may vary concerning the need to achieve, the desire for autonomy, risk-taking propensity, the locus of control, and innovation. The conduct of entrepreneurial and non-entrepreneurial differentiated concerning the risk propensities at an individual and the firm's level. From the perspective of banks, the corporate entrepreneurial intensity depicted as the organizational conduct towards upcoming opportunities to attain more significant benefits and growth through the reduction of possible loss (Wang et al. 2016; Chen et al. 2015; Keh et al. 2002). Increased competition from both international and local firms has created a vibrant marketplace where only the best can survive. Therefore, these firms forced to assume new positions such as mergers or acquisition to stay relevant. Besides, the extent of entrepreneur orientation, the difference perceived as inverses on a theoretical scale between the conservative and entrepreneurial (Barringer and Ireland 2008; Ferguson et al. 2014).

Various researchers have established that the traditional, perilous attitudes portrayed by the banking firms have resulted in a decline in the market share and competitiveness of the firm (Barringer and Bluedorn 1999). Research has examined these forms of entrepreneurship provided divergent views concerning each (Garud et al. 2014; Vantilborgh et al. 2015). The section discusses

how the entrepreneurial types could be used by the banks in Vietnam as a kind of post-M&A during the period 2011 – 2015. They have also provided clues to the characteristics that could impact the likelihood of a bank being acquired.

Research has provided mixed results regarding the association between the corporate entrepreneurship intensity and entrepreneurship among financial institutions. For instance, Zehir et al. (2015) focused on the intermediating role of differentiation strategy and innovation performance on the relationship between firm performance and entrepreneurial orientation (EO). Using questionnaires as data collection instruments and subjecting the data to qualitative, the findings of the study suggested that the innovation performance and differentiation strategy significantly on the relationship between EO and business performance.

Wheelock and Wilson (2000) used the competing-risk framework to evaluate the link that exists amongst the banks and the features more acquired. The findings from their study indicated that acquisition of the banks by several acquirers was based on a variety of elements such as the acquirer's geographical location, size, and age, among others. From their study, they contributed basic framework can assist in establishing the main factors of acquisitions and mergers considered under risk-taking propensities by banks.

Licht and Siegel (2006) discovered a significant correlation between entrepreneurship and corporate entrepreneurial intensity. From their study, they were able to provide a precise elaborate definition of the corporate entrepreneurial entry. They added that when corporate entrepreneurial intensity considered high, it is anticipated there will be a strong association between entrepreneurship and corporate entrepreneurship. It tends to affect the immediate members of the firms such as the family members and the close associates. On the other hand, when the corporate entrepreneurial intensity is low, expected that the corporate entrepreneurship is limited and a weak relation exists. Casson et al. (2008) and Liu et al. (2017) emphasized the need for network uniformity by using a weak relationship to gain access to relevant information concerning the market.

Urban and Nikolov (2013) examined corporate entrepreneurship (CE) from the perspective of a financially constrained business environment with the intent of determining the effect of various intensities existed. The findings indicated that the critical attributes significantly affected the decisions relating to the corporate entrepreneurship and the likelihood of getting better results.

Among the intensities that were examined included the work-related risks and the amount of money received from the acquirer/owner during the corporate entrepreneurship involvement.

A study conducted by Rosen et al. (2005) examined the reasons why firms go public and provide great insights on factors considered by the acquirer influenced the possibility of an acquisition. In their study, they examined samples of BHCs banks had initially gone public during the period 1981 – 2002 and those who had not used logistic regressions. Results from their study indicated that the bank's size, ROA, the ratio of equity-to-assets and the bank's age were not associated with the probability of being acquired. Pasiouras et al. (2011) expressly considered these results as not applicable to the banking sector.

On the other hand, Njoroge (2016) conducted a study determine the influence of corporate entrepreneurship intensity on the economic performance of Kenyan banking sector. In the study, the variation of intensities of corporate entrepreneurship was a test against the financial aspects of the sectors banks. The results indicated that innovativeness, risk-taking, creativeness, competitive aggressiveness, and autonomy found to be statistically significant to the economic efficiency of the banking sector. When each of the dimensions of entrepreneurship was examined separately, it was discovered that the innovativeness of the commercial banks was the most significant than other dimensions on the financial aspects of the commercial banks. On the other hand, risk-taking was negatively related to the economic performance of the commercial banks. Concerning the other three dimensions, that is, pro-activeness, competitiveness, and autonomy, the study found out that competitiveness had the most significant influence on the economic performance of commercial banks followed by the desire for independence and creativeness respectively.

Presently, there are heightened concerns the productivity of the commercial banks since it is frequently confronted with numerous challenges in a vibrant, competitive ecology. It has also been noted that the survival rate of publicly listed firms is rapidly declining of multiple challenges facing them (Fama and French, 2004). Various researchers on strategic governance have suggested that corporate entrepreneurship intensity (CEI) is the basis of higher productivity of the firm (Antoncic and Hisrich, 2003). Although there is a vast amount of studies conducted concerning the influence of bankruptcy propensities on corporate entrepreneurship intensity, there is restricted empirical proof regarding public-listed firms and unlisted firms in Vietnamese banking sector.

Lawson (2014) examined the impact of risk-taking propensities on corporate entrepreneurship intensity with the primary objective of proposing organizational entrepreneurship

framework. From their study, he discovered there was the association between bankruptcy propensities and corporate entrepreneurship intensity was statistically insignificant. The study also emphasized the need to establish the firm's boundary as one of the components of corporate entrepreneurship intensity.

The company's market share in the sector has some significant challenges need to be addressed. Research suggests that the market share of the firm is the most critical factor that is considered during acquisition and mergers by acquirers (Hannan and Pilloff 2009). It is only possible if the acquirers can take advantage of the firm's market share better than the present owners do. Research has also failed to explain why the market share of the firm being acquired would be more attractive as compared to the acquirers' market share (Hannan and Pilloff 2009). This school of thought informed the acquirers required to pay for the damages, which the firm has current incurred to gain from it.

In conclusion, the entrepreneurial intensities of the various commercial banks tend significantly vary based on their business. The activities of the commercial banks perceived as entrepreneurial if they concentrate on the new prospects add value to the firm's resources. From the review conducted regarding corporate entrepreneurship intensity and the financial performance of the company, there seem to be limited results associated with entrepreneurial intensities of the commercial banks. The research is centered on evaluating corporate entrepreneurial strengths of the commercial banks, merger and acquisition activities, financial performance and entrepreneurial conduct. The study focuses on establishing the extent of which corporate entrepreneurial intensity could explain merger and acquisitions in commercial banks in Vietnam, and how it stimulates the development of the commercial banks.

2.8.2.6 Punishing stimuli and the risk-taking propensity

From the perspective of an institution, entrepreneurship comprises of several factors affecting its success and failure ranging from various skills owned by the entrepreneur, for example, the risk-taking propensities to punishment associated with entrepreneurial failure. Research has shown these factors tend to vary depending on the type of firms that are either listed or unlisted in the stock market. These institutional factors have played a significant role in companies or nation over time when determining the various forms of punishing entrepreneurial failure and the capacity of the legal framework in promoting sufficient entrepreneurial intensity. Some of the institutional factors affecting entrepreneurial power are subject to reforms.

Listed banks perceived to have a huge capital base that can shield them from losses while the unlisted banks have a low capital base and problematic assets, makes them increase their loans/borrowings to grow. Their weaker condition leads to the lower efficiency and profitability. If they cannot pay their loans (high liquidity risks or NIR is great), they attract a lot of regulatory penalties or fines. Brusco and Castiglionesi (2007) found out that financial risk attributed to moral hazard can be resolved if banks are sufficiently capitalised. Myerson (2012) and Lee et al. (2007) separately provided numbers can be used as punishing stimuli. Myerson (2012) recommended the development of a long-lasting association among banks and its borrowers to solve the financial, moral hazard is continually developing. On the other hand, Lee et al. (2007) came up with a framework for real options that could comprehend the various bankruptcy propensity regulations affecting the growth of entrepreneurship from the perspective of society. In their study, they exclusively highlighted the fact that perilous entrepreneurs exceedingly chastised for their inability to recognize potential opportunities, though associated with a high level of risks, can provide very handsome rewards. Lee et al. (2007) recommended the enactment of bankruptcy propensity laws cognizant of the real options to stimulate less risky, positive entrepreneurial skills in the financial sector as well as the society level.

Research suggests that the bankruptcy laws and regulations mainly concentrate on the process of liquidation through several activities. Some of the activities include forcefully taking ownership of the organisation, re-selling of firm's resources to restitute its creditors as a form of punishing stimuli with the hope of discouraging risk-taking propensity among entrepreneurs (Boddewyn 2014; Peng et al. 2010; Armour and Cumming 2008; Kuratko and Hodgetts 1995). In some nations, there are more friendly forms of punishing stimuli, which are used to lessen the risk-taking propensities. Examples include organisational restructuring that provides firms with some legitimate protection while at the same time, giving them the possibility to repay their debts and restructuring options to participate in the market more efficiently (Boddewyn 2014; Peng et al. 2010).

Furthermore, the variation from one nation to another concerning the bankruptcy law is probably the main reason for the banking predisposition towards mergers and acquisition as a form of entrepreneurial activity. Although there were few tests, there is a link between the reprieve of a debt incurred in a bankruptcy administration and the degree to which the current regime wants to stimulate entrepreneurial activities. Nations that encourage entrepreneurship seem to have used the

reprieve from debts incurred provided in the bankruptcy regulations to give encouragements. Entrepreneurs are confronted with a high level of risks related to financial aspects, but the bankruptcy law seems to have offered support to against many financial liabilities.

There are some efforts by the various governments; financing institutions among firms increasingly provide options for firms adversely affected by risk-taking propensities to restructure themselves as a way of promoting responsible entrepreneurship rather than forcefully liquidating the firms (Peng et al. 2010). Some nations have also adjusted their regulations on bankruptcy with a view of promoting entrepreneurial tendencies and at the same time decreasing the fee charged on firms that assume high risk-taking propensities and eventually end up bankrupt (Armour and Cumming 2008). It indicates there is a deviation from the interpretation of the rules and regulations of bankruptcy laws, which are normally punitive, to discourage irresponsible entrepreneurship.

The reforms in the bankruptcy framework tend to stimulate increased entrepreneurial activities. It also influences the risk-taking propensities of firms or individuals to create successful entrepreneurs as opposed to the institutional factors, which tend to reduce the entrepreneurial intensities (Peng et al. 2010). For firms characterized as high-risk propensities, the bankruptcy regulations will raise the charges for entrepreneurial failure. On the other hand, firms associated with fewer risk propensities are more probability of bearing with fewer costs for entrepreneurial failure because of the bankruptcy rules and regulations (Lee et al. 2007).

The bankruptcy laws from the perspective of a firm suggest that individuals who are considered risk-seeking tend to portray high risk-taking entrepreneurial conduct. As the fees associated with futile entrepreneurial intensity are lessened, the quantity and multiplicity of individuals venturing into entrepreneurship increase exponentially, which is beneficial for the firm. Research suggests that entrepreneurial intensity among firms tend to the greater innovativeness of the company (Ireland et al. 2001; Erasmus and Scheepers 2008; Urban and Sefalafala 2015). In turn, they develop constructive externalities, which have a significant impact on the organization's activity (Katz and Shapiro 1986; Birley and Westhead 1990; Schilling 2002).

Peng et al. (2010) were opposed to the concept that bankruptcy laws could assist in reducing the bankruptcy propensities and encourage less risky entrepreneurial skills among firms. They perceived the bankruptcy as punitive. They based the outcome on two main findings. First, they found out the bankruptcy laws increased the exit hurdles of a firm. Secondly, the bankruptcy laws

did not encourage new entrants into the sector by creating a list of requirements, which acted as entry-level obstacles for entrepreneurs (Armour and Cumming 2008).

To comprehend the critical role played by the bankruptcy laws and its relation to punishing stimuli for risk-taking propensities, Peng et al. (2010) came up with six leading dimensions, which outlined the punishing incentives for risk-taking propensities among entrepreneurs and methods of stimulating entrepreneurial growth. They incorporated (1) the possibility of an organizational restructuring bankruptcy selection, (2) the amount of time used by the firm on the bankruptcy procedures, (3) the fee incurred by the company during the time used for bankruptcy proceedings, (4) the possibility of restarting within the liquidation , (5) the possibility of liquidating the firm's fixed assets during the organizational restructuring bankruptcy, and (6) the opportunity to risk-taking entrepreneurs to stay on the job or business.

Concerning the fee incurred by the firm for bankruptcy, Bris et al. (2006) and Peng et al. (2010) found out that it is positively correlated to the amount of time taken on the bankruptcy procedures. On the other hand, the possibility of a new start within the process of liquidation permits the restructuring of the various resources owned by the bankrupt firm to reducing losses. It also provides the entrepreneurs with an opportunity to restart their business venture with a better understanding.

As mentioned earlier, most entrepreneurs are usually concerned with investments associated with the firm (Peng et al. 2010; Lee et al. 2011; Claessens and Klapper 2005). The investments tend to play a critical role when the firm is confronted with a financial crisis. Research suggests that entrepreneurs react to incentives and restrictions reasonably within the legal restructuring framework that enforces the bankruptcy laws and promote entrepreneurial intensities among firms (Peng et al. 2010; Lee et al. 2011). When entrepreneurs perceived to be high risk-taker, they select options to use up most of their finances such that they eventually void of the necessary incentives for investments (Peng et al. 2010). They further added that if entrepreneurs are aware of the fact that they will not be replaced in an ex-ante scenario, they will assume the responsibility of coming up with various options for restructuring the firm.

Restructuring of the firms provides an opportunity for financial growth. Literature suggests that as innovative actions increase in a firm, the ability of the firm to survive adversely reduces. It implies that those that survive significantly enhance their financial position and competitiveness (Godfrey et al. 2009; Huber et al. 2015). It also suggests that innovation promotes efficiency among

firms by allowing the best to survive (Delmar et al. 2013). It implies that high competition caused by low risk and lower bankruptcy fee cost can lead to the collapse of firms (Sprčić et al. 2008) or to reorganize to improve its operations. When bankruptcy fees are high, there is a tendency for bankrupt firms to be hesitant to accept the punishment.

2.8.3 Macro level (external forces)

To link the concept of entrepreneurship at the macro level, Covin and Slevi(1991) outline four dimensions of external environment, which include the "technological sophistication, environmental dynamism, environmental hostility, and industry life cycle stage." They concluded that these environmental characteristics should not be isolated from entrepreneur process because they can drive entrepreneurial behavior. On the other hand, Van de Ven (1993) and Kirby (2006) asserted that the entrepreneurship study would be incomplete if it emphasizes the behaviors and characteristics of entrepreneurs. There is a need to take into account the social, economic, and political factors which play two contradicting roles, which are to support and to retard entrepreneurship development. In a similar standpoint, Krueger (1993, p. 45) believes that "perceived desirability, propensity to act, and perceived feasibility" shaped by the environmental conditions can directly motivate behavioral intention of the entrepreneur to start a new venture. In contrast to Krueger (1993), Gnyawali and Fogel (1994) and Kirby (2006) do not use the terms "perceived desirability and perceived feasibility," but they maintain that the attractiveness of environmental conditions, which can be created by government, might bring a higher likelihood of establishing new business start-up. In addition, they also claim the crucial role of public policy is to create an entrepreneurial environment to foster entrepreneurship development in a country.

Additionally, Palamida (2016, p. 32) emphasizes, "psychological approach does not preclude the recognition that the environment is a joint determinant of the behavior of entrepreneurs." As a whole, Palamida (2016), Van De Ven (1993), Krueger (1993), Gnyawali and Fogel (1994), and Kirby (2006) all have a similar judgment that the environmental determinants can influence the entrepreneurial process in general and entrepreneurial characteristics and behaviors in particular.

Besides, the study of macro analysis will be deficient if it exclusively focuses on an application of "resource dependence theory and population ecology theory" due to their contribution to explain why environmental factors and history matters influencing the development of banking policy in Vietnam and hazard of banking.

2.9 Resource Dependency Theory in the Context of M&A

According to Carroll and Hannan (2000), building and sustaining organizations depend on the availability of resources both human and material. Due to their interlocking relationship, resource dependence theory claims that the goal of the organization is to minimize resource dependencies to adapt to the environment as a source of uncertainty and constraint. In fact, the theory, firstly published in the book of Pfeffer and Salancik (2003), also argues that organizational behavior is influenced and shaped by "the demand and pressures of organizations and groups in its environment." To deal with the changes in the political-economic environment, the organizations might change their inter-organizational strategies for managing resource dependencies under one of the new forms. These forms include joint ventures, alliances, interlocks, and mergers and acquisitions with the purpose of minimizing environmental dependency and increase an organizational legitimacy and autonomy.

Specifically, Pfeffer and Nowak (1976) describe three reasons for organizations involved in the M&A as follows:

- M&A might moderate competition by "acquiring a major competitor."
- M&A enables new organization "managing input inter-dependency appropriately."
- M&A might "reduce dependency on other organizations by its diversification of operations".

2.10 Population Ecology Theory

In contrast to the resource dependence theory and institution theory above, the organizational ecology theory, firstly promoted by Hannan and Freeman (1977) in the article of "The population ecology of organizations," began by asking, "Why are there so many kinds of organizations?" However, there was no unified answer to the question due to "the dynamics of the organizational world" (Hannan et al. 2007), p. 34. Moreover, population ecology theory views that environment might determine the rates of formation, growth or survival, and death of the firms. In other words, the organizational ecology theorists aim at explaining the rates of organizational population change by the organizational life cycle: growth, change of organizations, and especially focusing on founding, mortality of agencies with an assumption that environments select organizations.

The theory fragments to examine organizational mortality are summarized in the book of Hannan et al. (2007, p. 34) such as "organizational form and population, structural inertia and change, age dependence, dynamics of social movements, density dependence, niche structure, resource partitioning, and diversity of the organization." For example, the relationship between bank's age and its risk of mortality as the fragments of age dependence theory is the matter in one of the research questions. To explore, the book of Carroll and Hannan (2000) have questioned that "are young firm more fragile than old ones?" The theory of age dependence tends to investigate how an organization's risk of mortality relates to the organizational age. The theory fragments are the followings:

- Liability of newness: Younger organization has the higher hazard of mortality (Age→ Hazard→)
- Liability of smallness: the larger organization has a lower risk of mortality (Size →Hazard →)
- Liability of aging: Here, the risk of failure increases with organizational age (Age→ Hazard→)
- Liability of adolescence: The risk of mortality will be low at founding but high later (a growing external mismatch with the environment→ more risk of mortality) (Age → Hazard →)

a) Responsible entrepreneurship for sustainable development

The term responsible entrepreneurship, defined by Palazzi and Starcher (1997), is a process and a concept where entrepreneurial organizations incorporate the environmental and social concerns into their interactions with their stakeholders and operations. The research is focusing on the terminology concerning the corporate governance for better accountability and control. In other words, the entrepreneurial governance aims at balancing between the corporate governance and corporate entrepreneurship toward risk management in an organization. The paper believes that responsible entrepreneurship also works in close collaboration with the concept of corporate social responsibility. Furthermore, Austin et al. (2004, p. 34) claim that the idea of corporate social entrepreneurship (CSE), consisting of "three conceptual concepts: entrepreneurship, corporate entrepreneurship, and social entrepreneurship, is aimed at providing an advanced approach that will accelerate the journey to corporate social responsibility." It implies that responsible entrepreneurship can bolster sustainable development efficiently, which does not harm nature,

general health or the social fabric of society and permits all the nation to be educated about the social and ecological effects of their practices.

According to Erasmus and Scheepers (2008), the leadership of the listed commercial banks is more to be accustomed to venture into new markets. It is associated with high level of uncertainty, high rewards from the taking the new upcoming opportunities, support for possible start-ups in a firm, enhanced competition, and service innovation. The commercial firms selected for the study consisted of both listed and unlisted banks. The listed banks expected to be answerable to its shareholders while the unlisted banks are not. Based on this, it anticipated that the management of the commercial banks has to be more careful when approaching propensities concerning investments associated with high risk. Farinós et al. (2011) postulated the listing status effect, provided its link to the unlisted commercial banks characterized as small in size, a firm with no reputation, and more than often agonized from non-competitiveness in the marketplace.

Besides, a vital role of the banking sector is promoting the stability of the whole of society. The banks also need to be responsible for their stakeholders, customers, and shareholders in a socially responsible way by taking into account the followings: "risk management, strengthen ethics in the banking business, effective and efficient internal audit process with value added to stakeholders" (Yeung 2011, p. 104). There are numbers of studies on the issue such as the positive correlation between customers' satisfaction in the bank and CSR. Thus, banks' investment in CSR does not promote any economic benefits (Soana 2011).

b) Corporate governance and institutional theory

According to the Organization for Economic Co-operation and Development (1994), the corporate governance is defined merely as "the system by which companies are directed and controlled." There are two kinds of governance systems: internal and external governances. For the micro context of internal governance, according to the Organisation for Economic Co-operation and Development (1999), the corporate governance is defined as "the system by which companies are directed and controlled." In other words, corporate governance is a set of mechanisms of how the companies are governed and operated. Moreover, the OECD Principles of Corporate Governance also highlight that corporate governance provides the structure to set the objectives and the means to achieve those objectives and monitor performance.

More to the point, the structure of the corporate governance highlights the distribution of rights and responsibilities in the corporation between managers, board, shareholders and other

participants. It should be noted that "internal corporate governance" is also related to Informal institutions which are socially shared rules and normally unwritten such as "the structures, cultures, and systems" to create an efficient operation of the organizations (Keasy and Wright 1993; North 2005). In general, the internal governance mechanism aims to ensure the managers have to act in the best interests of getting a return on money for the shareholders (Vives 2000).

From the macro context, the external corporate governance is more associated with formal institutions defined as those officially published. They are perceived to be written bylaws, principles, and regulations play "law on the books" in boosting public investors, market, and FDI confidence leading to higher economic performance (Sauerwald and Peng 2013, p. 34).

According to North (2005) and Sauerwald and Peng (2013), informal institutions for governance is more persistent and more essential than formal institutions for management in the case of official institutions weak or absent. In general, institutions are simply considered "the rules of the game" and "the patterned behavior" for collective action organizations or society. It is done to maintain "order, stability and predictability" such as beliefs, practices, rules & norms in the banks, and contracts, the rule of law, protection of property rights, financial markets, and government bureaucracies in the macro context of the banking system. The main subject of "order, stability, and predictability" in the banking sector should be in focus as "the rules of games" for controlling risk-taking propensity toward the level of debt.

Undoubtedly, the state banking legal reforms in Vietnam is considered critical institutional dimensions for banking development associated with international integration. In fact, Vietnamese banking reforms have experienced three significant periods of institutional changes. These comprise of the period from one tier to the two-tier system (1975-1989), the period international integration (2000 – 2010), the term of equalization and global integration (2000 to 2010), and the period of Mergers & Acquisitions for consolidation (2010 to Now). Besides, the resource dependence theory, presented above, also shares the perspective with the institutional approach which emphasizes that their institutional environments actively regulate organizations with "laws, regulations, customs, social and professional norms, culture, and ethics" established as authoritative schemes influencing three levels.

In addition, the research will investigate whether the passage of governmental regulations in 2005 might efficiently push the tendency of banking behavior toward M&A for banking consolidation. Moreover, it should be noted that the regulatory changes toward banking

consolidation in Vietnam were only taking place after the year of 2005. It was after the passages of several laws, acts, and decree. Examples of these laws and statutes include "the enterprise law 2005, investment law 2005, competitions act 2004, securities act 2006, 88/2009/QD-TTG Decision dated 18/6/2009, and 55/2009/QĐ-TTG Decision dated 15/4/2009 among others." The laws and acts were passed in accordance with the policy of restructuring and banking consolidation. In other words, a change in these regulations leads to a change in the social structure of banks for managing survival and balancing expectations of stakeholders. Thus, from the statement, the study observation time falls between 2005 to current, and the event of interest is merger among banks as a response to a regulatory change.

c) The model of entrepreneurial management

Li et al. (2006) believed that traditional entrepreneurship cannot comprehend the challenges and the efforts that many founders of enterprises in emerging market economies face. It is based on the fact that an emerging market economy might result in an imperfect market environment where the entrepreneurial founders of firms created inefficient institutions. These institutions are constantly in conflict with their current operation and their actions of shaping institutions might help establish "market-oriented institutions."

2.11 Corporate Entrepreneurship

Numerous researchers have examined the entrepreneurship and have attempted to provide its definition. For example, Guth and Ginsberg (1990) categorized corporate entrepreneurship into two main categories when they developed a model for corporate entrepreneurship. It classifies incorporate new venture development in the present firm and the renovation of existing firm's process promoted by the strategic change. Sharma and Chrisman (1999) proposed the other definition, which has widely been acknowledged. They stated that corporate entrepreneurship could be viewed a process where an individual or group created with a common goal, within a firm could develop a new organization or promote change in the present firm. From Sharma and Chrisman (1999), other researchers that are Antoncic and Hisrich (2001) formulated a broader definition of corporate entrepreneurship, which considered the overall impact of entrepreneurship in the present firm. On the other hand, Morris (2007) characterized firms which portrayed corporate entrepreneurship as self-motivated and flexible business entities that can exploit upcoming openings. In the organization, there are increased risks and comprehension in which the expected

results of the venture are uncertain (Bloodgood et al. 2015; Kuratko et al. 2015). Thus, corporate entrepreneurship introduces some forms, which are considered new in the firm such as renewal of the firm, technology, and launching new business entities). The types of corporate entrepreneurship also significantly affect various aspects of the company such as its survival, development, and productivity (Zahra 1991, p. 261, 2015; Zahra et al. 1999, p. 47; Dess et al. 2003).

This research has concentrated on the critical factors that have an impact on bank propensities because of mergers and acquisitions among banks in Vietnam. An ability of the acquirers to develop the acquired business unit better than its current owner is considered under the intrapreneurial initiatives. Literature has categorized the factors, which affected corporate entrepreneurship into three diverse types namely the ecological, individual, and film-related factors. From the model proposed by Guth and Ginsberg (1990), they examined the effect of corporate entrepreneurship on the environment, firm and strategic leadership. Concerning the environment, they discussed various aspects of the corporate entrepreneurship such as the competitiveness of the firm, the innovativeness of the company to take advantage of new opportunities and the sociopolitical issues. Regarding the firm, they examined four main areas, which incorporated the strategy adopted, the organization structure, and firm's processes, and how they added value to the products. On a similar note, Antoncic and Hisrich (2001) examined the effect of corporate entrepreneurship but segregated the difference between the ecological and firm-related elements. Various models, which have been postulated, for example, by Zahra et al. (2009) and Zahra et al. (2014) had a similar methodology by combining the determining elements at different levels of examination.

The association between corporate entrepreneurship and the ability of a firm to assume specific risks through mergers and acquisitions has drawn a wide range of interest from various researchers to understand how it can lead to better productivity. It is widely agreed among researchers that corporate entrepreneurship can renovate the firm's abilities and capability to acquire and utilize their newfound skills and entities to enhance productivity (Gerasymenko et al., 2015). Antoncic and Hisrich (2001) added that organizations, which are more involved in corporate entrepreneurship ventures, are to realize greater intensities of development and performance as opposed to firms, which do not.

Based on this, there are various reasons as to why firms are entangled in corporate entrepreneurship, which is put forward in research (Zahra 1991, p. 262). Some of the ideas

suggested were: (1) to grab new opportunities, which add value to the business or extend the lifespan of the present company, (2) to use the available resources more efficiently and appropriately and (3) to inspire the workers of the firm as well as enhance their self-esteem in order to preserve the existing talent in the firm or attract new talents (Pinchot 1985; Zahra 1991, p. 263). These reasons have been considered to result in the development of new businesses, which can act as an addition to existing revenue streams to promote the company's performance, competition, and better financial position (Guth and Ginsberg, 1990).

Research suggests that corporate entrepreneurship intensity has the potential to influence the strategic goals while others significantly are aligned with the financial goals (Dushnitsky and Lenox 2005). From the policy perspective, organizations may embrace corporate entrepreneurship based on five key benefits that can derive from it. These include acquiring new skills, effective assimilation of the firm's processes, enhanced competitiveness, adherence to the globally recognized standards and adoption of innovation and the services and procedures (Dushnitsky and Lenox 2005). However, most researchers have concentrated on the financial ramifications of adopting various corporate entrepreneurial actions that are measurable such as ROA, ROE among others without the consideration of bank propensities. Therefore, there is a need to examine the relationship between bank propensities and the attainment of financial objectives in corporate entrepreneurship initiatives through mergers and acquisitions.

Earlier noted, there is a consensus within literature that corporate entrepreneurship has a significant impact on the productivity of the organization through enhanced firm's pro-activeness, risk-taking, and innovations (Zahra 1991; Lumpkin and Dess 2001). Zahra and Garvis (2000) argued that these abilities of a firm could empower it to develop extensively increasing its competitiveness and pursue new areas to enhance its performance and development. In fact, corporate entrepreneurship is considered to influence the capability of a company to contend, acclimatize and accomplish in a vibrant environment empowering them to renovation existing items for sale, adjust marketing and strategic objectives to achieve their goals, and the regenerate their intellectual capital (Zahra et al. 1999). Thus, the bank propensities in the study are considered n construct to distinguish the various banks involved (Heavey and Simsek 2013).

2.12 Corporate Entrepreneurship Models

There are different models from the literature, which proposed by different researchers in an attempt to explain mergers and acquisitions as a corporate entrepreneurship form or strategic

development and bank propensities. The section of the discussion concentrates on the inter-association exists amongst the bank propensities, strategic development, banks experiences, and the consequences of the entrepreneurial practice. Most of them failed in one way or another as they could not achieve its intended mission or lack some of the necessary elements. The following segment provides a synopsis of the various existing corporate entrepreneurship concepts and models.

2.12.1 Guth and Ginsberg corporate entrepreneurship model

As earlier noted earlier, Guth and Ginsberg (1990) theorized that corporate entrepreneurship includes two kinds of features. The process includes the new business venture development in an existing business and the ability to change the existing processes in an organisation. The model depicted corporate entrepreneurship from the perspective of the strategic level of management as shown in Figure 6 below.

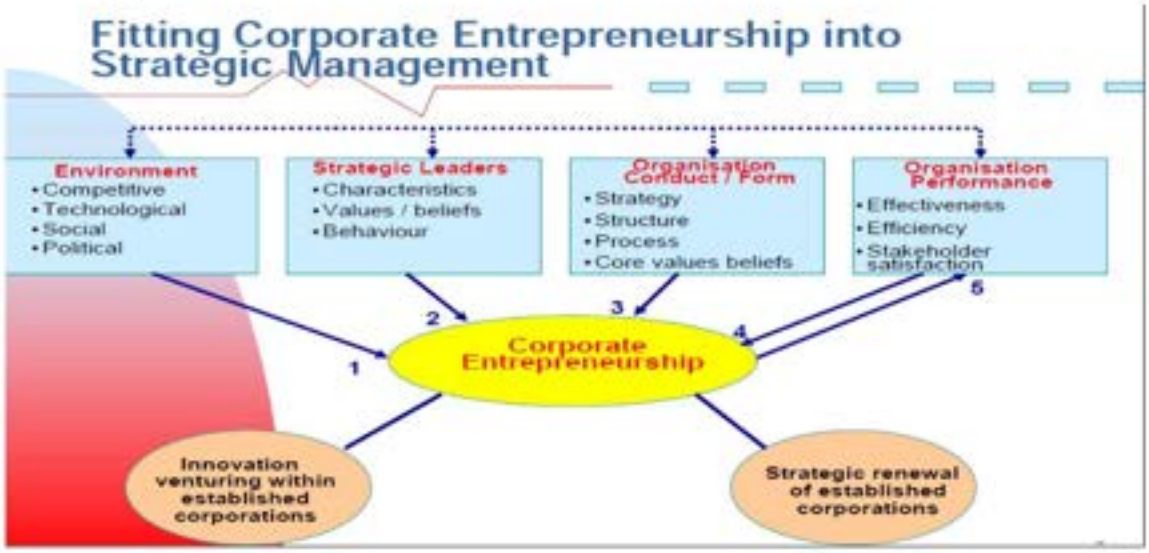


Figure **6***: Corporate entrepreneurship model according to Guth and Ginsberg*

Source: Guth and Ginsberg (1990)

This model considers several factors in trying to represent the intensities of corporate entrepreneurship. They include innovation or competition, the status of the firm, and the strategic level of management. Examples that were considered at the strategic level represented values and conduct. In the status of the firm, the model finds the organizational structure and processes involved. On the other hand, the productivity of the company is affected by the effectiveness of the company and job satisfaction among employees.

The critics of the model associated it with the similarities to a flowchart, which is a historical association between the corporate entrepreneurial elements and corporate entrepreneurship intensity. The model has managed to elaborate the correlation between the financial performance of the firm and corporate entrepreneurship but has failed in two other areas. However, it has been unable to develop the relationship between corporate entrepreneurship and its elements as well as the possibility of getting feedback on the correlation between them. The model also was unable to highlight any meaningful information associated with propensities associated with mergers and acquisitions.

2.12.2 Covin and Slevin's corporate entrepreneurship model

According to Covin and Slevin (1991), corporate entrepreneurship is solely responsible for prolonging the sphere of capabilities of the firm and its prospect by combining all the available resources. The model was an improvement of Guth and Ginsberg (1990) as shown in Figure 11 below. As opposed to the model developed by Guth and Ginsberg (1990), the model had feedback loops, which existed between the corporate entrepreneurship elements and corporate entrepreneurship itself. The model also considered suitable for any corporate entrepreneurship.

From the model, it was noted that entrepreneurial orientation is significantly affected both internal and external elements in an organization. Thus, entrepreneurial orientation was weakly associated with the productivity of the firm. The model also highlighted the regulating influence of three key elements namely the ecology, the strategic and internal factors in the association between entrepreneurial orientation and productivity of the firm.

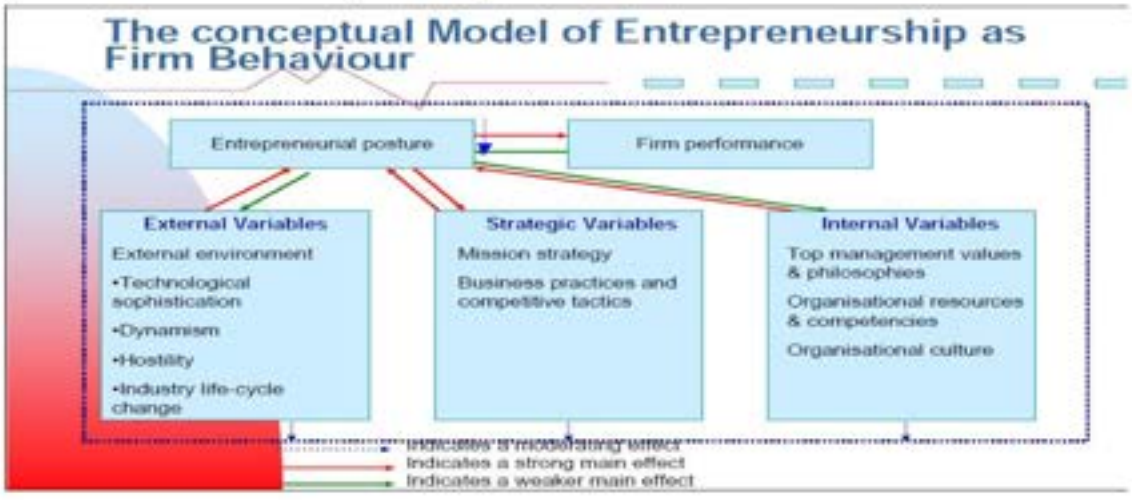


Figure 7: Corporate entrepreneurship model according to Covin and Slevin

Source: Covin and Slevin (1991).

Critics of the model such as Zahra's one (1991, p. 271; 1993, p. 332) agreed it was weak and relied on the model proposed by Guth and Ginsberg (1990). There is a fact that it could not explain some of the critical elements such as the entrepreneurial posture concept. As a result of the disapprovals presented by Zahra (1991, p. 273; 1993, p. 334), enhancements to the model were introduced, which lead to the development of the Zahra corporate entrepreneurship model, which is discussed in the next section.

2.12.3 Zahra corporate entrepreneurship model

According to Zahra (1996), corporate entrepreneurship entails the blending of the firm's abilities regarding technology, change, and venturing. Zahra (1996) also expressly defines the three abilities of the company as follows: technology is perceived as the development of new products and services, processes, and frameworks. On the other hand, venturing entails the increasing its present activities or moving into new markets. Lastly, change involves the invigorating the firm's corporate model as shown in Figure 11 below.

As noted earlier from the criticism from Zahra (1993, p. 337), the Covin & Slevin model was revised such that the innovation and environmental elements extensively modified. Zahra (1993, p. 338) also added a variable termed as the munificence to emphasize its relationship to the opportunity-seeking variable. From the model, the entrepreneurial conduct segregated between the variable, for example, the corporate entrepreneurship intensity, the essence of entrepreneurial actions, the various kinds of entrepreneurial conduct and the amount of time for each.

Zahra (1993, p. 340) was also aware of the likelihood that the different types of entrepreneurial posture could significantly affect the diverse elements of productivity. Based on the locus of entrepreneurship, Zahra (1993, p. 341) contends that corporate entrepreneurship can occur at various levels in a firm. However, the model fails to provide a strategy on how the uncertainties and inconsistencies dealt with. It also fails to provide a method in which the corporate entrepreneurship process adopted at the firm level, for example, product innovation or marketing growth. Another shortcoming of the model involves its inability to recognize the variations of attributes, which must be present during the entrepreneurial activity.

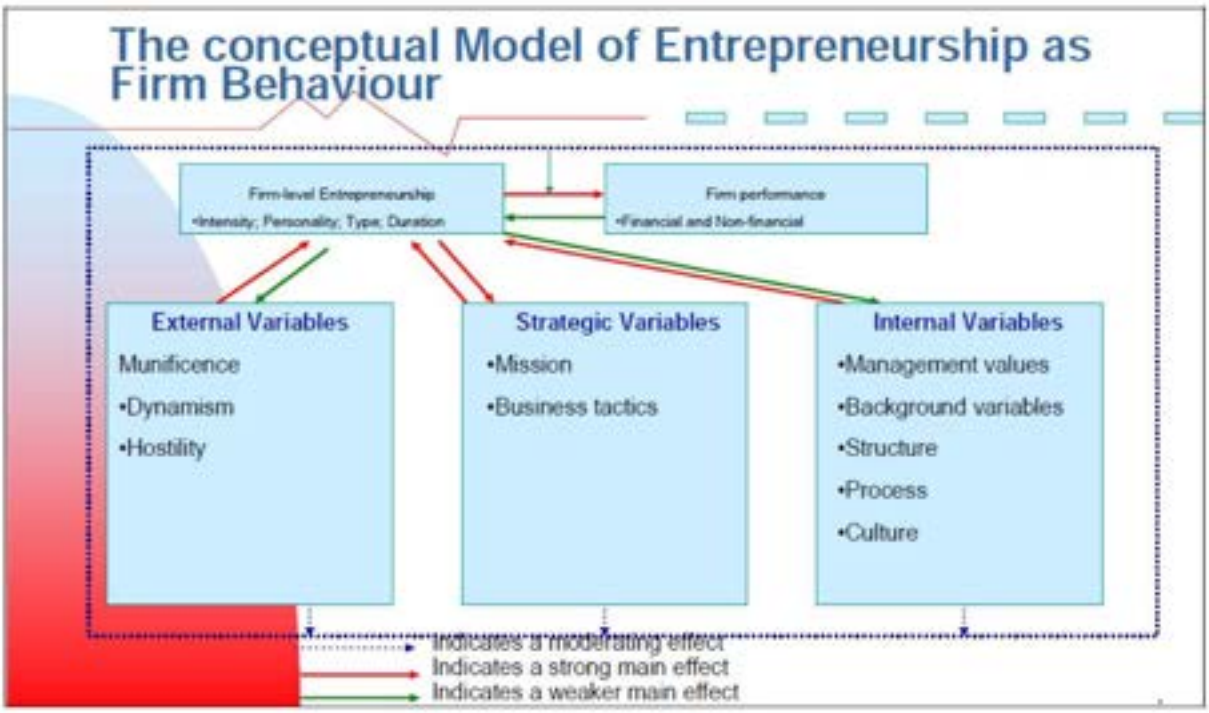


Figure **8***: Zahra's model of corporate entrepreneurship.*

Source: Zahra (1993, p. 339)

2.12.4 Lumpkin and Dess corporate entrepreneurship model

Lumpkin and Dess (1996) suggested an alternate model used to elaborate entrepreneurial orientation concerning the five dimensions proposed by numerous researchers such as Zahra (1991, p. 241) as shown in Figure 13 below. Some of the dimensions included the desire for independence, innovativeness; risk-taking; pro-activeness; and competitiveness. Lumpkin and Dess (1996) in the model depicted the entrepreneurial orientation as the various methods, practices and the decision-making actions are central for venturing into unexploited markets with the present or new innovative services. Based on this, expected that a new entrant to the market needs to understand the notion of corporate entrepreneurship to succeed (Adonisi 2005; Holt et al. 2007). In the model, the main factors, which illustrated entrepreneurial orientation, incorporated the propensities to assume responsibility independently and the readiness to modernize and take advantage of any opportunities might result from it (Lumpkin and Dess 1996). The model fails to provide the extent to which the forms of entrepreneurship could lead to bankruptcy in a venture. They also fail to acknowledge the mutual effect that existed between the firm's strategy, the variables from the internal environment and productivity of the company.

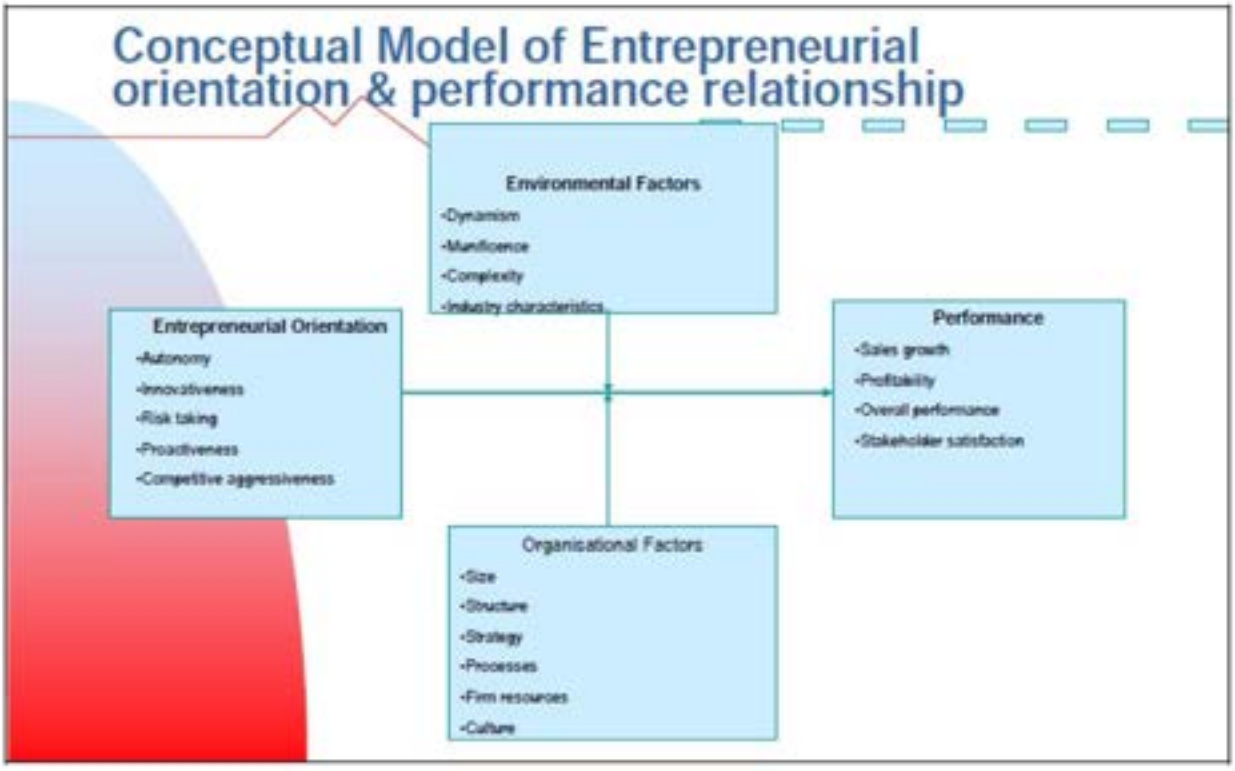


Figure **9***: Lumpkin and Dess' model of corporate entrepreneurship*

Source: Lumpkin and Dess (1996)

2.12.5 Barrett and Weinstein's dynamic model of corporate entrepreneurship

Barrett and Weinstein (1998) developed the business entrepreneurship model to find an explanation on how the organizational strategy function from the context of corporate entrepreneurship, its elasticity, how it is oriented to the market and organization productivity. From their model, they acknowledge the mutual effect that existed between the firm's strategy, the variables from the internal environment and productivity of the business as shown in Figure 14 below.

The model envisaged that the orientation of the market was directly related to the linked between advertising and corporate entrepreneurship and formed the foundation of viable competitive advantage (Barrett et al. 2000). The orientation of the market has enabled the firms to articulate the information faster, which has, in turn, has increased the level of flexibility in the enterprise. Thus, flexible firms developed for workers who desire autonomy (Adonisi 2005). Barrett et al. (2000) dynamic model is shown in Figure 14 below.

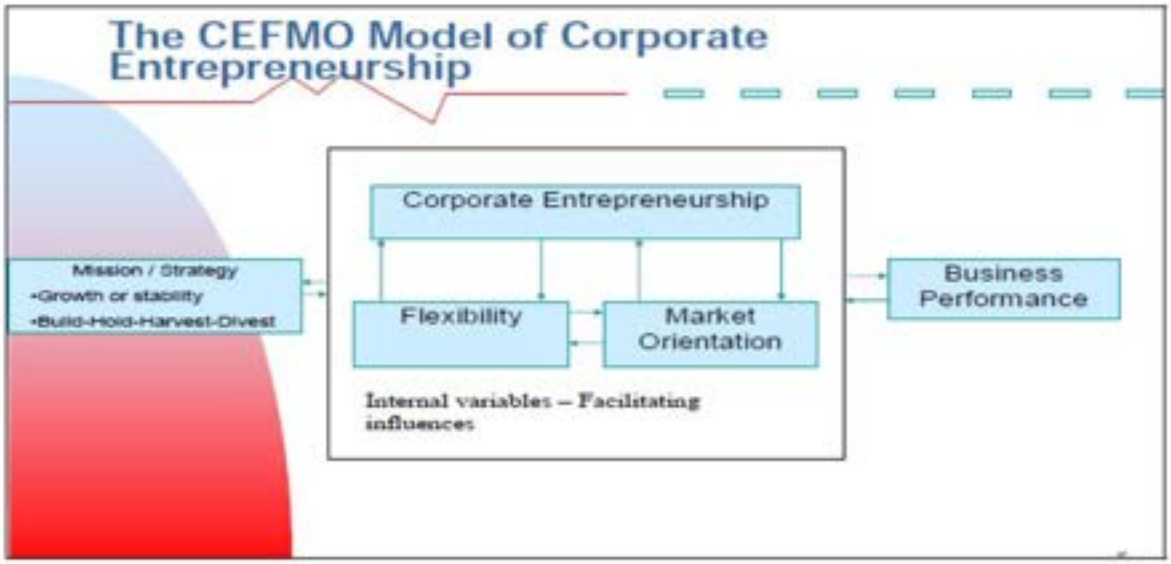


Figure **10***: Barrett and Weinstein's dynamic model of corporate entrepreneurship.*

Source: Barrett and Weinstein (1998)

Based on the model, it is expected that the administration of the firms has an enormous duty to maintain and develop the firm and sustain the performance levels. However, the management of the company usually fails to recognize the main elements, which could lead to business productivity. The management tends to promote their interest in the firm's interest.

2.12.6 Several other integrative corporate entrepreneurship models

The study also examined other integrative models related to corporate entrepreneurship intensity. They include the entrepreneurship model (Hisrich and Peters 2002), the integrative model of entrepreneurship (Breton-Miller et al. 2004), the interactive model (Hornsby et al. 1993) and the strategic integration of entrepreneurship (Morris and Kuratko 2002). These models suggest that corporate entrepreneurship is an enormous concept encompasses several factors. The researchers of the models specified that the factors selected categorized into three main groups namely the individual factors, firm-related elements and the ecological elements factors that related to corporate entrepreneurship intensity (Covin and Slevin, 1991; Hornsby et al., 1993).

Based on the individual-related elements, McClelland et al. (1976) contend that the inclination to perform an entrepreneurial activity builds on the motivation of an individual, which determined by a person's inherent traits in the context of the ecology and firms in when the action happens. From the perspective of the firm, Morris and Kuratko (2002) supported that the notion

that corporate entrepreneurship must view from a wide angle to understand its contribution to the company. It entails the administrative and social aspects put in place to model the conduct of individuals in the firm the strategic management oversee. The firm-related elements incorporated the commitment by the management, reward schemes, structures of the firm and its administrations, enhanced availability of resources, and the autonomy to performance and model the conduct of individuals. Based on these factors, the study examined the following four models.

2.12.6.1 Integrated approach to corporate entrepreneurship

The integrated model of corporate entrepreneurship postulated by Hisrich et al. (2002) when they suggested corporate entrepreneurship decomposed into several steps and stages, represented in a series of events in an innovation sequence. It can be in turn be applied to the context of the firm wholly depended on various factors such as the ecological elements in which the events occur. The integrated approach model is shown in Figure 11 below.



Figure **11***: A representation of the integrated approach to corporate entrepreneurship.*

Source: Hisrich et al. (2002)

The integrated model also highlights various key aspects such as firm related, environmental, personal, and sociological elements attributed to initiating or regulating the entrepreneurial actions. Up to now, the model has failed to be integrated into firm-level entrepreneurship. It is based on the difficulty of which it was difficult to integrate all the elements together such as innovativeness, human resource aspects, and corporate entrepreneurship.

2.12.6.2 Integrative model of entrepreneurship

According to Breton-Miller et al. (2004), the integrative model of corporate entrepreneurship depicted a model based on the concept of inputs, the process of entrepreneurial and the results expected from the process as shown in Figure 12 below.

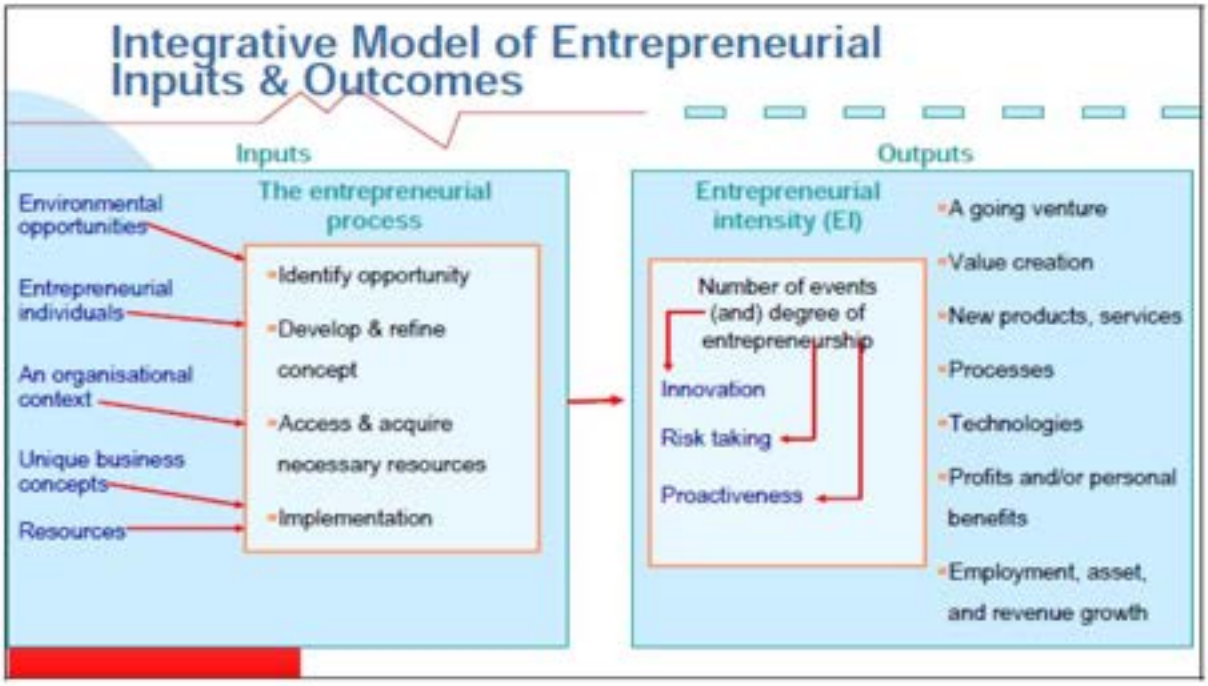


Figure **12***: Integrative model of corporate entrepreneurship.*

Source: Breton-Miller et al. (2004).

In the case, the input element comprised of five main sub-elements that add to the process of entrepreneurship such as the ecological options, firm-related factors and related to the individual entrepreneurs. The factors considered under the results expected include the elements pointed towards the entrepreneurial intensity, for example, the level of risk-taking, pro-activeness and technological advancement, the kind of output expected from the entrepreneurial actions.

2.12.6.3 The interactive model of corporate entrepreneurship

Presented by Hornsby et al. (1993) interactive corporate entrepreneurship model concentrated on combining of firm-related elements and the individual features initiated by the trigger as shown in Figure 13 below.

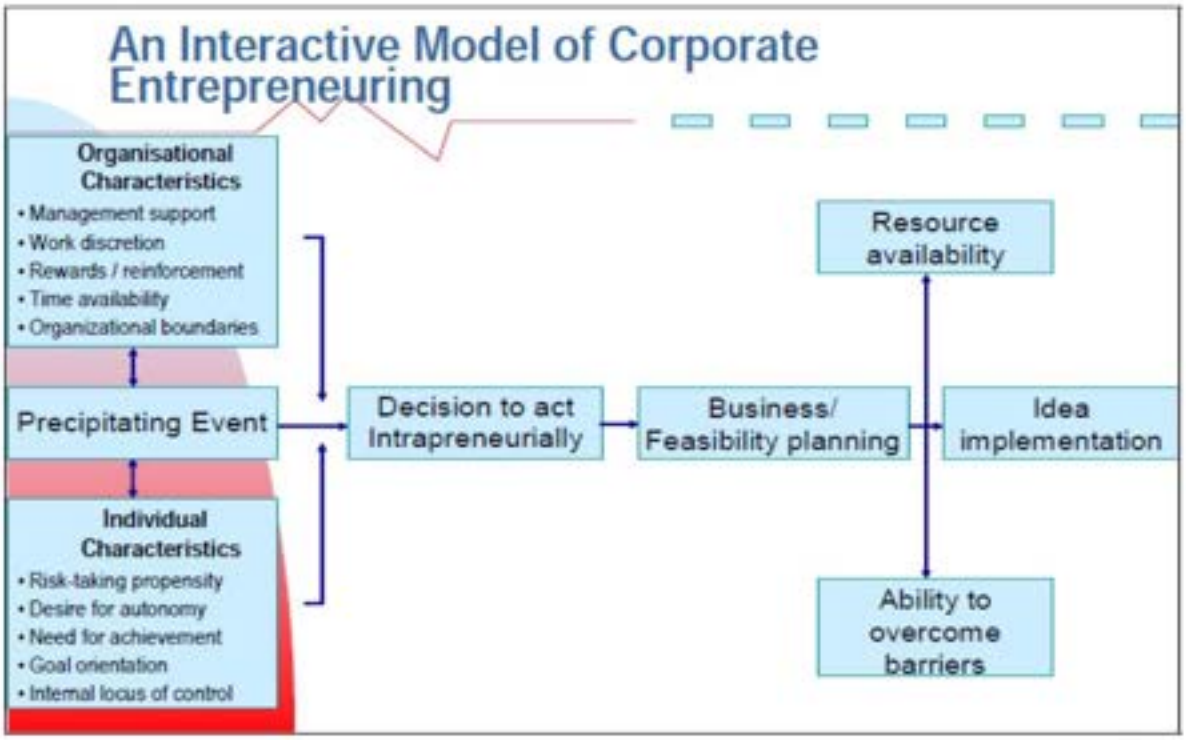


Figure **13***: A representation of the interactive model for corporate entrepreneurship*

Source: Hornsby et al. (1993)

The analysis was based on the integrated model of corporate entrepreneurship pursued sequential steps using various organizational resources and elimination of various potential challenges during the critical process (Morris and Kuratko 2002).

2.12.6.4 The strategic integration model of corporate entrepreneurship

In the strategic integration framework of corporate entrepreneurship, entrepreneurship perceived to concentrate on the overall orientation in the firm by broadly seeing entrepreneurship as an act, conduct, or event (Morris and Kuratko 2002) as shown in Figure 18 below.

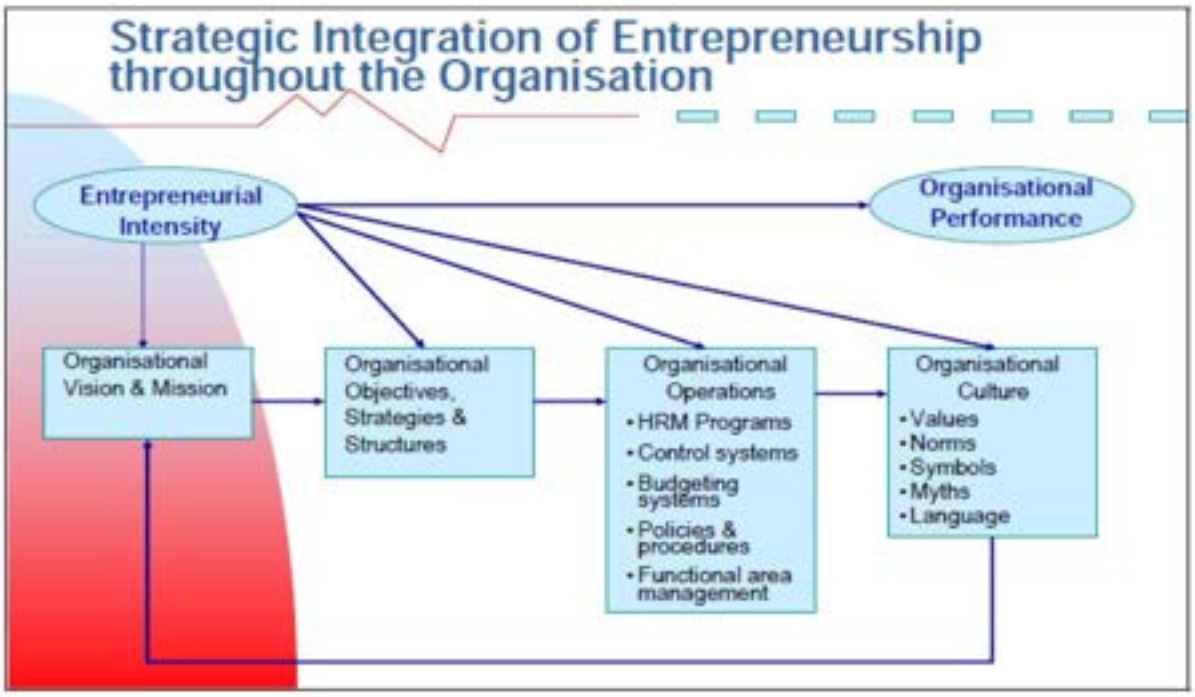


Figure **14***: The strategic integration model of corporate entrepreneurship.*

Source: Morris and Kuratko (2002), adapted from Covin and Slevin (1991.

When the framework is compared to the other models, the model theorizes that the corporate entrepreneurial intensity is a fundamental element in the firm's vision and mission, which can significantly affect the productivity of the firm. Morris and Kuratko (2002) suggested that the most important aspects surrounding the integrative model are the quantity of the management's involvement during the corporate entrepreneurship process, which tends to minimize the negative feedback that obtained from the corporate entrepreneurship process.

2.12.7 Relationship between corporate entrepreneurship and corporate performance

From the corporate entrepreneurship models which were put forward by various authors, it can be noted there is an expansion of knowledge. The increase of knowledge tends to support the notion that corporate entrepreneurship intensity has significantly influenced the organizational productivity, financial performance, and corporate change (Sebora et al. 2010; Zain and Hassan 2007; Gupta et al. 2004). Furthermore, researchers have held the view that greater levels of productivity attributed to the entrepreneurial intensities and the advancement of technology (Autio et al. 2000; Kerr and Nanda 2009). Morris and Sexton (1996) also discovered that the quantity of entrepreneurial intensity has significantly influenced the productivity output in a firm over time.

According to Van der Post (1997), financial performance is a significant pointer of the results towards the changing aspects of a firm. Zahra and Covin (1995) supported the view when they contended that the association between corporate entrepreneurship and financial performance is present for innovation and entrepreneurial activities. The entrepreneurial firms are considered flexible and can be able to handle risks arise. Therefore, corporate entrepreneurship is regarded as a requirement in a vibrant environment where there is enhanced competition to increase its performance (Kahkha et al. 2014; Kolaković et al. 2008).

2.13 Research Model: Applied Behavior Analysis in Entrepreneurship

Behavior demonstrated as the way in which an individual act (Allen and Gale 2000). Before the definition, Skinner (1953, p. 34) also believes that "behavior is a primary characteristic of living things. Moreover, goals of organizational behavior management (OBM) are to improve performance and job satisfaction contributing to the overall development and higher efficiency of the organization (Culig et al. 2005). Thus, the research of OBM has been being studied and built from a variety of academic subjects or multidisciplinary perspectives. These are drawn from a wide domain of research such as sociology, psychology, anthropology, social psychology, economics, and political science among others. The psychology contributed issues such as "the theory of learning, motivation, stress, and personality." (Culig et al. 2005, p. 34). The sociology contributed aspects such as "theories of social structure, social status, and institutional relations". On the other hand, the Social psychology dealt with issues such as "leadership, socialization". The contribution of anthropology includes theories of symbolism, cross-cultural studies, comparative analysis. The contribution of economics includes "theories of competition and efficiency." Lastly, the contribution of political science includes "theories of power, conflict, bargaining, and control".

From the managerial perspective, Wagner and Hollenbeck (2014) argued that the contributing disciplines attach the behavioral analysis into three levels of the organization. They cited disciplines such as the study of psychology, sociology and social psychology among others. The study of psychology contributed to the standard of individual behavior (micro). On the other hand, social psychology and sociology focus on the degree of group behavior (Meso). Moreover, lastly, the disciplines mentioned above with the other such as anthropology, economics, and political science, among others dealt with the behaviors of entire organizations (macro)".

In fact, if looking at the environmental aspects, the micro-organizational level aims at the forces from the internal environment of the bank such as: "vision, mission, strategy, culture,

motivation, leadership" directly affecting the risk-taking behaviors and working attitudes of individuals or each division in the banks (Wagner and Hollenbeck 2014, p. 34). Moreover, the macro level focuses on the global or national forces surrounding the banks such as "economic developments, demographics, government structure, politics, and technological developments" as external environment influencing on the formations of the banks' processes and structure and accordingly governing the nature and behaviors of banking employees. The meso level as the middle-range between micro and macro levels deals with transactional forces for the banks such as internal stakeholders (employees, managers, owners) and external stakeholders (investors, strategic alliances, the state banks, supervisory authorities, competitors, among others). Thus, it is fruitful to moderate the linkages among these interactive levels.

Apart from organizational behavior management (OBM), Bailey and Burch (2002) claimed that applied behavior analysis (ABA) attempts to empirically develop the systematic application of interventions. The main purpose is to improve employees' behaviors and motivations to do the best at their jobs and develop the organization. Similarly, to the levels of OBM, ABA's behavioral interventions are also categorized into three levels of analyses: "micro, meso, and macro interventions."

To support the idea of behavioral interventions, Skinner (1995) argued that the applied behavior analysis is primarily involved in the method of cause and effect by identifying a change. He further added that the can be done creating a connection between dependent and independent variables. Another method which can be used to create a functional relationship between antecedents and consequents is to establish the systematic operations for the proper interventions to influence behaviors.

Moreover, Avey et al. (2011) review there are two best-known behavioristic theories contributing to modification of the employee's behaviors and overcoming the restraining forces of organizational change as the follows:

Classical conditioning was developed by Ivan Pavlov, the Russian pioneer, and John B. Watson as a stimuli-response formula (S-R) for reflexive or unlearned, automatic behavior. A change from unconditioned to conditioned stimuli leads to a reflexive response.

Moreover, operant conditioning introduced by the Harvard psychologist B.F. Skinner (1930) as response-stimuli (R-S) for learned, not reflexive behavior. Its antecedents and consequences of behaviors decide its voluntary responses. However, operant conditioning is more

applicable and reasonable than classical conditioning in the field of Human resource management because the employees' behaviors in workplaces are learned through the previous experiences rather than reflexive. Moreover, the application of operant conditioning can be understood as part of reinforcement theory. Thus, employees will actively participate and learn to perform the expected behavior to achieve the preferred consequence (or stimulus) (Chiva and Alegre 2005).

a) Risk-taking behavior toward banking loan

Due to the fruitful application of ABA to business management in general and operant conditioning to human resource management in particular, the study looks at the perspective of a micro-level behavioral intervention with special reference to operant conditioning to gain a better understanding of risk-taking behaviors of banking employees. The previous part has critically summarized the literature reviews of behavioral intervention and operant conditioning, as the foundation for the part will examine the literature of risk-taking behavior. Risk-taking behavior in financial institutions has been examined from multidisciplinary perspectives: "agency problem and, adverse-selection."

b) Agency problem and adverse-selection (moral hazard)

According to Roy (2008), the banks' key activity is to manage risks in "their intermediation process" to make value. The main banking risks including operational risk at micro, credit risk at meso and market risk at macro. Examples of operational risk at the micro include fraud, corruption, business operations, efficiency, supply chain, business cycles among others. On the other hand, credit risks at meso include the risk of capital, credit, liquidity, and Insolvency. Lastly, the market risks at macro level include exchange rates, interest rates or from fluctuation in bond among others.

Besides, banks also face the strategic risks during M&A and the modern risks coming from asymmetric information and conflict interest among participants as follows as shown in Table 5 below. The paper aims at the risk-taking behaviors of banking staffs at the micro level so that these behaviors more appropriate to fraud and corruption of banking employees as parts of operational risks.

- Antecedent→Behaviors→Consequence
- An antecedent is an environmental or physiological stimulus(S) that precedes behavior. In the case, of moral hazard, a cut in salary of banking staffs is stimuli for their fraud or corruption to make up the low wages.

- Dependent variable: (behavior, also called response (R)), is the target behavior. The paper the target response is proper risk-taking behavior with no fraud and no corruption.
- Independent variables: (A) antecedent environmental events and consequent events (Bailey and Burch 2002). Besides, when an antecedent stimulus influences the likelihood that a response will occur, the paper calls that a discriminative stimulus.

Independent variable	Dependent variable	Independent variable	Dependent variable	Independent variable	Dependent variable
Stimulus	Undesired Response (UR)	Discriminative & Punishing Stimuli (PS)	Desired Response (DR)	Discriminative & Reinforcing Stimuli (RS)	Desired Response (DR)
Antecedent	Behavior	Consequence	Target behavior	Consequence	Target behavior
Cut in salary	Fraud and Corruption	Impose a fine	The proper risk-taking behavior of banking staffs with no fraud and no corruption	Rewards	The proper risk-taking behavior of banking staffs with Pleasure
		Dismiss job			
		Prosecuting a criminal case			

Table **2***: An antecedent stimulus influences the likelihood that a response will occur*

2.14 Regulatory Bodies and Key Legislation Regulating M&A Activity

In common, transactions related to M&A are governed by the investment law, the law on securities, the law on competition, the law on enterprises, and other related decrees and legislation. In addition, there is also legislation that focuses on specific business sectors. Thus, any changes made to the capital structures and relevant enterprises are generally governed by the State Securities Commission in Vietnam (Rao-Nicholson, Salaber, and Cao, 2016). Additionally, the Ministry of Planning and Investment along with Vietnam Competition Authority as well as specific structures manage the sectors.

2.15 Recent Changes in Key Legislation and Regulatory Bodies

In September 2015, Decree 60 was enacted that decreased the foreign ownership limits in public enterprises. In fact, it was a positive regulatory act that allowed investors to be more influencing in Vietnamese companies. At the beginning of 2017, the new Civil Code came into effect and changed certain terms and conditions for M&A operations. For instance, the changes were made to the late statute of limitations, payment rate, and the third-party rights (Rao-Nicholson,

Salaber, and Cao, 2016). In addition, the changes in the government members related to the Communist Party as well as the state ownership divestment plan can also affect M&A transactions (Rao-Nicholson, Salaber, and Cao, 2016).

2.16 Predictions for the M&A Market

The government of Vietnam issued a list of the enterprises run by the state in January 2017. The list will contain the companies retained entirely by the government. In addition, the government has represented the list of entities where it will decrease stakes during 2016-2020. In comparison to the former plan of 2014, the government chose 137 SOEs for equitization during 2016-2020. In the list, a state holds a more than 65% in four SOEs, while there is only 50-65% in 27 SOEs, and less than 50% in 106 SOEs. Big firms like PV Oil, Saigon Trading Corp (Satra), Benthanh Group, Binh Son Refining and Petrochemical Company, and PV Power were also in the list (Rao-Nicholson, Salaber, and Cao, 2016). In the way, the government expects to increase equitization in the M&A market within the next years. Therefore, the legislation that implements equitization and state ownership divestment should be amended in accordance with the recent market condition.

2.17 Recent Notable M&A Transactions for the M&A Market and the Structures

In 2015-2016, nine of the top ten M&A deals included foreign investors. In addition, they were led by the acquisition of Big C Vietnam by Thailand's Central Group for $1.14 billion (Rao-Nicholson, Salaber, and Cao, 2016). Therefore, the consumer sector represents a great potential for Vietnamese and Thai investors in the entire Vietnam marketplace. However, real estate is another industry that is still very attractive for a great amount of the foreign M&A investors. Singaporean and South Korean stand out of all the investors. In particular, Singaporeans were one of the most active buyers in 2016 having purchased the Grade A Kumho Asiana Plaza Saigon for $215 million. In the M&A market, the Japanese investors are still active (Rao-Nicholson et al. 2016). Lots of industry leaders like Beer Alcohol Beverage Corporation (Sabeco) and Saigon Vinamilk follow the plan of state ownership. In future, they can be targets for foreign investors.

2.18 The Most Active Sectors for M&A Transactions in the M&A Market

Particularly, 2016 has been a great year for Vietnamese M&A. The banks witnessed the emergence of billion-dollar M&A deals, which, in their turn, influenced the great number of industries. The main businesses were retail, consumer goods, and real estate sectors. Additionally, the main driving forces for the M&A activities and development were the divestment of different

state-owned enterprises like Vissan, Vietnam Airlines, and Petrolimex. In addition, there were involvement and accession of the major players in the region. The most active players were Singapore, Thailand, and Japan in the real estate market recovery (Rao-Nicholson, Salaber, and Cao 2016).

2.19 M&A Deal Flows in the Market and Comparison to the Previous Years

In general, M&A activity in 2015 showed a record result of $5.2 billion in comparison to the results of 2012. The value of M&A deals was more than $3 billion has increased by 28% in 2015. Therefore, 2016 was a boom year for M&A transactions. Additionally, 2015, as well as the first half of 2016, became prominent with the emergence of billion-dollar deals in M&A never witnessed before. The fact had a particular influence on industries and economy in general.

In 2016, both public and private transactions in M&A have been conducted as well as the private transactions with high value. One of the examples is the acquisition of Metro Cash & Carry Vietnam and Big C Vietnam. In addition, public strategic sales in Vietnam Airlines and Vissan also had great impact. As of 2016, the greatest part of the public transactions outsourced from divestment transactions. At the same time, the private transactions concentrated on real estate sectors, retail, pharmaceuticals, and FMCG (Rao-Nicholson et al. 2016).

Chapter 3: Research Design and Methodology

3.1 Introduction

In theory, the research methodology should be consistent with the research interest, the research goals, the assumptions, and the aims of the theories in order to formulate the logic and coherent structure of the research paper (Gephart 2004). In other words, the researchers should give clear explanation for research methodology, adequacy of research design, and satisfaction to connect between conclusions and research objectives. Hence, the study will take these recommendations into account. Besides, in order to obtain the systematic and rigorous research, Saunders et al. (2003) suggests using "the research process onion" which is also utilized by the study to demonstrate them as the guideline for its research methodologies: Research philosophy, Research approaches, and Research strategies.

3.2 Research philosophy

Crotty (2012) characterized a theoretical perspective as a philosophical position of enlightening the strategy and setting a connection to the procedure, its rationale, and criteria for the study. From literature, the research methods have enlightened various research philosophies that researcher has utilized to influence the methodology, such as post-positivism, interpretivism, and positivism. Thus, the difference in these philosophical points does not imply there is one standard position superior to the others (Saunders et al. 2003). Saunders et al. (2003, p.83) also emphasizes that the research philosophy categorized into three views: 'positivism, interpretivism, and realism' determines how the researcher formulates research approaches and research strategies. More to this point, due to the fact that the research interest just focuses on risk taking propensities, responsible entrepreneurship, punishing stimuli, and possibility of bankruptcy, the type of the research might belong to the quantitative research with the aim of examining the impact of the risk-taking propensity of listed & Unlisted banks in general and M&A banks in particular in Vietnam's developing business sector. In fact, positivism philosophy refers to the scientific research method guided by theories to explore the truth by testing the variables.

Besides, to support philosophical position, various researchers have examined epistemology in their studies in an attempt to comprehend it. According to Crotty (2012, p. 34), epistemology is viewed as a method of comprehension and clarifying how we realize what we already know." Epistemology can also be seen to deal with giving a philosophical establishment from which one can choose the knowledge, which is conceivable, and how we can guarantee legitimacy and

accuracy of the study. Epistemology will seek to provide answers to the following inquiries of the study:

- To what extent the banking risks can be explained by M&A as the entrepreneurial entry mode selection of commercial banks in Vietnam from 2007 to 2018 with the measurement of Z-score bankruptcy propensity and the reference to corporate entrepreneurship? Whether the listed banks & Unlisted or M&A can moderate the possibility of bankruptcy?
- What are the factors of banking risks (Credit risk, operation risk, leverage risk, liquidity risk, and market risk) of the banks? What would help to explain a significant amount of variance in bankruptcy?

In sum, by embracing a positivism paradigm, the study will seek to understand the risk-taking propensity of the listed & unlisted banks in general and the eight already M&A banks and the possibility of them entering into M&A as a result of high bad debts. From the data gathered, the researcher will have made elucidations from the statistics to serve the general goal of the study.

3.3 Theoretical Approach

Distinction of quantitative and qualitative evaluations is a methodological issue. Thus, the quantitative methodology was chosen due to its appropriateness to answer the research inquiries (Saunders, 2011). Particularly, the methodology gives an opportunity to associate data on a formalized toolbar with the introduction of analysis. Based on the quantitative results and data of all varieties and components, one can interact and make appropriate managerial conclusions. Thus, the quantitative method is a great way to get the results and justify or confirm the hypothesis.

Nicholls (2009) noted that the qualitative research underestimated the significance of the way social importance is built and focused on the correlation between the topic of interest and a researcher. Nevertheless, the quantitative research is focused on the analysis of the causal-effect relationship between variables and their estimation. In his turn, Alvesson et al. (2009) found the differences between quantitative research and qualitative one stating that qualitative research alluded to the definitions, implications, qualities, illustrations, ideas, portrayals of things, and their symbols while quantitative research measures and counts the data provided.

Quantitative and qualitative approaches are very different when it comes to the inquiries asked, analytical targets, and kinds of data collection techniques; the produced data, and the adaptability level in design of a study.

The process of a research was started by finding the exploration issue and outlining the targets of the study. Then the study created one main research inquiries, which assisted in the development of the research variables and a theoretical framework for the study. The study also performed a literature review guided by the research goals and locating the missing gaps.

The development of hypotheses was done guided by the research questions to check certain parts of the study. A research also selected the technique and the strategies which can provide answers to the inquiries. The collection of data was done using quantitative methods. A researcher will try to understand the collected data, where a regression model for the inclination of risk-taking for banks in Vietnam will be created keeping in mind the eventual goal is to secure banks against potential risks derived from high bad debts and high probability of bank M&A.

In generally, based on the study's philosophical and epistemological perspectives, the study only utilizes quantitative approach to formulate the research hypothesis and propositions.

In particularly, the research approach, according to Saunders et al. (2003), in harmony with **the positivism philosophy**, is **the deductive approach** which aims at promoting "the confirmation to theories through predetermined goals". In illustrating this perspective, the theories for confirmation, as discussed previously in the literature, are the risk-taking propensities and the prospects of M&A for bankruptcy attached in the predetermined hypothesis which will be tested. In other words, the study believes in the use of "**Positivism Philosophy**" as the best fit for its deductive research type usually adopting scientific method in order to formulate an objective and a systematic study (Wagner, 2007).

3.4 Hypothesis Development

Since there are exceptionally constrained studies on the extent of which M&A can explain the banking risks as the entrepreneurial entry mode selection of commercial banks in Vietnam, the study will adopt numerous variables as well as the hypotheses. The specific hypotheses adopted in the study and its measurements are as follows:

Hypothesis 1: M&A facilitates the market efficiency of the participating banks.

The M&A process can be boosted because of its interdependence. In a similar way, it can be hindered by a power imbalance. Capital is one of the crucial resources for the survival of the organization. The degree of bank reliance is characterized by the proportion of bank loan parities to the aggregate liabilities with interest. Less dependent banks are more subject to security markets that will enhance the market liabilities of the banks.

A high or low ROE should be seen concerning an organization's debt-to-equity relationship. The return-on-capital-employed (ROCE) proportion, supplements the return-on-equity proportion as it includes the obligation liabilities to assess an organization's aggregate capital used. Therefore, the measure reduces the focus for a better understanding of a capacity of an organization to produce returns from its open capital base.

According to the research done by Rao-Nicholson et al. (2016), by contrast, the net income with the aggregate of an organization's equity capital and debt, investors can get a clear picture of how the utilization of leverage affects an organization's performance. The authors state that financial analysts utilize the ROCE estimation to obtain a complete profitability index as it determines the administration's capacity to generate income from its pool of capital. Earning of the bank is the largest source of revenue (Rao-Nicholson et al. 2016). If it can be able to attract more income, then it can be able to stop dependence on other financial institutions or the Central Bank to be able to fulfill its obligation without going into bankruptcy. If it is not the case, banks with huge debts on its shoulders will close its operation or enter into M&A sooner than expected. A firm with declining earnings is more to be acquired by another firm to minimize its capital dependence.

Moore (1997) examined the probability of a bank merger or acquisition among financial institutions during the period 1993 – 1996. Using the logic estimation process, Moore (1997) scrutinized the association between the possibility of an acquisition and the factors involved that can affect the market efficiency of the banks for increased profits. The technique employed in the analysis was similar to Hannan and Rhoades (1997). The study also examined whether the acquiring bank was significantly performing in the market as compared to the acquired bank. From results of the study provided several outcomes. First, the study discovered that the market shares, ROA, and CAR of the targeting bank were statistically insignificant to the possibility of the commercial bank being acquired. Secondly, the researchers hypothesized that the resources of poor performing bank transferred to better managed and performing bank to stimulate growth (Hannan and Rhoades

1997). The results from the test of the hypothesis indicated a negative coefficient of performance suggesting that it is appropriate to transfer resources to a performing bank.

Thirdly, the researches made by Hannan and Rhoades (1997) discovered a negative coefficient of the CAR that was statistically significant suggesting that it mirrors the historical performance of the banks. It also implies that the commercial banks with lower levels of capitalization are to go into bankruptcy and they acquired. The banks with low capitalization are more to attract acquiring banks that have managers with vast experience in overseeing the greater performance of the firm with higher levels of advantage (LEV).

Lastly, the research by Rauch et al. (2009) found out that the measure is representing market focus suggesting the probability of acquisition between the two types of firms, which is publicly listed and unlisted firm. Furthermore, a positive coefficient for the market focus indicated there was a high probability of an unlisted firm being acquired while a negative coefficient suggested that publicly listed firm in the stock exchange acquired due to the regulatory measures in place.

Therefore, based on the question "*Whether M&A as entrepreneurial entry mode selection can moderate the bankruptcy propensity of commercial banks*" the hypothesis will be used to check the correlation between performance and bad debts. For the hypothesis, capital employed, ROCE and ROE will be utilized obtain a comparison between different banks selected for the study, the banks will the weakest ratio will be deemed to be acquired by another firm to minimize capital dependence, the will also be tested using t-test comparing the variables in the study. A significance level of 5% (p=0.05) has been set and will be measured with a t-test test.

Hypothesis 2: Large banks engage in many mergers and acquisitions, unlike small banks.

As per the hypothesis, the amount of time a bank has been operating is considered relevant to the possibility of acquired. The regulatory framework of most nations has forbidden most acquisitions of new commercial banks, to allow it to operate for some years and gain entry into the market. It attributed to the lack of consideration in determining the age of the acquired commercial bank. Therefore, the age of the commercial bank remains an unmeasured factor of performance. It is to anticipate there is a statistically insignificant relationship between the commercial bank's age and the possibility of an acquisition.

On the other hand, the commercial bank's size of the targeting is an essential element that needs to be considered. The correlation between the commercial bank's size and the possibility of acquired is considered complex, and there are very little empirical results. There is a high possibility

that other factors also affect the relationship between the commercial bank's size and the possibility of acquiring such as the cost of acquisition, ROA, capitalization of the firm among others. The distance between the targeting firm and acquiring firm can also enhance the possibility of acquired. If the acquired firm is associated with the higher scale of economy regarding the cost of acquisition, then the acquiring firm might be inclined to acquiring the large commercial bank. However, there is a higher possibility that the cost associated with the purchase of most firms could be misleading, especially for smaller commercial banks. The relationship between the bank size of the acquiring bank and the targeting bank are significant elements suggest that the large commercial banks target other businesses. It points out to the likelihoods of acquired by a firm significantly vary with size. These deliberations indicate that the quantity of possible acquirers that could sufficiently acquire some targets is essential in determining the possibility of being acquired.

According to Strahan and Weston (1998), there is evidence which suggests that older and larger banks are often unresponsive towards the needs of other smaller banks which they have acquired They added that larger commercial banks tend to deny offering loans to small banks and firms based on their size and capital base. Ali (2013) supported these findings when he discovered that older firms tend to augment their competitive position on the stock exchange while the young firms tend to struggle to increase their market presence through investing in marketing and promotions.

Maudos and Solís (2009) and Maudos and Guevara (2004) found a positive dependence between the size of the lending activities and Net Interest Revenue (NIR) of the bank. When market risk and credit risk occur, the greater scale of lending will reduce the losses. In the meanwhile, the studies by Hawtrey and Liang (2008), Zhou and Wong (2008), and Kasman et al. (2010) identically found a negative dependence between the size of the lending activities and Net Interest Revenue (NIR). The large banks will lend more money at the lower interest rates than smaller banks and then lower net interest revenue.

Stiroh (2004) found out there is a high possibility of enhanced operating efficiency among large commercial banks when they are involved in either mergers or acquisitions. Montoriol-Garriga (2008) highlighted three key benefits derived obtained from a merger. These benefits incorporate cost reductions, income growth, and improved bank size. Based on the benefits, the commercial bank can be able to achieve the greater scale of economies and diversify their scope of operation in the business.

Montoriol-Garriga (2008) anticipated that the size of the commercial bank immediately after the merger or acquisition could assist the bank in a leading role, which can empower the bank to significantly impact stock prices in the stock exchange in their favor. The size of the commercial banks expected to promote the acquired bank to lessen its refinancing fees due to its newly acquired status and size. Thus, it is vital for both the acquired and acquirer to evaluate their financial ratios to deliver their indicative yield.

McNulty et al. (2013) also looked at the association between commercial banks, which are small, and their lending capacity. The outcome of their study indicated that the bankruptcy propensities to small entities slightly reduced as the commercial bank increased in size. They also found that the development of these small entities was not in line with the actual development of the commercial banks regarding size.

Hadlock et al. (1999) examined the relationship between some earnings obtained by the banks and the likelihood of being acquired using a sample size of 84 acquired and 84 non-acquired commercial banks during the period 1982-1992. Their study concentrated on the organizational structure of the firm after both firms have completed the acquisition. The result indicated there was no association between some earnings obtained by the commercial banks and the likelihood of acquired. The study also found there is a low possibility of acquisition taking place if the manager of the bank has a larger stake implying there is a high propensity for long-serving directors and managers to prevent the acquisitions of the bank, which can be potential perform better under different management.

On the contrary, Ashcraft et al. (2010) discovered that a significant percentage of the loans awards to entities were advanced from small commercial banks. They further added that the small commercial banks during the period 1993 - 2006 accounted for below $1 billion indicating 14.1 percent of the aggregate deposits and 9.7 percent of the aggregate banking resources. It accounted for 28.4 percent of small size lending among the commercial banks. Based on this, it can be argued that the results be in line with the lending propensities of small size commercial banks.

Thus, it is essential to consider the effect of firm's size on corporate entrepreneurship and performance of the commercial bank. It is based on the uncertainty regarding the results of small commercial banks and the possibility of generalized the results to larger commercial banks. In addition, it contributes to the fact that smalls firms solicited to provide performance data used as reference point.

Therefore, based on the question "*Whether a bank's size and bank's age is inverse to its likelihoods of being involved in a Mergers and Acquisitions (Hazard)*," the hypothesis will test the association between bank's size, bank's age, and M&A. For the hypothesis, a linear relationship will be determined if it exists. It will be tested using regression analysis to determine the relationship based on a significance level of 5% (p=0.05).

Hypothesis 3: Responsible entrepreneurship increases the risk-taking propensity in financial institutions.

Numerous studies have concluded entrepreneurs showed an essentially higher risk-taking propensity as compared to small-scale managers or business owners. One of the qualities of an entrepreneur is risk-taking. According to Carland et al. (1995), risk-taking conduct continues to be a notable part of entrepreneurship up to date. However, Brockhaus (1980) discredit the traditional view with a study, which demonstrated no contrast between the risk-taking attributes of entrepreneur or manager.

According to Stewart Jr, Carland, and Carland, (1998), risk taking has long been referred to as a particular trait that distinguishes entrepreneurs and small business owners as well as their management colleagues in both small and large organisations. It is believed that entrepreneurs take on more risks than managers do since any entrepreneur actually has the primary responsibility for making a decision. Nevertheless, contradictory results in numerous studies raise the question of measuring the design of the propensity to risk the visa regime with entrepreneurship. A number of empirical studies of risk-related behavior have been carried out. However, these studies did not provide any eventual precise results.

Brockhaus (1980) also analyzed the risk-taking propensity of entrepreneur utilizing the Choice Dilemma Questionnaire (CDQ) of Wallach and Kogan (1964). Brockhaus characterized an entrepreneur as a person as one who is a proprietor as well as a supervisor of a business entity who was not employed somewhere else. Brockhaus (1980) analyzed three classifications of individual: (1) entrepreneurs who had started their business venture in 3 months preceding the study; (2) managers who had changed positions in their organizations in 3 months before the study; and, (3) managers who had changed employment in three months preceding the study. At last, he contrasted the scores of the respondents with the regulating information reported by Kogan & Wallach (1964). Respondents were drawn from employees who attended workshops.

In particular, Brockhaus (1980) contemplated that utilizing entrepreneurs at the beginning of their business would incorporate those that who failed, consequently removing a conceivable predisposition from the results. Comparing the entrepreneurs who begun businesses with managers/directors who had experienced late changes in their careers, they were more regular people as opposed to beginning entrepreneurs. Utilizing Analysis of Variance (ANOVA), the author also found no factual contrasts among the three groups. Utilizing a chi-square test with a .25 certainty level, he found no contrast between the normative Kogan-Wallach information and the respondents' scores. In the manner, Brockhaus reasoned that the risk-taking affinity of an entrepreneur is the same as the inclusive community.

In another study, the Carland et al. (1995) analyzed the propensity of risk-taking of 114 business people, 387 supervisors, and 347 small entrepreneurs utilizing the Risk Scale of the Jackson Personality Inventory. Entrepreneurs showed fundamentally higher values of the risk-taking propensity than small-scale entrepreneurs or supervisors represented. Distinction in scores of beginning entrepreneurs and their directors was not measurable.

The Carland study (1995) analyzed risk-taking propensity as it was identified with demographic contrasts, for example, sex, age, and education. The outcomes showed that more old respondents showed a lower level of a propensity to risk-taking than younger participants. Masters and Meier (1988) likewise looked at the risk-taking among entrepreneur utilizing the Questionnaire of Kogan-Wallach Choice Dilemma recreated the Brockhaus study. They inspected fifty individuals who were either beginning entrepreneurs or managers. The members were chosen from the list of the beginning entrepreneurs and managers that attended workshops. They had not revealed the span of the different subsets of the example; however, they reported no distinctions in CDQ scores in any of the examinations.

This study will present a practical consideration of risk-taking propensity employing the listed banks in Vietnam to explain if they enter into entrepreneur after M&A. The hypothesis is based on two broad inquiries. These inquiries include “What are the main factors including the factor of the corporate entrepreneurial intensity of the banks” and “what would help to explain a significant amount of variance in bankruptcy.” the hypothesis will be utilized to test the relationship between risk-taking propensity and responsible entrepreneurship. For the hypothesis, a significance level of 5% ($p=0.05$) has been set and will be measured with a correlation test.

Hypothesis 4: Cutting salary of banking employees increases the risk-taking propensity to fraud and corruption.

From the literature, there are concerns about formal pay arrangements that have added to risk-taking during the financial crisis. As economists perceive for the environment and outside imperatives, the performance and risk decisions of firms depend on the motivations of firms' officials. Sadly, as opposed to give motivating incentives to keep away from extreme risk-taking, the arrangement of pay in banks encourage risk-taking.

According to Larkin and Pierce (2015), compensation systems are fundamental for organisations. In fact, motivating the efforts of employees, attracting, and retaining employees with skills are necessary to improve the productivity of the company. While financial and other external incentives built into compensation systems are powerful tools for increasing productivity, they can generate perverse economic incentives (Larkin and Pierce 2015). Due to lack of cooperation, psychological and social responses motivate a wide class of counterproductive actions to clearly illegal misconduct.

In addition, Lassen, Gertsen, and Riis (2006) suggest the holistic effects of multiple classes of compensation systems increase the productivity and inappropriate behavior of employees. In any case, a certain attention is paid to behavioral responses of non-executive workers and their impact on improving performance. The consequences of compensating for both productivity and misconduct tend to go in the same direction. Systems that encourage effort often motivate action. According to Larkin and Pierce (2015), managers usually focus only on one dimension and ignore the broader costs of the compensation system. An important consequence is that the optimal level of misconduct is rarely zero, and the best compensation systems recognize a trade-off between performance and ethics.

Numerous researchers have also tried to examine the possible association between salary reduction and risk-taking propensities. Saini and Martin (2009) outlined a positive correlation between risk-taking propensities and firm productivity amongst the privately owned firms as opposed to publicly listed firms. Sitkin and Weingart (1995) and Hoskisson et al. (1991) advocated for the management of the company in two ways, reward or punishment. According to Saini and Martin (2009), risk-taking propensities is considered part of strategic management ‘s function where the ability of the firm to oversee risks diverges from its policy response. Dasgupta et al. (2016) elaborated that companies with workers earning relatively high salaries or wages linked to

low risk-taking propensities and tend to be involved in less risk-taking ventures and higher advantage.

The major issues were examined analyzing the remuneration at Lehman Brothers and at Bear Stearns. They reported that despite the financial crisis of the organizations in 2008, the primary problems for 2000-2008 were considerable for the organization's' main five officials. The top officials routinely emptied alternatives and shares. Extensive reward remuneration further expanded the top administrators' settlements amid 2000-2007; while the profits provided the premise to these rewards vanished in 2008, the organizations' compensation courses of action did not contain any recovery plans to empower recovering the rewards paid.

Kantsukov and Linnas (2013) looked at the risk propensities and patterns of senior bank officials at the different working environment in a compare and contrast exercise. The senior bank officials were selected from three nations that are Ukraine, Sweden, and Estonia. The senior bank officials most considered part of the strategic level of management such as CEO, CFO among others. The results of the study indicated that the risk propensities and patterns of the CEOs and CFOs were in line with the strategic objectives and culture.

While Fahlenbrach and Stulz (2011) did not find proof supporting the hypothesis that compensation structures have added to risk-taking, a considerable number of research studies give such confirmation. A few studies observe that risk-taking is connected with the sensitivity of the CEO to return instability. Risk-taking was distinguished to be related to the sensitivity of the CEO's pay to transient income per offer. Besides, reliable with the perspective that the bonds of official enthusiasm to results produced risk-taking motivations for equity holders however not for bondholders, risk-taking was observed to be adversely connected with inside debt possessions by bank CEOs and correlated with CEOs' value-based remuneration. The extent to which the CEO's remuneration corresponds to the shareholders' welfare affected by the risk propensities they regularly assume. The results from the literature remain inconclusive. There is a need to determine the extent to which the reduction of employees' salary could affect risk-taking propensity.

Hypothesis 5: Imposing fines as a strategy for punishing stimuli promote the proper risk-taking propensity

Early studies on entrepreneurship concentrated on mental attributes of entrepreneurs, for example, risk-taking propensity (Knight 2012), the locus of control, and the need for accomplishment (McClelland 1965). Researchers have proposed similar models of the

entrepreneurial start-up procedure as in every one of these models concur with the depiction of an interactive relationship between the individual and its surrounding. The risk-taking inclination is identified with adverse performance. Successful entrepreneurs moderate the negative relationship between the business performance and risk-taking propensity.

Sakalauskaite (2018) conducted an outstanding investigation regarding bank misconduct and stimuli for the proper conduct at the workplace. He used a fresh set of data on bank misconduct, which led to the cost of holding a sample of 30 monetary institutions in 2000-2016. It demonstrates the fact that the offense is frequent, and its tension varies depending on the business cycle. In addition, the initiation of misdemeanor is related to the schemes of bank fees, increasing with CEO bonuses during periods of high financial recovery and at the highest level of leverage (Sakalauskaite, 2018). Eventually, a theoretical model is constructed in the document in which illegal behavior is associated with banking risk provided a commentary on the observed dynamics. Therefore, the implementation of lucrative but dangerous plans urgently requests more brutal payment structures and increased incentives for the manager to play a role in other events that promote short-term returns. The findings have results for regulation aimed at preventing abuse of treasury positions in monetary institutions.

McClelland (1965) contended that people with high accomplishment inspiration tended to take more risk, while people with low levels of accomplishment demonstrated fewer reservations toward risk-taking. In accordance with McClelland's inspiration theory, the study proposes the following hypothesis to test the relationship between Punishing stimuli by imposing fine and the proper risk-taking propensity. An entrepreneur's accomplishment motivation toward setting up their new organisations might be a critical indicator of entrepreneur's propensity to take or avoid risks with vulnerability. In addition, staff with higher motivations will how the larger amount of risk-taking propensity since they seek self-fulfillment regardless of the fact that the circumstance at which they are confronting is loaded with vulnerability and flightiness. The hypotheses under the section will be tested using Pearson correlation to determine the relationship between the variables being tested.

Alternative Hypothesis (H_{a1}): There is a positive relationship between Punishing stimuli and the proper risk-taking propensity.

Chapter 4: Data and Methodology

4.1 Introduction

This section analyzes the methods used to collect data. It describes the methodology, data collection procedure, sampling, and analysis of the data. Data was gathered with the help of secondary online sources, which is a quantitative technique. The information was analyzed using quantitative techniques to determine the distinctive ways in which list banks approach risk-taking propensities through the listed & the unlisted status in general M&A status in particular. The section ends with a discourse of issues identified with validity, reliability, and generation of the outcomes, and triangulation.

Particularly, for the study, quantitative methods were chosen. They are better than qualitative since they give an opportunity to associate data on a formalized toolbar with the introduction of analysis. Based on the quantitative results and data of all varieties and components, one can interact and make appropriate managerial conclusions. Thus, the quantitative method is a great way to get the results and justify or confirm the hypothesis.

For many centuries, the method's design has not changed and is considered appropriate in many scientific disciplines. A quantitative method may be good for testing the results received in a series of experiments, in fact, which allows concluding and narrowing the possible directions of the formation of the study. Thus, the right methods have been widely used to collect important data and results for M&A in Asia. The data collection, tools, and selection procedures were one of the leading methods to determine the specifics of M&As.

4.2 Data collection methods

4.2.1 Databases

Whether the findings are credible or not depends on how validity and reliability of the data collection are. In connection with this view, Saunders et al (2003) also believe that the appropriate method of data collection plays a crucial role in enhancing credibility of the research finding. The method of data collection must be closely and supportively related to the research methodology. Besides, it is undoubted that the most common used sources of data of collection for the adopted research methodology are historical data, official statistics, government reports, web information, previous researches….. to answer 5 hypotheses and examine the Z-score model as proposed by Nguyen Thanh Duong (2013) and Chiara Monte et al. (2015). Especially, from these official sources, the data is extracted from the balance sheets, income statement, other financial reports of

40 commercial banks from 2007 to 2018. It will act as a basis for examining the extent to which the possibility of M&A can explain the banking risks in the selected commercial banks in Vietnam.

Besides, the subject has been selected due to sufficient amount of unresolved issues and unanswered questions on the topic. Thus, sufficient materials to investigate the subject allowed conducting the research and finding appropriate and justified answers. Several official databases were used to collect information to support the research hypothesizes. The sites stem from the state bank, Duo blacboard– online library, OECD library, Econlit, Google scholar, IntelliConnect, and RePEC….. Keywords used to search for the information from these databases are Merger & Acquisition, corporate entrepreneurship, bankruptcy, and risk-taking propensity…... After collecting data, the finding results, and the main related contents were conducted and distributed in various forms before it was utilized.

For the analysis of secondary sources, the researcher received a thematic evaluation which again are used to support or reject the results of testing hypotheses. Thus, all secondary data received from the official online libraries are analyzed for historical and current data. Thus, the literary research was conducted to achieve the results of various researchers.

4.2.2 Data collection - sampling

The goal of the study was to empirically examine the risk-taking propensity of 14 listed banks and 21 unlisted banks having the possibility of entering into M&A with each other or with the other institutions because of high bad debts in Vietnam. For the purpose, the sampling procedure has been chosen since it provides a widespread overview of the situation in the banks involved in M&A procedures. Thus, simple random sampling procedure can make maximum use of and can be considered one of the best sample selection methods. In common, it is not that cost effective to gather all the available data on the topic, thus examination is possible due to sampling method to draw a sample of information from the population.

For the study, 40 commercial banks have been elected. They were equally divided into two categories: 14 listed banks on the current financial stock exchange and 26 unlisted banks for the period from 2007 to 2018.

BANK NAME	Sticker	EXCHANGE	Status	Age years	Year of establishment
Asia Commercial Bank	**ACB**	HNX	ACTIVE	25.00	1993
Bank For Investment And Development Of Vietnam	**BID**	HOSE	ACTIVE	61.00	1957
Vietnam Joint Stock Commercial Bank for Industry and Trade	**CTG**	HOSE	ACTIVE	30.00	1988
Vietnam Commercial Joint Stock Export Import Bank	**EIB**	HOSE	ACTIVE	29.00	1989
Ho Chi Minh Development Joint Stock Commercial Bank	**HDB**	HOSE	ACTIVE	28.00	1990
Military Commercial Joint Stock Bank	**MBB**	HOSE	ACTIVE	24.00	1994
National Citizen Commercial Joint Stock Bank	**NCB**	HNX	ACTIVE	23.00	1995
Saigon Hanoi Commercial Joint Stock Bank	**SHB**	HNX	ACTIVE	25.00	1993
Sai Gon Thuong Tin Commercial Joint Stock Bank	**STB**	HOSE	ACTIVE	27.00	1991
Vietnam Technological and Commercial Joint Stock Bank	**TCB**	HOSE	ACTIVE	25.00	1993
Tien Phong Commercial Joint Stock Bank	**TPB**	HOSE	ACTIVE	10.00	2008
Bank for Foreign Trade of Vietnam	**VCB**	HOSE	ACTIVE	55.00	1963
Vietnam Prosperity Joint Stock Commercial Bank	**VPB**	HOSE	ACTIVE	25.00	1993
National Citizen Commercial Joint Stock Bank	**NVB**	HNX	ACTIVE	23.00	1995

Table 3: 14 listed banks on the stock exchange

BANK NAME	Sticker	EXCHANGE	Status	M&A by	Age_years	Year of establishment	Year of close
An Binh Commercial Joint Stock Bank	**ABB**	UNLISTED	ACTIVE		24.00	1994	
Vietnam Bank for Agriculture and Rural Development	**AGR**	UNLISTED	ACTIVE		30.00	1988	
Bac A Commercial Joint Stock Bank	**BAB**	UNLISTED	ACTIVE		24.00	1994	
Kien Long Commercial Joint Stock Bank	**KLB**	UNLISTED	ACTIVE		23.00	1995	
LienViet Post Joint Stock Commercial Bank	**LPB**	UNLISTED	ACTIVE		10.00	2008	
Vietnam Maritime Commercial Join Stock Bank	**MSB**	UNLISTED	ACTIVE		27.00	1991	
Nam A Commercial Joint Stock Bank	**NAB**	UNLISTED	ACTIVE		26.00	1992	
Orient Commercial Joint Stock Bank	**OCB**	UNLISTED	ACTIVE		22.00	1996	
Petrolimex Group Commercial Joint Stock Bank	**PGB**	UNLISTED	ACTIVE		5.00	2013	
Vietnam Public Joint Stock Commercial Bank	**PVCOMBANK**	UNLISTED	ACTIVE		5.00	2013	
Saigon Commercial Joint Stock Bank	**SCB**	UNLISTED	ACTIVE		6.00	2012	
Southeast Asia Commercial Joint Stock Bank	**Seabank**	UNLISTED	ACTIVE		24.00	1994	
Saigon Bank For Industry And Trade	**SGB**	UNLISTED	ACTIVE		31.00	1987	
Vietnam Asia Commercial Joint Stock Bank	**VIETABANK**	UNLISTED	ACTIVE		15.00	2003	
Vietnam Thuong Tin Commercial Joint Stock Bank	**Vietbank**	UNLISTED	ACTIVE		11.00	2007	
Viet Capital Bank Commercial Joint Stock Bank	**VietcapitalBank**	UNLISTED	ACTIVE		26.00	1992	
Vietnam International Commercial Joint Stock Bank	**VIB**	UNLISTED	ACTIVE		22.00	1996	
Western Commercial Joint Stock Bank	**WEB**	UNLISTED	**Merged**	PVCombank	26.00	1992	2013
Bao Viet Joint Stock Commercial Bank	**BAOVIETBANK**	UNLISTED	ACTIVE		10.00	2008	
Construction Bank	**VNCB**	UNLISTED	**Acquired**	State bank	29.00	1989	2015
Mekong Development Joint Stock Commercial Bank	**MDB**	UNLISTED	**Merged**	MSB	26.00	1992	2015
Housing Bank Of Mekong Delta	**MHB**	UNLISTED	**Merged**	BIDV	21.00	1997	2015

First Joint Stock Commercial Bank	**FCB**	UNLISTED	**Merged**	SCB	25.00	1993	2011
Bank Global Petro Commercial Joint Stock Bank (	**GPBANK**	UNLISTED	**Acquired**	State bank	25.00	1993	2015
Hanoi Building Commercial Joint Stock Bank	**HBB**	UNLISTED	**Merged**	SHB	29.00	1989	2012
Great Asia Commercial Joint Stock Bank	**DAB**	UNLISTED	**Merged**	HDBank	26.00	1992	2013

Table 4: 26 Unlisted banks at risk of Merger & Acquisition (M&A).

Data sources related to the risks of banks according to Nguyen Thanh Duong (2013) such as LLR, LLP, LEV, NIR, CTI, LDR, and LAD was sought after based on the different types of risks. Concerning the risk associated with banks, the study relied on accounting data and share price data which are all published on internet. These data is also solicited from the State Bank of Vietnam. Besides, the study uses the primary and secondary data collection methods. Information and data are accessed from the reports of the State Bank, the official source of the banks, annual report of commercial banks including balance sheets, profit and loss statements, and financial ratios from the main links such as **www.vietstock.vn, www.cophieu68.vn, and specially from the official site of the state bank of Vietnam: www.sbv.gov.vn, www.vietdata.com …..**

Nevertheless, there are some limitations that can be faced. Time and cost limitations of simple random sampling are quite frequent. In the chosen method, a statistical measure of that large population can be gathered only with an available full list of the completely studied population. Obtaining an access to the list can be quite complicated since some colleges, universities, or companies choose not to share such information. Thus, when the list is unavailable, a researcher has to gather information from some other resources, which takes time. In addition to cost and time-related limitations, simple random sampling may have a bias occurred. The situation happens if sets of the population are not inclusive, while full population representation requires additional complex sampling methods.

4.2.4. Data analysis

Data analysis is defined as a process bringing structure, order, and meaning of the data collected. The study utilized quantitative techniques to analyze the information collected. Several statistical methods will be used in the research to outline the main characteristics of hypotheses and variables based on the (SPSS) program, which is statistical package for the social sciences. Thus, the Pearson's Coefficient of Variance, ANOVA, and regression analysis will be conducted. In the study, the information was analyzed using SPSS. The coefficient of correlation (r) will be sought

and used to outline the correlation between the dependent the independent variables. Through the empirical study of risk analysis of the banking system based on Z-score index, the model adopted in the study is the Z-score model of Nguyen Thanh Duong (2013) and Chiaramonte et al. (2015) to evaluate the possibility of the bankruptcy of Vietnamese banking system.

As part of the analysis, the study drew inferences from a huge amount of data by using the samples. Ideally, the sample is illustrative and permit a researcher to outline public opinions and its conduct (Leedy and Ormrod 2005). To counter check the integrity of the data, it will be verified with other sources where necessary and available. The collected data associated with risk-taking propensity data concerning the listed & the unlisted banks in general and the already M&A banks in particular will be gathered from the selected banks, as the financial information will be collected from the firm's financial statement, bad debts, and advances.

The ROA and ROE are usually used the bank managers, investors when evaluating business performance of the bank. Through this, the study will seek to find the factors affecting ROE includes the ability to raise revenue, expense management, asset management and financial leverage. Based on the empirical results, the research will use the ratio of ROE for not only evaluating the possibility of using equity but also considering the impact of the factor on the liquidity of banks. Besides, the study expects the rate of ROE to be affecting the same direction with the liquidity of the bank. Relationships of the formula between ROA and ROE will be determined. According to the standards of Moody's financial capacity assessment, the profitability indicators will be set in the frame of ROA≥1%; ≥12-15% ROE. Before determining the dependent variable, independent variables that are LLR, LLP, LEV, NIR, CTI, LDR, and LAD will be sought.

The regression analysis was utilized to understand the association between the variables or hypotheses for best results. It was based on Z-score model of Nguyen Thanh Duong (2013) and Chiara Monte et al. (2015). Pearson's Coefficient of Variance will be performed on the various sub-variables used in the study to test its significance and the redefinition of the different measurements in the study. ANOVA will be applied to determine whether there is an impact of three independent variables against the dependent variable. The researcher will perform regression assumption test for multicollinearity, homoscedasticity, outliers, and exclusion restriction test. The results will be also exhibited by frequency tables, percentages, pie charts, and diagrams where necessary and will be used to get the conclusions forming the basis for the future researches.

Chapter 5: Results and Findings

5.1 Introduction

This section shows the empirical results from the analysis of 40 commercial banks in Vietnam's developing business sector economy from 2007 to 2018. Through these results, the study will determine the extent to which M&A can explain the banking risks as an entrepreneurial entry mode selection of commercial banks in Vietnam using the measurement of corporate entrepreneurship intensity and Z-score bankruptcy propensity. It will be received with the help of quantitative methods, which includes statistical analysis to measure corporate entrepreneurship intensity. Thus, the section begins with a descriptive data analysis received by an inferential data analysis of the key aspects of the aspects, which includes the testing of the hypotheses that were postulated in the previous chapter. Finally, a discussion of the main findings is presented.

5.2 Descriptive Analysis of SPSS Data

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
NIR	40	.00	8.72	2.9307	1.59421
LLR	40	-18.58	107.92	41.6972	34.08620
LLP	40	-17.30	402.27	26.1652	61.90339
LEV	40	4.16	50.16	12.5358	9.38744
CIR	40	7.00	761.42	66.6257	115.47241
LDR	40	40.93	132.98	70.2437	21.57513
LAD	40	22.52	104.32	52.9712	16.30307
Z-Score	40	4.50	56.65	24.2744	11.94680
ROE	40	.61	17.55	7.6580	4.50371
ROCE	40	.40	18.83	6.5721	3.41828
Valid N (listwise)	40				

Table 5: Descriptive statistics of the key variables

The descriptive statistics of the key variables shown in table 5 demonstrates that The Z-Score variable is at the maximum at 56.65 percent while it is lowest at 4.5 percent for the period 2007 to 2018. The LLR (Loan Loss Reserves ratio) variable is within a range of -18.58 percent of NVB BANK to 107 percent of ACB BANK for the same period with an average of 41.69 percent.

LLP (Loan Loss Provisions ratio) variable had the least value of -17.30 percent of GP BANK and a maximum of 402 percent of PVCOMBANK during the period 2007 to 2018. In

addition, the banks had a LEV (Leverage) against the credit of 4.16 percent. NIR (Net Interest Revenue ratio) variable varied from almost 0 percent of PVCOMBANK to 8.72 percent of FCB bank during the same period under study.

CIR variable shifted from 7 % to 761 %, coupled with a mean of 66.6 percent. LDR (Loan to Deposits Ratio) variable also varied for 40.93 percent of GB Bank to 132.98 percent of PVCOMBANK with an average of 39 percent. Lastly, the LAD (Liquid Assets-short term to total Deposits) variable varied from 22.52 percent of BAB BANK to 104.52 percent of MDB BANK with a mean of 52.97 percent.

Based on the above information, the data reveal that PVCOMBANK was the top most ranked bank while NVB BANK has the lowest rate of z-score with 4.5 percent. ROE (Return on equity ratio) variable was found to be between 0.61% and 17.55%, with a mean of 7.65 %. ROCE (Return on Capital Employed ratio) variable varied from 0.4% to 18.83%, with an average of 6.57 %. Regarding ROE, Bank for foreign trade ò Vietnam (VCB Bank) was found to be the most effective at 17.55 %.

Correlations

	Z-Score	NIR	LLR	LLP	LEV	CIR	LDR	LAD	ROE	ROCE
Z-Score	1									
NIR	.435	1								
LLR	.151	-.136	1							
LLP	-.114	-.293	.002	1						
LEV	.566	.802	-.385	-.153	1					
CIR	.091	-.121	.124	-.050	-.017	1				
LDR	.135	.406	.004	.509	.340	-.143	1			
LAD	.260	.247	-.268	.089	.526	.210	-.039	1		
ROE	-.090	.245	.528	-.147	-.148	-.255	.158	-.084	1	
ROCE	.128	.292	.522	-.237	-.011	-.119	-.027	-.077	.819	1

Table 6: Pearson Correlation matrix of the risk factors affecting banks

*. Correlation is significant at the 0.05 level (2-tailed).

The study also sought to determine the significance standards of the risk factors affecting the Z score. It was determined using Pearson's correlation test at a significance level of 0.05, and the results are shown in Table 6 above. The results indicate that Z-score is positively correlated to NIR, LLR, LEV, CIR, LDR, and LAD. On the contrary, it was noted there exist a negative

relationship between Z score and LLP. It was also pointed out there exists a negative correlation between ROE and the risk elements with a coefficient of -0.090, while there was a positive relationship between the risk factors and ROCE with a coefficient of 0.128. It suggests there is evidence of high credit risks, which are currently facing the banks. There is a need for the banks to maintain a large number of asset turnovers so that it can shield them from high credit risk. It was also noted there is a possibility of multicollinearity problems, which might occur among the risk factors such as LDR, LAD, and NIR with a coefficient of 0.210, 0.332 and 0.622 respectively. The research will examine the error after evaluating the results of the regression analysis.

The study set out to test some conditions using hypotheses regarding the effect of banking risks on corporate entrepreneurship and bankruptcy propensity in Vietnam banking sector. To test these hypotheses, the study adopted quite some methods such as ANOVA, regression analysis, t-test among others. The results of each hypothesis are presented as follows:

5.3.1 Evaluating Hypothesis H01a and H1a

The researchers hypothesized that a bank with high debts is to be acquired by another bank to overcome its capital dependency it has created. It was determined using t-test at a significance level of 5% (p=0.05) to determine the variation between ROCE and ROE of the various selected banks for the period 2007 to 2018. Initially, there was a need to examine the mean of the ROCE and ROE, and they are presented in Table 7 below.

	Variables	
	ROE	ROCE
Mean	7.6580	6.5721
Std. Error of Mean	.71210	.54048
Std. Deviation	4.50371	3.41828

Table 7: Mean score of ROE and ROCE

The results reveal that ROE had a higher mean of 7.6580 as compared to ROCE of 6.5721 suggesting that ROE it had a greater significance on the profitability and performance of the banks. The study then determined the relationship between ROCE and ROE and the condition of a bank with high debts can be acquired. The results are provided in Table 8 below.

	Test Value = 0					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
ROE	10.754	39	.000	7.65804	6.2177	9.0984
ROCE	12.160	39	.000	6.57206	5.4788	7.6653

Table 8: One sample t-test of ROE and ROCE

In fact, the higher ROE or ROEC, the better shareholders of the banks to put less funds to generate higher profits. However, ROE formula takes the aid of financial gearing into its calculation rather than ROCE as a long term profitability ratio, so that high ROE might contribute to the financial risk by adopting too much debt. From that reasoning, the SPSS results indicated that both variables were significant at $p = 0.00$ (< 0.05), However, the higher mean of ROE as compared to ROCE ($7.65>6.57$) suggests that the management of these banks were restricted regarding generating income for the banks. The research recommends there is a need for more funds to be made available so that they can cushion themselves against some of the credit risks. Thus, banks with high debts are to be acquired by another bank to overcome its capital dependency it has created. Thus, **the research supported the alternate hypothesis.**

5.3.2 Evaluating Hypothesis H02a and H2a

The researcher attributed the bank's size, and age to the bank has increased chances of being involved in either a merger or acquisition. To test the assumption, the study used a regression analysis to determine there exist a linear relationship between the bank's age, size, and M&A.

Besides, the study believes that **NIR ratio is used to represent M&A**. In fact, M&A exist among firms for number of reasons namely (1) to achieve economies of scale (2) enhance revenues and cut costs (3) diversify their expanding business lines. NIR is used to represent an increase in business performance apart from ROE, ROA, ROCE. The above results from the research indicated that ROE and ROCE were significant at $p < 0.001$ suggested the M&A among the banks increased their revenue, expansion of business and reduced risks involved. This implies that NIR has relatively the same effect as compared to ROE and ROCE. In other words, this suggests that most of the banks were considered to have less capital, more problematic assets, and lower regulatory ratings. Thus, they were acquired by other banks.

The result of the test shows some steps, which are critical for one to understand the information. During the testing, some outcomes were discovered. The study received a model

summary for the three variables and portrays the extent for the results to be explained. The results are presented in Table 9 below.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.476[a]	.226	.184	1.43966

a. Predictors: (Constant), Ln_Size, Ln_Age

Table 9: Model Summary of the age, size, and M&A

- *Bank size is natural log of average of total assets collected from 2007 to 2018*
- *Age= natural log of the difference between the year of establishment and the year 2018* Or at the age of being M&A.

Note: The size of the bank (SIZE) is determined by the natural logarithm of total property of the bank. The size of the bank is an important factor because of its relationship with bank ownership characteristics and continuity access to equity. The ability to avoid bankruptcy, risk management physical.

The results represent that only 22.6 percent of the results can be explained by the data when the bank's size and age is compared to the chances of being either entering into a merger or being acquired. The study also obtained the coefficients of the relationship between the bank's size, age, and the chances of being either entering into a merger or being acquired. The results are shown in Table 10 below.

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	17.172	5.961		2.881	.007		
	Ln_Age	.967	.436	.328	2.218	.033	.959	1.043
	Ln_Size	-.543	.192	-.418	-2.828	.008	.959	1.043

a. Dependent Variable: NIR

Table 10: Coefficients of size and age and the M&A of the various banks

VIFs of both Age (1.043) and Size (1.043) are smaller than 2, so there is no significant influence resulted by multicollinearity problem. Moreover, the results from the regression analysis suggest that age were positively correlated while the size were negatively corelated to the chances of a bank being either acquired or entering into a merger with a coefficient of 0.967 and -.543 respectively. The study also found out that these variables were statistically significant to the chances of a bank being either acquired or entering into a merger ($p<0.05$). This suggested that age

and size might affect whether the chance of being involved in either a merger or acquisition. Thus, **the research accepts the null hypothesis.**

The study also utilizes the independent sample test to reaffirm whether the accepted the above null hypothesis for age and size variables have any correlation between two groups: **32 Banks still in active are called "the active bank" and Eight banks merged and acquired before the year of 2015 are denoted as "the already M&A banks".**

Group Statistics

	STATUS	N	Mean	Std. Deviation	Std. Error Mean
Ln_Age	ACTIVE	32	3.0113	.59386	.10498
	M&A	8	3.2489	.10132	.03582
Ln_Size	ACTIVE	32	31.9972	1.08373	.19158
	M&A	8	30.3179	.76610	.27086

Table 11: *Group statistics of the Age and Size for the active banks and the already M&A banks*

The results also show that the F-values of variables (Size and Age) are greater than 0.05. It means that the variances of two groups between the still active banks and the already M&A Banks are not equal.

The study also found out that the probability (Sig. = 0.010) of Age variable is lower than 0.05, hence used Sig. (2-tailed = 0.039) from the second row which is lower than 0.05 claimed that the age variable has significant difference between groups (Sig – 2 tailed < 0.05) and the size variable were statistically significant to the chances of a bank being either acquired or entering into a merger ($p<0.05$). Moreover, most of the already eight M&A banks were faced with their size problem as compared to the active banks. It suggests that the only key factor affecting the chances of a bank being either acquired or entering into a merger ($p<0.05$) is the Size factor (the Sig-2 tailed = 0.000 <0.05), which also demonstrates that there is statistically significant difference between the active banks and the already M&A banks. Thus, the result reject the above null hypothesis.

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Ln_Age	Equal variances assumed	7.254	.010	-1.117	38	.271	-.23756	.21272	-.66819	.19306
	Equal variances not assumed			-2.142	36.451	.039	-.23756	.11092	-.46243	-.01270
Ln_Size	Equal variances assumed	2.103	.155	4.114	38	.000	1.67934	.40817	.85306	2.50563
	Equal variances not assumed			5.062	14.913	.000	1.67934	.33176	.97185	2.38683

Table 12: *Independent t-test results between Age and Size for The active banks and the already M&A banks*

5.3.4 Evaluating Hypothesis H03a and H3a

The research hypothesized about the lack of association between risk-taking propensity and responsible entrepreneurship among the banks. The study adopts LLR, LLP, LEV, CIR, LDR, **LAD to represent the risk-taking propensities.** In the hypothesis, the study sought to explain the key factors, which influence the level of bankruptcies among the banks. The study utilized an independent t-test to find the correlation between risk-taking propensity and responsible entrepreneurship at a significance level of 5%. Initially, the study looked at the group statistics of the risk-taking propensities of the banks categorized on the two categories namely listed and unlisted banks. The results of the group statistics are shown in Table 13 below.

Group Statistics

	EXCHANGE	N	Mean	Std. Deviation	Std. Error Mean
LLR	LISTED	14	62.8718	34.72319	9.28016
	UNLISTED	26	30.2955	28.27133	5.54446
LLP	LISTED	14	19.4430	8.64299	2.30994
	UNLISTED	26	29.7848	76.81270	15.06421
LEV	LISTED	14	8.3182	2.21046	.59077
	UNLISTED	26	14.8068	10.93652	2.14483
CIR	LISTED	14	98.9095	190.91075	51.02305
	UNLISTED	26	49.2421	30.83045	6.04635
LDR	LISTED	14	70.2731	17.70067	4.73070
	UNLISTED	26	70.2278	23.73257	4.65434
LAD	LISTED	14	51.5834	9.42820	2.51979
	UNLISTED	26	53.7184	19.15072	3.75576

Table 13: Group statistics of the risk-taking propensity based on the responsible entrepreneurship

The results highlighted that the listed banks had means for LLP, LEV, LAD lower while means for LLR, CIR, LDR greater compared to the unlisted banks when it was examined against the risk-taking propensities. It was also noted from the data obtained there was a high variance between risk-taking propensity and responsible entrepreneurship among the banks. The study then utilized the independent t-test to determine the relationship between risk-taking propensity and responsible entrepreneurship among the banks at a significance level of 5%. The results of the independent t-test are shown in Table 14 below.

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
LLR	Equal variances assumed	.349	.558	3.208	38	.003	32.57637	10.15436	12.01994	53.13280
	Equal variances not assumed			3.013	22.450	.006	32.57637	10.81030	10.18320	54.96954

LLP	Equal variances assumed	1.520	.225	-.499	38	.621	-10.34176	20.72123	-52.28969	31.60617
	Equal variances not assumed			-.679	26.162	.503	-10.34176	15.24028	-41.65919	20.97567
LEV	Equal variances assumed	6.239	.017	-2.183	38	.035	-6.48860	2.97168	-12.50444	-.47275
	Equal variances not assumed			-2.917	28.620	.007	-6.48860	2.22470	-11.04125	-1.93595
CIR	Equal variances assumed	5.519	.024	1.309	38	.198	49.66742	37.93288	-27.12368	126.45853
	Equal variances not assumed			.967	13.366	.351	49.66742	51.38005	-61.02399	160.35884
LDR	Equal variances assumed	.933	.340	.006	38	.995	.04530	7.24558	-14.62261	14.71321
	Equal variances not assumed			.007	33.854	.995	.04530	6.63645	-13.44373	13.53433
LAD	Equal variances assumed	6.170	.018	-.391	38	.698	-2.13505	5.46410	-13.19654	8.92644
	Equal variances not assumed			-.472	37.831	.640	-2.13505	4.52273	-11.29219	7.02209

Table 14: Independent t-test results between risk-taking propensities based on the responsible entrepreneurship

All F-values are greater than 0.05, then the condition of homogeneity of variance has been satisfied. The results also reveal that the sig of LLR, LLP, LDR are greater than 0.05, the equal variances assumed rows are adopted with the sig (2-tailed) of 0.06, 0.5, and 0.9 respectively. Besides, the sig. of LEV, CIR, LAD are all smaller than 0.05, the Equal variances not assumed row

is utilized with their sig (2-tailed) of 0.035, 0.19, 0.69 respectively. Thus, all variables of risk taking propensities except LEV having sig (2-tailed) higher than 0.05 indicates that there were no statistical difference in the risk taking propensities and the responsible entrepreneurship between listed banks and unlisted banks.

In other words, the study found that risk taking propensities were correlated to the responsible entrepreneurship. It suggests that the key factors affecting the credit risks, operation risk, and leverage risk leading to bankruptcy risk including LLR, LLP, LDR, CIR and LLP with the Sig-2 tailed >0.05, which to explain that there is no statistically significant difference between listed and unlisted for these variables. In other words, the mean LLR, LLP, LDR, and LLP for the listed banks and the unlisted banks are significantly different. Thus, the research accepted the null hypothesis.

5.3.5 Evaluating Hypothesis H04a and H4a

The research hypothesized that reduction of employees' salaries is negatively associated with a risk-taking propensity, which relates to fraud and corruption in the banks. In the hypothesis, the study sought to determine if there is an association between risk-taking propensities and cutting the salary of employees. The study utilized one sample t-test to determine if the mean of the between risk-taking propensities and cutting salary of employees are the same or different set at $\boldsymbol{\beta = 0}$. Initially, the study examined the average scores of the variables, and the results are presented in Table 15 below.

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
LLP	40	26.1652	61.90339	9.78778
CIR	40	66.6257	115.47241	18.25779

Table 15: Mean score of reduced salaries and some of the risk-taking propensities

The results revealed that risk-taking propensities had a higher mean as compared to the reduction of employees' salaries (66.6257>26.1652). It suggests that the decrease of staff salaries was correlated to the risk-taking propensities. The study also found out that β was greater than zero implies that reducing the employees' salary will lead to fraud and corruption among the management as a form or risk-taking propensity. The study then looked at the results obtained from one-sample t-test between reduction of employees' salaries and risk-taking propensities with an assumption that $\beta > 0$. The results are presented in Table 16 below.

	Test Value = 0					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
LLP	2.673	39	.011	26.16519	6.3675	45.9629
CIR	3.649	39	.001	66.62571	29.6958	103.5556

Table 16: One sample t-test of reduction of employees' salaries and risk-taking propensities

The results demonstrated that reduction of employees' salaries was significant to risk-taking propensities with a $p = 0.001$ ($p < 0.05$). In other words, the reduction of staff salaries was correlated to an increase in the risk-taking propensities. Thus, the research supported the null hypothesis.

5.3.6 Evaluating Hypothesis H05a and H5a

The research hypothesized there is a negative relationship between punishing stimuli by imposing a fine and the proper risk-taking propensity. The study also examined the relationship between punishing stimuli by prosecuting a criminal case and the appropriate risk-taking propensity. In the case, the reason why the study only considers three variables: "**LAD, LDR, and CIR" to represent the risk-taking propensities is that punishing stimuli including regulatory penalties or fines affect directly to operation costs of the bank. Moreover, The punishing stimuli is used to represent the active banks and the already M&A banks**.

In fact, the above literature claims that CIR reflects not only an **operation risk as the effectiveness of bank operation** but also the leverage risk to the bank capital in term of mobilization and LAD & LDR reflect the liquidity risk of the bank to meet its short term financial obligations. Thus, the study believes that CIR, LAD, LDR are utilized to represent Risk taking propensity.

Besides, the listed banks have been perceived to have a huge capital base that can shield them from losses while the unlisted banks have low capital base and problematic assets, which makes them likely that they will increase their loans/borrowing to grow. Their weaker condition is consistent with their lower profitability and efficiency, since factors such as problem loans reduce interest income and lead to higher costs as banks work them out. In the event that they cannot pay their loans (high liquidity risks or NIR is high), **they attract a lot to regulatory penalties or fines** as more punishing stimuli.

Moreover, the above statistical results from the research also indicated that **unlisted banks were negatively correlated to responsible entrepreneurship**. In general, the last results also found out that the unlisted banks were associated with high bad debts, which increases the credit risks. In particular, **the already M&A banks belong to the unlisted group, so that they must inherit all of these above weak characteristics of unlisted group.**

Group Statistics

	STATUS	N	Mean	Std. Deviation	Std. Error Mean
CIR	ACTIVE	32	70.6897	126.40405	22.34529
	M&A	8	50.3698	56.13908	19.84816
LDR	ACTIVE	32	68.8128	18.68246	3.30262
	M&A	8	75.9674	31.63701	11.18537
LAD	ACTIVE	32	50.5013	14.60213	2.58132
	M&A	8	62.8508	19.92791	7.04558

Table 17: *Mean score of Risk-taking propensities and the punishing stimuli* between the active banks and the already M&A banks

The table 17 demonstrated that the listed banks had mean for CIR greater while means for LAD and LDR are lower compared to the unlisted banks when it was examined against the risk-taking propensities. Besides, using Independent T test, the study sought to determine the relationship *between punishing stimuli and the proper risk-taking propensity* variables being tested for two groups: the active banks and the already M&A banks. The results are shown below in Table 17 below.

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
CIR	Equal variances assumed	.003	.956	.441	38	.662	20.31990	46.12352	-73.05229	113.69208
	Equal variances not assumed			.680	26.409	.502	20.31990	29.88748	-41.06837	81.70816
LDR	Equal variances assumed	6.968	.012	-.836	38	.409	-7.15464	8.56149	-24.48648	10.17720
	Equal variances not assumed			-.613	8.260	.556	-7.15464	11.66275	-33.90260	19.59332
LAD	Equal variances assumed	.046	.832	-1.987	38	.054	-12.34954	6.21363	-24.92837	.22929
	Equal variances not assumed			-1.646	8.969	.134	-12.34954	7.50356	-29.33276	4.63368

Table 18: Independent t-test results between punishing stimuli and the proper risk-taking propensity

The table 18 also show that the sig of CIR and LAD are greater than 0.05, the equal variances assumed rows are accepted with the sig (2-tailed) of 0.956 and 0.832 respectively. Besides, the sig of LDR are smaller than 0.05, the Equal variances not assumed row is utilized with their sig (2-tailed) of 0.12. However, all variables of risk taking propensities all having sig (2-tailed) greater than 0.05 indicates that there were no statistical difference in the risk taking propensities and the

punishing stimuli between the active banks and the already M&A banks. In other words, statistical results claim that the active banks moderated their risk taking propensities by imposing punishing stimuli as compared to the already M&A banks. Furthermore, it should be noted that the results for the punishing stimuli between the active banks and the already M&A banks match with the above results for the responsible entrepreneurship between the listed banks and the unlisted banks. Thus, the research accepts the null hypothesis.

5.4 Relationship between Corporate Entrepreneurship Intensity and Z-Score Bankruptcy Propensity

Lastly, the study sought to determine the relationship between corporate entrepreneurship intensity and Z-Score bankruptcy propensity among the selected banks in Vietnam. To determine this, the study attempted to explain the coefficient of correlation (r), which will in turn used to determine the correlation between the independent and the dependent variables. In the analysis, the study adopted a modified version of Z-score model (Nguyen Thanh Duong 2013; Chiaramonte et al. 2015) to evaluate the possibility of bankruptcy within the Vietnamese banking system. Z-score model is presented as follows:

$$\mathbf{Z_{BT} = \beta_0 + \beta_1 LLR_{bt} + \beta_2 LLP_{bt} + \beta_3 LEV_{bt} + \beta_4 NIR_{bt} + \beta_5 CIT_{bt} + \beta_6 LDR_{bt} + \beta_7 LAD_{bt} + e_{bt}}$$

The researcher started by examining the model summary of the risk factors and the z-score from 2007 to 2018 to comprehend the extent of which the results can explain the impact. The results are presented in Table 19 below.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.728[a]	.530	.427	9.04478

a. Predictors: (Constant), LAD, LDR, CIR, LLR, NIR, LLP, LEV

Table 19: Possibility of Bankruptcy

The value of (R^2) showed that 0.53 of the change in z-score bankruptcy propensity representing 53 % could be explained by the independent variables (LAD, CIR, LEV, LLP, NIR, LDR, and LLR). On the other hand, the value of significant F statistic greater than 0.05 suggested that the model was applicable and could enlighten the risks factors affecting the banking by using M&A as an entrepreneurial entry mode selection of commercial banks in Vietnam. The study also

looked at the significance of the dependent and independent variables using ANOVA. The results are presented in Table 20 below.

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	2948.460	7	421.209	5.149	.001[b]
	Residual	2617.860	32	81.808		
	Total	5566.319	39			

a. Dependent Variable: Z-Score

Table 20: ANOVA results for Z Score – Possibility of bankruptcy

The results showed a significant correlation between the independent and the dependent variable with $F = 5.149$ and $p < 0.05$. The study obtained the coefficient of correlation (r) of the various risk-factors about the z-score. The coefficients of each risk-factor are presented in Table 21 below.

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	18.007	9.465		1.903	.066	-1.272	37.287		
	NIR	-1.765	1.974	-.236	-.894	.378	-5.787	2.257	.212	4.723
	LLR	.177	.050	.506	3.562	.001	.076	.279	.727	1.375
	LLP	.022	.039	.114	.558	.581	-.058	.102	.353	2.830
	LEV	1.434	.352	1.127	4.074	.000	.717	2.152	.192	5.209
	CIR	.003	.013	.029	.220	.828	-.024	.030	.868	1.152
	LDR	-.119	.118	-.214	-1.001	.324	-.360	.123	.321	3.113
	LAD	-.121	.127	-.165	-.948	.350	-.380	.139	.487	2.052

a. Dependent Variable: Z-Score

Table 21: Coefficients of the autonomous variables and Z-Score

The results highlighted that Z score had a perpetual beta of 18.007, which suggest that 1800.7 percent of the results could only be explained without considering the corporate entrepreneurship intensity. The results also indicated that LLR, and LEV were positively correlated

to the Z-Score bankruptcy propensity while NIR, LLP, CIR, LDR, and LAD were negatively correlated to Z-Score bankruptcy propensity.

The data revealed that one-unit increase of LLR leads to an increase of Z-score bankruptcy propensity by 17.7 percent other factors remaining cost. On the other hand, it was noted that a one-unit increase of LEV also lead to an increase of Z-score bankruptcy propensity by 143.4 percent while LLP resulted in 22 percent increase. Thus, the Z-score model can be represented as follows:

$$\mathbf{Z_{BT} = 18.007 + 0.177(LLR_{bt}) + 0.022(LLP_{bt}) + 1.434(LEV_{bt}) - 1.765(NIR_{bt}) + 0.003(CIR_{bt}) - 0.119(LDR_{bt}) - 0.121(LAD_{bt}) + e_{bt}}$$

The study also performed regression assumption test for multicollinearity and outliers and concluded that VIF was between 1 and 5 while tolerance was within the range of 0 and one. Thus, it suggested that the results were within the accepted limits.

By adopting the above z-score equation, the study computes the new variables (New_LLR, New_LLP, New_LEV, New_NIR, New_CIR, New_LDR, New_LAD) to find New_Zcore which can forecast the prospects of bankruptcy for the banks.

Prospects_Of_Bankruptcy

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Safe	25	61.0	62.5	62.5
	High bankruptcy	14	34.1	35.0	97.5
	On Alert	1	2.4	2.5	100.0
	Total	40	97.6	100.0	

Table 22: Frequency table for the prospects of Bankruptcy

Based on the study of Atman (1968) to determine the prospects of bankruptcy occurring among financial institutions, this study found that there are 14 banks having Z-score < 1.81(high level of bankruptcy propensity), 1 bank having Z-score between 1.81 and 2.67 (On alert: indeterminate and should be careful) and 25 banks having Z-score > 2.67 (successful and safe from bankruptcy).

Chapter 6: Discussion

6.1 Introduction

The primary purpose of the research was to establish the effect of M&A on the corporate entrepreneurship, the risk-taking propensity, and Z-Score bankruptcy propensity among Vietnam's banks. Several banks were random to increase their chances of being selected after which the researcher administered questions to them. During the research, the quantitative study adopted several statistical tools of analysis to test the hypothesis and the relationship between corporate entrepreneurship intensity and Z-score bankruptcy propensity. The research is heavily dependent on primary data that were obtained. Consistent with prior research concerning risk-taking propensities, there were some possible outcomes, which are discussed as follows:

6.1.1 Levels of bankruptcy propensity

The study hypothesized that a bank with high debts acquired by another bank to minimize its capital dependency it has created. Dixon et al. (1993) found that bankruptcy among financial institutions adversely affected the number of loans and lender liability, which was awarded to its borrowers. Lender liability discovered to be a significant element when granting loans and it lowers the likelihood of an average loan from a financial institution (Dixon et al. 1993). It was further influenced by the rule and regulations in place. Thus, older banks which have increased awarded loans without any repayment, are not awarded as lender liability increases. Fisman and Love (2003) indicated that the start-up firms (young firms) are associated with attempting to reduce the flaws of the banking framework while the old and established commercial banks tend to utilize their trade credit for financing most operations.

Results from the literature suggest that firms are increasingly acquired based on the restructuring of its resources and recapitalization (Damodaran 2008). The author also added the most acquisitions were heavily attributed to increased debts and the managers of the organization initiated most of the negotiations. The results of the research suggested that ROE and ROCE were significant at $p = 0.00$ (< 0.05), but ROE had a higher mean value ($7.65>6.57$) as compared to ROCE. It indicates that acquisitions of a firm heavily related to increased debts.

Nguyen (2017) also suggested several reasons for the situation. Some of the reasons include the flaws of the commercial to implement the restructuring reforms and lower levels of compliance and risk constraints put in place. Nguyen (2017) also added that the reviews and administration of events among the commercial banks by the State agencies are partial adhered to or ignored

completely. The time allocated for forewarnings and drastic reviews is usually limited to permit one to address the observed risks as well as deal with violations of the regulation and flaws of the commercial banks. In the case of microfinance institutions, the firms are subject to the restructuring of the banks as per the requirements of the current regime.

Altunbas et al. (2000) supported these findings when they discovered a positive correlation between the level of bad debts and the bank's inefficiencies supported these findings. They further added that if the bad debts increase, the cost-effectiveness also increases. Angbazo (1997) also confirmed these findings when he found out that credit risk could affect the Net Interest Revenue (NIR) of the bank.

Nguyen (2017) recommended that the actions of the commercial banks should be safe and capable of handling risks through the appropriate legislative framework in place. In addition, it is essential for commercial banks to adopt an efficient internal evaluation and supervisory framework. Nguyen (2017) also suggested the necessity to empower the assessment and monitoring framework such that it can counter-check every action during and after the execution, in line with the rules and regulations. The research recommends for more funds to allocate to the reserves of the banks so that they can cushion themselves against credit risks.

6.1.2 Influence of M&A on entrepreneurial entry mode selection

M&A mainly exist among firms for some reasons namely (1) to achieve economies of scale (2) increase revenues and decrease costs (3) diversify their expanding business lines. **NIR used to represent an increase in business performance** regarding ROE, ROA, and ROCE. The results of the research indicated that ROE and ROCE were statistically significant at $p < 0.000$. It suggests that M&A among commercial banks in Vietnam improved their revenue, diversified their business operations and reduce risks they encountered. It implies that NIR has relatively the same effect as compared to ROE and ROCE.

The research hypothesized there is no association between the propensity of risk-taking as well as responsible entrepreneurship among the banks. Thus, an entrepreneur has been a subject of concern among numerous researchers as a means of distinguishing small enterprise owners and entrepreneurs from the managers of large corporates (Carland et al. 1999). Masters and Meier (1988) and Gasse (1982) in Carland et al. (1999) and Stewart & Roth (2001) considered entrepreneurs as individuals who can take more risks as compared to managers as they are personally held accountable for the decisions made. Stewart and Roth (2001) also noted there

was a larger variation among the various types of entrepreneurs. In their study, they categorized entrepreneurs into two main groups namely those who were after venture development and those who were concerned about family matters.

The research found out that all the listed banks having means for LLP, LEV, LAD lower while means for LLR, CIR, LDR greater compared to the unlisted banks when it was examined against the risk-taking propensities with the sig. (2-tailed>0.05) demonstrated that the mean LLR, LLP, LDR, and LLP for the listed banks and the unlisted banks are significantly different. Besides, the results of Gong and Wagner (2016) and Schaeck et al. (2011) were also consistent with these findings when they found out that banks, which operated with a high level of risk, tended to experience an enormous amount of losses. Carland et al. (1999) attributed the variation to the numerous characteristics are possessed by the various banks such as risk-taking, innovativeness, proactiveness among others. Thus, they can take more risks indicative of the high variation between risk-taking propensity and responsible entrepreneurship. Focarelli et al. (2002) confirmed these findings when they discovered there is an increase in labor and operation costs as compared to the gross profit result of an increment in the pay rates to motivate employees of the banks. They also found out that an increase in operating costs prompted a reduction in return on assets.

Bakar and Yi (2016) discovered that the risk conduct of investors in a stock market was influenced by two main factors, namely the propensity of risk-taking and their risk perception. They also added that investors from the stock market are more to engage in risky opportunities and always have a tendency to project risky behavior. It suggests that listed banks are more apt to enter into risky ventures as compared to unlisted banks depicted by the higher mean. Asker et al. (2011) attributed the listed banks' increased risky behavior on myopia which is portrayed its management. There was not the case with unlisted banks as they participated less in the stock market and their savings were unresponsive to variations in the stock exchange. Carland III et al. (1995) also suggested that entrepreneurs whose objective is mainly to make a profit and financial development, there is a higher probability for them to portray a higher level of risk-taking propensities as opposed to small and unlisted firms whose primary goals are family needs oriented. The unlisted firms are mostly concerned about participating in the stock market since they are not completely persuaded that their financial position will improve and support them shortly. Regasa (2014) also added that the enthusiasm for risk among unlisted firms appears to be subsided.

Finally, the study found out that with the F- values for LLP, LEV, CIR, and LAD were the main factors, which contributed to the high levels of variance between listed banks and the unlisted banks in Vietnam. Feijó (2011) confirmed these results when he concluded that credit risk affects the economic activity of a region and the interest rate is a key factor in determining the credit risk. Angora and Roulet (2011) illustrated a higher liquid assets ratio to the total deposits suggested that the failure of a bank to refund some of its liabilities attributed to the demand for its liquid resources. Decker (2000) also added that liquidity of the commercial is associated with certain bank-specific factors, which adversely lead to the collapse of the stock market. Thus, essential for banks to take into consideration the solvency disparity of the various assets and liabilities, which the bank owns, to quantify the liquidity of the bank under examination.

Concerning the advantage, Mule and Mukras (2015) found statistically significant results suggesting that financial advantage is negatively correlated to the performance of listed firms. They interpreted these results to imply a negative determinant of Tobin's Q and ROA. The results were consistent with Ali's findings (2013) when he examined the influence of financial leverage on the financial performance of listed firms in the stock exchange. Based on the bank's age and size, Ali (2013) discovered that the older firms tend to enhance their market share while the younger firms to struggle so much to increase their market share over an extended period. It implies there is increased investors' confidence in the old organization as they have acquired or built a brand over a long duration.

Alhadab and Alsahawneh (2016) discovered a negative correlation between the financial performance of commercial banks and loan loss provisions (LLP). It was contrary to what the research obtained among commercial banks in Vietnam. With a positive LLP, there is a possibility of increased profitability of the commercial banks in Vietnam regarding the ROA and ROE.

6.1.3 Relationship between corporate entrepreneurship intensity and bankruptcy propensity

Altman (1968) proved that the Z-score intended to determine the prospects of bankruptcy occurring among financial institutions. From their study, they categorized the outcome of the Z-score into three main class namely Z-score < 1.81(high level of bankruptcy propensity), Z-score between 1.81 and 2.67 (indeterminate and should be careful) and Z-score > 2.67 (successful and safe from bankruptcy). The above results from the study and the table 23 indicated that there are 14 banks having Z-score below 1.81 suggesting that the commercial banks in Vietnam were

experiencing a high level of bankruptcy propensities (Altman 1968), and especially 10 banks out of this 14 banks having negative Z-Score below 0 and particularly, 8 banks out of them have been already merged or acquired before the year of 2015. Besides, there are 12 banks out of 14 banks with high possibility of bankruptcy belongs to the unlisted group

Group Statistics

	EXCHANGE	N	High Bankruptcy	On Alert	Safe
LLR	LISTED	14	2	0	12
	UNLISTED	26	12	1	13

Table 23: frequency table of Listed & Unlisted banks for the possibility of bankruptcy

These results were consistent with Altman (1968), Hannan and Hanweck (1988), Laura et al. (2011), Boyd and Graham (1986), Nguyen Thanh Duong (2013) and Chiaramonte et al. (2015). It suggests that cost of income reduced the Z-score increasing the possibility of being either entering into a merger or being acquired (Laura et al. 2011). Nguyen Thanh Duong (2013) supported the findings when he found out that cost of credit risk provisions and the rate of wages and pension costs positively related to the risk of a banking failure, while the ratio of loans and liquid assets ratio of important systems posit against risks.

Regarding the individual elements that were considered, the research found out that the results also indicated that LLR, and LEV were positively correlated to the Z-Score bankruptcy propensity while NIR, LLP, CIR, LDR, and LAD were negatively correlated to Z-Score bankruptcy propensity.

Ng and Roychowdhury (2013) discovered that the loan loss reserves (LLR) empower the financial institutions to take the necessary measures to avoid risk. From their study, they contended that the gap left by the loan loss reserves reduces the risk level of a commercial bank while at the same time minimizing the amount of net income expected. In the research, we found out that LLR variable was statistically significant to the Z-score bankruptcy propensity as compare to other variables in the study. The results noted that one-unit increase of LLR lead to an increase of Z-score bankruptcy propensity by 17.7 percent while other elements remained constant. Ng and Roychowdhury (2013) suggested that commercial banks with a high amount of LLP, loan loss reserves, implied that they are to undergo cash-flow losses shortly, especially during a liquidity crisis. Others researchers such as Wahlen (1994), Beaver and Engel (1996) and Elliott et al. (1991) purported that commercial banks should set aside a larger portion of loan loss provisions (LLP) to

enhance their loan loss reserves (LLR). It is considered economically feasible and will enhance the performance of the firm in the long run. Thus, it is appropriate for commercial banks to hold larger quantities of the loan loss reserve (LLR) to promote the financial strength of the firms as well as survive any plausible crisis.

Regarding the loan loss provisions (LLP), the study found out that one-unit increase of LLP led to an increase of Z-score bankruptcy propensity by 2.2 percent while other elements remained constant. It suggests that bank propensities negatively connected to LLP, the loan loss provisions, and adversely related to loan charge-offs. According to Ng and Roychowdhury (2013), the loan loss provisions (LLP) is perceived as a signal of strength, which reduces that the chances of firms going into bankruptcy shortly. Various researchers have also provided evidence indicating that commercial banks utilize their preference in loan loss provisions (LLP) to oversee the capital proportions (Moyer 1990; Ahmed et al. 1999; Beatty et al. 1995).

The Net Interest Revenue (NIR) indicates the level of efficiency in the use of interest-earning assets. Liquidity risk of a bank is associated with a reduction in NIR. In addition, liquidity is considered one of the conditions for determining an ability of a bank to pay back its loan. It is seen apart from asset quality (A), management quality (M), capital adequacy (C), earnings (E), and sensitivity to market risk (S) based on CAMELS, which is the confidential supervisory risk rating. From the research, the study discovered that one-unit increase of NIR lead to a decrease of Z-score bankruptcy propensity by 1.765 units when all the other factors held constant. It suggests that most of the banks considered to less capital, more problematic assets, and lower regulatory ratings. Thus, they acquired by other banks. The results from the data could also imply that the central bank of Vietnam maintains an almost zero interest rate based on the lower percentage of NIR to withhold the commercial banks' capability to provide loans (Jurkšas 2017). Jurkšas (2017) also discovered that NIR greatly influenced the overall use, the welfare of the net borrowers, financing non-performing loans among individual, organizations, and rise of obligated regimes on a short-term basis.

6.1.4 Effect of bank's size and age on the mergers and acquisitions

The commercial bank's size and age are considered a complex aspect of relating to mergers and acquisitions among commercial banks. According to Stiroh (2004), there is a great probability of improvement of operational efficiency among the larger commercial banks when they are involved in mergers and acquisitions. Montoriol-Garriga (2008) cited three key benefits from a

merger. These include cost reductions, income growth, and an enhanced bank size. From the benefits, the bank can achieve enhanced economies of scale, wide scope of business and improved diversification prospects. It is expected that the magnitude of the commercial bank after the merger or acquisition will develop a leading role in which they are empowered to influence the market prices towards their favor. The size of the commercial banks also anticipated empowering the acquired commercial bank to minimize its re-financing charges because of the newly acquired status and size. For both the acquired and acquirer, it is vital to determine their financial proportions so that they can be able to provide their suggestive productivity.

The researchers hypothesized that the bank's size and age was positively correlated to the bank's increased chances of involvement in either an acquisition or a merger. The study utilized a regression analysis to check the correlation the bank's size, age, and M&A. For both the size and age factor, the study rejected the null hypothesis suggesting that the younger banks expected to stop their association with the acquirer bank.

The research also found out that the bank's age and size were statistically significant to the chances of a bank being either acquired or entering into a merger ($p<0.05$). These results were supported by Strahan and Weston (1998) and Berger et al. (2007) when they discovered that older and larger commercial banks tend to indifferent to the necessities of smaller commercial banks they have acquired. They attributed to the fact that larger commercial banks are often deprived of advancing loans to small banks and firms. These results were consistent with Zhou Wong's (2008), Kasman et al. (2010) and Hawtrey and Liang (2008) who highlighted a negative correlation between the size of the bank and net interest revenue.

On the contrary, Maudos and Solís (2009), Aspachs et al. (2005), Maudos and Guevara (2004), Lucchetta (2007), Vodova (2011) and Hưng (2013) highlighted no relationship between the bank's size and its liquidity. It implies that when credit risks increase, there is a tendency for more losses to occur. Carland et al. (1995) also examined propensity of risk-taking among different ages and found out that more old respondents showed a lower level of a propensity risk-taking than younger respondents.

6.1.5 Difference between listed and unlisted banks regarding better corporate entrepreneurship intensity

To understand the differences between the listed and unlisted commercial banks concerning cooperate entrepreneurial intensity in Vietnam, the study has divided the differences into three main areas as follows:

6.1.5.1 Relationship between listed banks and responsible entrepreneurship

According to Erasmus and Scheepers (2008), the leadership of the listed commercial banks is more to be accustomed to venture into new markets, which are associated with high level of uncertainty, high rewards from the taking the new upcoming opportunities, support for possible start-ups in a firm, enhanced competition, and service innovation. The commercial firms selected for the study consisted of both listed and unlisted banks. The listed banks expected to be answerable to its shareholders while the unlisted banks are not. Based on such statement, it anticipated that the management of the commercial banks is expected to more careful when approaching propensities concerning investments associated with high risk. Therefore, the high quantity of lowly paid premiums and increased differentiation of shareholder's portfolio could lead to the acquisition of unlisted banks being perceived as value added activity, which is a big problem for the management.

The results demonstrated that the listed banks had means for LLP, LEV, LAD lower compared to the unlisted banks when it was examined against the risk-taking propensities. It means that Descriptively, the average of credit risk represented by LLP, LEV represented by leverage risk, and LAD represented by LAD of the unlisted banks are bigger than the average of the listed banks.

The study also found that the key factors affecting the credit risks, operation risk, and leverage risk leading to bankruptcy risk including LLR, LLP, LDR, CIR and LLP with the Sig-2 tailed >0.05, which to explain that there is no statistically significant difference between listed and unlisted for these variables. In other words, the study also hypothesized that unlisted banks were considered very risky and less responsible entrepreneurship was associated with huge amounts of bad debts. The results indicated that the unlisted banks during the period 2007 – 2018, negatively correlated to responsible entrepreneurship. The results also showed that unlisted banks and less responsible entrepreneurship because the unlisted banks were associated with high bad debts, which increases the credit risks (high mean LEV). These findings were consistent with Brockhaus (1980) and Carland et al. (1995) when they examined risk-taking propensity.

It emulates the ability of the strategic management to antedate the future tendencies, prospects and indulge strategies can bring about positive change for the firm. They further added that among the listed firms, the prices of the shares in the stock market mirror the risk propensity and the future return expected by the company. The prices of the shares are usually available; they should be able to measure the amount of capital required to finance a project as opposed to delisted or unlisted firms.

6.1.5.2 Relationship between employees' salaries and risk-taking propensity

From the literature, it was noted there were concerns raised regarding the methods used for wages and its relation to risk-taking propensities in times of the financial crisis. Various researchers have attempted to provide a possible connection between salary and risk-taking propensities. For instance, Saini and Martin (2009) discovered there is a high correlation between risk-taking propensities and firm productivity among the privately owned firms as opposed to publicly listed firms. Other researchers such as Hoskisson et al. (1991) and Sitkin and Weingart (1995) advocated the control of the company greatly influenced in either two ways, which is reward or punishment. According to Saini and Martin (2009), risk-taking propensities considered part of a strategic management role in which the capability of a firm to handle risks deviates from its policy response. According to Dasgupta et al. (2016), organizations that have employees with a relatively high salary wage are significantly associated with low risk-taking propensities and participate in less risk-taking ventures and higher advantage.

The researchers hypothesized that reduction of employees' salaries is negatively related to the propensity of risk-taking. The results revealed the decrease in staff salaries was statistically associated with higher risk-taking propensities. The study also found out that **β was greater than zero** implies that reducing the employees' salary will lead to fraud and corruption among the management as a form or risk-taking propensity. It suggests that the mergers and the acquisitions can militate against risk-taking strategic choices. Fahlenbrach and Stulz (2009) supported these finding when they discovered that the compensation structures affected by risk-taking propensities. The similar to commercial bank offers fixed, heavy compensations on salary. The purpose of the heavy compensation is mainly to safeguard the management of risky strategies executed in the firms; they are more poised to assume certain risks associated with adverse ramifications. Fahlenbrach and Stulz (2009) also highlighted that risk-taking propensity strongly correlated to unlisted firms as opposed to the publicly listed firms. It attributed to the fact that investors

significantly control the stock market price of the listed companies and voice their concerns with risk-taking choices through the punishment of the stock exchange price. Thus, listed firms tend to inhibited regarding risk-taking propensities.

6.1.5.3 Association between punishing stimuli and the risk-taking propensity

Listed banks perceived to have a huge capital base that can shield them from losses while the unlisted banks have a low capital base and problematic assets, makes them increase their loans/borrowings to grow. The weak condition is consistent with the lower efficiency and profitability. In fact, loans lead to higher costs and reduce interest income. If they cannot pay their loans (high liquidity risks or NIR is great), they attract a lot of regulatory penalties or fines.

The study also underlined there is a negative correlation between punishing stimuli by imposing a fine and the proper risk-taking propensity. From the analysis, the results indicated a negative correlation between punishing stimuli by imposing a fine and the appropriate risk-taking propensity. The results reveal that all variables of risk taking propensities all having sig (2-tailed) greater than 0.05 indicates that **the unlisted banks in general or the already M&A banks in particular were negatively correlated to punishing stimuli. Furthermore,** the above results also emphasized that listed banks had mean for CIR, and LDR greater and LAD almost equal compared to the unlisted banks when it was examined against the risk-taking propensities. In other words, the average punishing stimuli of the listed bank is greater compared to the unlisted banks. Brusco and Castiglionesi (2007) also supported these findings when they found out that financial risk attributed to moral hazard can be resolved if banks are sufficiently capitalized. Myerson (2012) suggested the need to develop a long-term relationship with banks and its borrowers to solve the financial, moral hazard is continually developing.

6.1.5.4 Analysis of Loan Loss Reserves, Loan Loss Provisions, Net Interest Margin, and Z-score Model

The proportion of Loan loss reserves to net loans (LLR) has eventually shown that the higher bad debt, the higher loan loss reserve. In other words, the higher ratio, the more difficult the bank gets the loan back. It was supported by Ng & Roychowdhury (2013) when they indicated that banks with a greater value of loan loss reserves suggest that they are more probably to suffer from liquidity losses in the immediate future, especially during a financial crisis. Loan Loss Provisions represent the business performance rather than credit risk assessment. Analysis of LLP supports the better

explanation of the effect of credit risk on banking activities. The results might improve the prior-studies. To explain the positive relationship between the LLP and bank risk, the loan loss expense raises an important implication that the quality of asset-based lending declines, and bad debt increases. Finally, NIR indicator reflected the level of efficiency in the use of interest-earning assets of the bank. An increase in the liquidity risk of the bank related to a reduction in the Net Interest Revenue (NIR). Concerning the liquidity risks affecting a bank, it is determined using some of the necessary conditions for determining a bank's financial position based on the confidential supervisory risk rating (CAMELS).

The research used the Z-score bankruptcy propensity to evaluate the corporate entrepreneurship intensity of the selected commercial banks. The research applied the modified Z-score model of Nguyen Thanh Duong (2013) and Chiaramonte et al. (2015) to evaluate the possibility of bankruptcy for commercial banks during the period 2011- 2017 and examined the different levels of bankruptcy propensity of the Vietnamese banking system. The research also computed the Z-scores to evaluate the entrepreneurial entry mode selection of the banks. Furthermore, the research relied on a quantitative method to measure; quantify banking risks affecting commercial banks' restructuring in Vietnam guided by the Decision No. 254/QD-TTg. Results from the research indicate Loan Loss Reserves, Loan Loss Provisions and Net Interest Revenue increased the level of Z-Score bankruptcy propensity while the Leverage, cost to Income and Income Diversity, Loan to Deposits Ratio and Liquid Assets-short term to total Deposits significantly reduces the Z-Score bankruptcy propensity. It suggests advantage, the amount of income, deposits, and liquidity of cash are the key drivers of reducing bank risks. The results highlight the critical role of recognizing the special effects of liquidity, distribution of income and the development of a saving culture to address the increased banking propensities affecting Vietnamese banks.

6.2 Conclusion

The research is trying to make an empirical attempt to analyze the influence of Listed and unlisted in general, and merger and acquisitions in particular on the corporate entrepreneurship that affected the banking system in Vietnam. The methodological framework offers a comprehensive understanding of the economic development in context to the commercial banking along with their associated risks. Bad debts and inefficient market lead to the obstruction in the development of the strong financial image of the banks operating in Vietnam. The country has witnessed a significant

reduction in listed and unlisted banks because of the M&A, which determine a newer framework of capital generation. However, controlled mergers play a vital role in restructuring the economic framework of operation by cumulative legal bad debts. The current study intended to investigate the degree to which banking propensities can facilitate and encourage post-mergers and acquisitions among Vietnamese commercial banks in the country during the period 2007 – 2018 in order to accomplish the desired goals of increased scale and efficiency. From the study, it is quite evident that the banking system is considerably affected by the M&A, which is restructured and manipulated according to merger and acquisition regulations.

The analysis of the data indicates that the acquired commercial banks are characterized by small in size, receive less income, perform small base of operations and record fewer returns from investments as compared to the acquiring firm. Also, **the listed commercial banks on the stock market exchange perceived to be associated with low level of risk-taking propensities. The key factors, which differentiated the listed commercial banks from the unlisted banks statistically, included the performance, risk-taking propensities, bank's size and punishing stimuli.**

The results suggested that corporate entrepreneurship intensity and Z-score bankruptcy propensity significantly influenced mergers and acquisitions among Vietnamese commercial banks. The research applied the modified Z-score model of Nguyen Thanh Duong (2013) and Chiaramonte et al. (2015) to evaluate the possibility of the bankruptcy of 40 commercial banks during the period 2007- 2018 and examined the different levels of bankruptcy propensity of the Vietnamese banking system. From the analysis, the researchers discovered that ROE and ROCE were significant at $p = 0.00$ (< 0.05), but ROE had a lower t value as compared to ROCE.

The research examined the correlation between responsible entrepreneurship and the risk-taking propensity among the commercial banks in Vietnam. The research discovered that the listed banks had a significant level of risk-taking propensities as compared to unlisted banks. The variation attributed to the different characteristics possessed by the banks such as risk-taking, innovativeness, proactiveness among others (Carland et al. 1999).

The study also determined the influence of both size and age on mergers and acquisitions among commercial banks in Vietnam. The study discovered that both age and size of the commercial bank negatively correlated to the likelihood of a bank being either acquired or entering into a merger. In the case, the young commercial banks expected to stop their association with the

acquirer bank. These results were consistent with Strahan and Weston (1998) and Berger et al. (2007). They found out that older and larger commercial banks largely ignored the needs of smaller and younger banks they have acquired.

The study also discovered that the reduction of employees' salaries was correlated to the risk-taking propensities. Lastly, the study established that The results also indicated that LLR, and LEV were positively correlated to the Z-Score bankruptcy propensity while NIR, LLP, CIR, LDR, and LAD were negatively correlated to Z-Score bankruptcy propensity.

The results of the research study increased understanding of the correlation between M&A and corporate entrepreneurship as both do affect each other according to their respective regulations and characteristics. The outcomes are vital for commercial banks, regulatory agencies, central banks and government as they attempt to understand how mergers and acquisitions could be used to explain the correlations that can exist between the corporate entrepreneurial intensity of the commercial banks and risk-taking. The results also indicate the extent to which entrepreneurial intensities exist among the commercial banks and the need for stringent regulatory measures to evaluate them.

6.3 Limitations of the Research

During the research, the study was constrained by some limited regarding the restructuring of the banking system and the limited amount of time allocated to finish the research activity. The study was also performed for the period 2007 – 2018. Another constraint which influences the research was attributed to literature, which does not have enough empirical results on the extent to which the bank propensities has affected mergers and acquisition as a form of corporate entrepreneurship among commercial banks in Vietnam and the role of regulatory policies such as bankruptcy protection.

Results from the research indicated that LLP, LLR, and LEV increased the level of Z-score bankruptcy propensity while NIR, CIR, LDR, and LAD significantly reduces the Z-score bankruptcy propensity. It is essential to maintain a threshold for some of the elements especially for those that increase the Z-score bankruptcy propensity to protect the banks from possible bankruptcy. Moreover, it was also noted that bank propensities significantly influenced key features of the commercial banks such as age, reward framework, size, labor supply, resources among others.

6.4 Future Direction of the Research

The results of the study have significant consequences on commercial banks dealing with administration and recognition of the fundamental elements of risk-taking propensity. The results showed that corporate entrepreneurship intensity and Z-score bankruptcy propensity significantly influenced mergers and acquisitions and therefore, the commercial banks must take caution against argumentative risk-taking results. If the strategic level of management makes a decision concerning the acquisition or merger, it is expected that the risk-taking propensities increase. Thus, risk-taking propensities tend to increase the cost of operating, prices of products, and market prices among others.

There had been a considerable number of conducted researches concerning corporate entrepreneurship and risk-taking propensities. However, it proved to be difficult to establish the extent to which banking propensities explain post-mergers and acquisition. Therefore, such substantiation is applicable for the commercial banks to consider a framework's ability to guide the strategic roles on risk-taking propensities and performance irrespective of whether they are listed or unlisted. There is also need to extend the period under which the study is performed. The study also recommends a research on the restructuring of the banking system about the credit risks among the Vietnamese banks. Based on the empirical results into the corporate entrepreneurship model of the bank propensities and bankruptcy as a form of mergers and acquisition, it is a critical area for more extensive research.

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