

Economic Decision-Making and Risk Management: A Relation From the Banking Perspective

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ABSTRACT

Because of the recent financial crisis in the United States, the need for adopting effective risk management practices has increased. Essentially, the volatility of the sector calls for an augmented re-evaluation of several aspects: the framework, the components of uncertainty that management practices by commercial banks, regulatory agencies, and scholars. By doing so, the stakeholders in the financial sector would ensure conformity to the best practices. Furthermore, the research herein uses the Ames National Corporation (ANC), which is a commercial bank in Iowa, USA as a case study. The institution risk profile and risk management practices are evaluated to give insights on conforming to the best international practices. The research also seeks to establish if effective risk management leads to enhanced performance and profitability for financial institutions. The study integrates previous findings from scholarly work from two key areas of study: risk management and enterprise risk management (ERM). The analysis of ANC's risk profile is accomplished with analytical tools, mainly ratios and graphs. Finally, the conclusion states areas on which further research should be conducted.

KEYWORDS

Decision-Making, Economics, Engineering Management, Project Management, Risk

INTRODUCTION

Gain, risk, and gambling are terms that invoke either negative or positive feelings. These terms are critical in economic decision-making, especially where uncertainties and risks are involved. From a practical perspective, uncertainty is a common phenomenon in both macro and microeconomics. A majority of the financial and economic decisions have a degree of insecurity. Essentially, the decision-makers may have imperfect knowledge regarding how particular choices lead to certain outcomes. The impact of such uncertainty is usually profound and goes beyond typical gambling. Undeniably, many forms of risk exist in daily living, such as preferring to use a cab over one's personal vehicle.

Furthermore, there are many definitions of risk depending on the scenario at hand. In this case, it shall be considered as the psychological state in which the decision-makers lack prior information concerning the outcomes of their economic choices. The most common aspect of uncertainty that is considered by economists and neuroscientists is risk. Fundamentally, it can be defined as a phenomenon

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with a certain distribution of probable outcomes. The research focuses on identifying the relationship between economic decision-making processes and the management of risk in the U.S banking sector.

BACKGROUND OF THE STUDY

The past decade has been characterized by the most tragic financial meltdowns. The impact of these crises was inescapable, and it affected nearly all of the sectors of global business. The sector that was most affected was the financial services industry and the banking sector. The economic crunches bred turmoil in most of the financial institutions, while some experienced the most dramatic exits from the industry (renowned giants, including the Bear Stearns and the Leman Brothers). The sector also attracted augmented regulations, scholarly criticism, and public anger. Researchers and renowned economists gave many explanations regarding the failures experienced during that time. The notable factors, which were repeatedly mentioned, are economic decision-making and risk management. Fundamentally, the two have been established to have a critical correlation through which the banking sector can reclaim its lost glory.

Thus, the triggering impact has accorded the diverse stakeholders in the United States of America banking sector as a new resolve. They have become more conscious not only concerning the returns, but also with the examination of the frameworks that are used in making financial decisions and managing associated risks. Thus, their interests can be well safeguarded. The recent failures that have characterized the sector have been squarely blamed on regulatory frameworks that can enhance the economic decision-making and risk management processes. The most significant impact of the financial meltdown on the sector entailed the abrupt and dismal performance reported by some banking institutions that were previously seeing huge profits.

The primary reason for such failures in risk management is said to be the inability of banks to influence the investment decisions of the borrowers. A majority of the financial considerations done by banks are pegged on their profitability interests. Nonetheless, there are many inadequacies that allow for accurate and timely forecasts. For that reason, most of the institutions have resulted in breaking fundamental risk management rules, such as avoiding the minimum concentration assets and reducing the volatility of the expected returns.

PROBLEM STATEMENT

Banking institutions in the United States of America make economic decisions on a daily basis, particularly regarding credit facilities. Risk management has been considered as a critical ingredient that determines the success or failure of financial institutions. Nonetheless, little scholarly attention has been paid to this important factor. This research study seeks to emphasize the need for banking institutions to embrace more elaborate economic decision-making and risk management processes. The case study of the Ames National Corporation (ANC) is used to exhibit how banks can augment their ability to manage risks in their operations and in financial decision-making. Undeniably, the fundamental goal of every institution revolves around the maximization of the shareholder wealth while raking substantial profits. This facilitates the expansion or the development of new products. Statistics indicate that risk management in credit, market, and operations is an area that erodes a great proportion of the revenues.

The banking sector in the United States of America is relatively volatile because of the complexity of the financial system in the country. To a significant extent, the regulatory authorities, including the Federal Reserve Bank, The Federal Deposit Insurance Corporation (FDIC), and the Consumer Financial Protection Bureau, have failed to ensure that all institutions adhere to the required standards of risk management.

Objective of the Study

The aim of this study is the assessment of the role of risk management in the economic decision-making processes within the USA banking industry by using ANC as a test case. The research specifically aims to accomplish the following:

- To establish the causes of evolution or risk in the banking sector.
- To examine the various ways employed by financial institution in the identification, analysis, and mitigation of associated risks (steps applied in the risk management process).
- To establish the correlation between the theoretical and empirical risk management in the financial sector.
- To provide recommendations on appropriate credit risk management tools that are feasible in enhancing the performance of banking institutions.

Literature illustrates the importance of these variables, their concepts, and models in project management and performance, but there is a research gap. Essentially, literature does not address the ways in which these variables, their concepts, and models improve project management and performances. In this study, the research is derived from such a knowledge gap, as its focus is to assess the elements and applications of the most current these variables, their concepts, and models. Additionally, this study assesses the likenesses and differences between them to create a universal framework of the best practices. As a result, all forms of project, operations, and performance can benefit from this framework. This study provides evidence-based answers to questions from experts on these variables, their concepts, and models, such as ways to maximize on them for achieving project management and performance goals. Finally, this study can work as a platform for future research in this subject.

Managerial Relevance

Being an engineering manager means having to make decisions, and this will become even more important in the future of project management and engineering. Since the engineering management practitioner can benefit from a discussion on the future of engineering management and their operations and project management lifecycle, then this paper is important. Also, this study provides an outline of its importance in the engineering management field. The implications of these findings are explained in reference to the corporate, managerial, project team, and other organizational levels. In the conclusions, an engineering management practitioner can make improvements on utilizing these variables, concepts, and models.

Originality

Furthermore, this study will form new literature about these variables, their concepts, and models by evaluating their likenesses and differences. This paper is an amalgamation of other studies that share this paper's hypotheses, and such data was used to contribute to this paper.

This study takes different research approaches and ideas to find new ways to solve current problems. Firstly, this study approaches the assessment with a design-science-investigate method. Then, this study approves a growth reveal for reasonable and hypothetical application. Finally, the paper generates an assessment model for these variables, their concepts, and models. There is a focus on the evaluation instruments to answer the examination question, and the development models are outlined. There is an outline of the results of the meetings, while the paper concludes with initial discoveries and ideas to organize analytical limitations for future studies.

Additionally, this study contributes to the IE/EM profession, as the findings show the benefits of these variables, their concepts, and models. This study also illustrates the limitations of not considering

performance and sustainability. Lastly, there are real-life examples that highlight the need to apply these theories to both theory and practice.

Organizational and Managerial Contribution and Relevance

This research aims to assess the variables, their concepts, and models to create a more unified framework and to fill a research void. The results can also apply to many different subjects in business, and assessing these variables can help to understand the advantages and disadvantages.

All bodies of knowledge can gain useful information from this study, as it provides new avenues for future researchers and how to view these factors. For a practitioner, this study is useful because it helps to understand these variables and their relationship. As a result, this study will help to understand the implications and relationship between them.

Contribution to the Field and Profession of Industrial Engineering

Also, this study contributes to Industrial Engineering research by speeding up the engineering work process. Engineers can find information that will help to organize and maintain the system with the latest technology. The engineer can even save time, money, work hours, machine time, and additional resources that could hinder output.

Industrialists can also find useful information, as well as other readers. There is comprehensive and easily-understood vocabulary in this study to illustrate the effectiveness of these variables, their concepts, and models. The theoretical framework is clear, and it contributes more information accessible for this study to be used as a future reference.

Paper Organization

Essentially, this study is broken down into the following sections. Firstly, section two features a literature review for pre-existing literature. Subsequently, section three contains the research methodology. Section four contains the findings, while section five outlines the implications for the practitioner, features ideas for future research, depicts research limitations, and gives general conclusions.

LITERATURE REVIEW

Definition of Risk

Risk is a broad term and can be used in diverse disciplines. In economics, it can be best defined as the chance of a financial loss. The term is used synonymously with uncertainty, which denotes the unpredictability of the returns gained from an investment project. Also, risk is extensively used in entrepreneurship circles and denotes the spirit of value creation. According to Seth & Shortridge (2017); Besner & Hobbs (2012); Easton & Rosenzweig (2012), nothing is a risk itself. Nonetheless, anything can count as risk depending on the ability of analyzing the underlying danger and acting in time to mitigate the same. Risk has also been defined as the actualized unpredictability associated with the occurrence of an undesired event. Undoubtedly, risks and human life are inseparable and correlate decision-making processes that have uncertain impacts.

In recent times, risk assessment and corporate risk management processes have emerged to be critical elements, particularly for the financial institutions. In their daily operations, companies are exposed to diverse sources of uncertainties. The risks can be broadly categorized into the financial and operational uncertainties (Roger & Christine, 2018; Labedz & Gray, 2013; Parker et al., 2015; Nagel, 2015; Galli & Kaviani, 2018). The operation risks can be defined as the qualms associated with the organization's investments and the investment openings. Also, they are significantly impacted upon by the product markets in which the company thrives. On the contrary, financial risks are market-

wide misgivings, which can affect the overall financial performance of banking institutions in the economy. Thus, the two kinds can have a profound influence on the entire company.

Risk Management in the Banking Sector and its Impact on Financial Decision-Making

Risk management in the financial industry has undergone a rapid evolution over the years. It has grown from a mere procedure used in ensuring the quality of loans to an overly multifaceted system of techniques and instruments. In the early years, most banking institutions only reacted to changes that had already happened. Now, the survival of any company is significantly dependent on its internal abilities to project and prepare for changes that are likely to occur. Essentially, risk has an in-depth correlation with unpredictability, so its reflection in financial institutions is a primary element in the capital. It can be best described as the shield that cushions the liability holders in the institution. Uncertainties are intertwined, as the occurrence of one can trigger multiple gains or losses in different releases.

Furthermore, the diversity of risks requires a deeper understanding of the complexity of uncertainties involved in the banking sector. Consequently, the various decision-makers within these institutions would be better placed to confront, control, and understand the best methods of managing. For that reason, every transaction or venture undertaken by the banking institution can alter the risk profile. It is virtually impossible for the risk analysts to provide instantaneous risk and the overall uncertainties profile.

According to Lechner & Gatzert (2017); Papke-Shields & Boyer-Wright (2017); Galli & Hernandez-Lopez (2018), Risk Management (RM) is described as the undertaking of a series of activities that dip the adverse effect (cost) of unpredictability, concerning the probable losses. Danijela & Marina (2016) define RM as a systematic procedure that facilitates the documentation, the assessment of the pure loss exposure faced by an institution, and the identification and application of the best mechanisms for averting the detrimental impacts of such exposures. Fundamentally, it is a three-tier process that entails the documentation, evaluation, and management of the uncertainties. Danijela & Marina (2016) also note that besides being a process, RM entails other sets of models and tools that facilitate the assessment and control of risk, and it has several key objectives in financial institutions. Firstly, it minimizes the volatility of the diverse cash flows. Secondly, it reduces the risk of foreign currency losses. Thirdly, it aims at protecting the company earnings from unprecedented fluctuations. Lastly, it augments the profitability and the overall survival of the company at large.

The new school of economic thought notes that risk management is all about being conscious of the uncertainties with a clear purpose on how they can be identified, assessed, and averted to avoid unprecedented losses. The fundamental aim of RM remains ensuring that the various investments bear the best risk: reward ratios. Essentially, prior to making any investment, it is important to weigh the unpredictability against the gains to pronounce if the gains are worth the risk. The managers need to approximate the magnitude of the potential damages to ensure that there are regulatory bodies within the internal affable limits. Banking institutions need to formulate and implement techniques for prudent risk-taking for both individuals and for divisions.

According to Therese & Mark (2016); Galli et al., (2017); Marcelino-Sádaba et al., (2014), RM is a continuous process that enables the managers to meet goals by ensuring that key risk factors are documented and that proper mitigation measures are put into place. It goes beyond the surface, as they have to ensure a balance of the uncertainties by earmarking those that need to be reduced and those that require an increment. For that reason, it is prudent to establish techniques that aid the monitoring of the risk positions at a particular time.

However, Simon & Hillson (2014); Schwedes et al., (2017); Xue, Baron, & Esteban (2017) state that the primary goal of RM is to assess uncertainties to monitor and control them. This will enable the outcomes to serve other crucial functions in the institution, besides the direct monetary functions. Such include facilitating the implementation of the ultimate corporate strategy. Undeniably, with a

better perspective of the future, it is relatively easy to define the short and long-term policies. An institution that enjoys these benefits has a better hand in creating a competitive edge, particularly through computing suitable pricing and formulating distinction strategies that are based on individual customer risk profiles.

Rationale for Management of Risk in Banking Institutions

The fundamental goal of banking institutions remains the maximization of the projected profits, considering the volatility involved. For that reason, it is prudent for any organization that is focused on maintaining a steady growth to seek ways of managing said volatility. Essentially, risk management entails any attempt by management to minimize the negative implications of volatility on the profits. The impact of such unprecedented and adverse changes includes the reduction in the value of the shareholder's wealth. A myriad of economists and authors have provided explanations for why managers in financial institutions need to partake in managing uncertainties in their firms. According to Nadine & Joan (2016); Zwikael & Smyrk (2012); Svejvig & Andersen (2015), there are four key rationales for the management of risk. The first entails the institution's interest in safeguarding their position within the industry and their wealth. Some economists contend that banks have a limited capacity of diversifying the internal investments because of the risk averseness involved. Consequently, they prioritize the stability of the earning as opposed to risk. Essentially, when all of the pertinent factors remain constant, internal stability bears a great potential in augmenting utility.

According to Ahmed & Mark (2014), the management of risk is complex, as it has an inverse correlation with the profitability. Beyond raking in huge profits, every organization has a particular focus on cutting down on the tax burden. By doing so, managers can successfully reduce the uncertainties. The United States of America has progressive tax schedules, so the only way to stabilize the tax expenditures is with smooth revenue streams. Therefore, managers institute mechanisms that can reduce the volatility of the taxable income. Such measures are critical in safeguarding the value of the stakeholders. Another rationale for risk management entails the reduction of the variation of profits, which has a likelihood of triggering financial distress within the organization.

Furthermore, Alexander et al., (2017); Sharon, Weck, & Dori (2013); Lee et al. (2013) assert that a significant reduction in the profit levels results in a corresponding decrease in the shareholder confidence levels. In worst-case scenarios, a bank may lose its strategic position within the industry, which can eventually drown into bankruptcy. With these realizations, managers are always keen on making sound economic and investment decisions that hinder the low realizations. Risk management is preferred, as companies are focused on eliminating meager profits, which pushes the organization to seek investment opportunities beyond the normal scopes. Thus, a majority of the investments are rendered suboptimal, so the shareholders' value is drastically reduced. Capital market imperfections dictate that the cost of financing external investments is always on the higher side.

Undesirable short and long-term financial results always push the managers to actively engage diverse mechanisms to reduce the volatility of different factors that impact the earnings. Essentially, they have to ensure that the profit levels are predictable enough, and if there is an increase, then it is gradual and can be accounted for. The above-mentioned criteria are the key influencers of the risk management practices in a majority of the financial institutions. The bottom-line always entails the safeguarding of the capital base. The only sure way to maintain the confidence of the investors is to ensure that their assets are secured against negative fluctuations. Thus, all economic decisions pertaining to internal and external investments must be carefully weighed regarding the risks they pose on the base capital. All financial products must be attached to a risk assessment and mitigation technique.

Classes of Risk Management and Their Impact on Financial Decisions

As noted by Aven (2016); Zhang et al., (2016), a principle characteristic of financial institutions, including commercial banks, entails the bundling and the unbundling of risks. Nonetheless, not all

uncertainties have an inherent impact on the financial operations and decisions that should be handled directly by them. There are mechanisms that can facilitate either the total elimination or transfer of trading. For that reason, the most important task for the institutions is to categorize the risks, which are integral in their undertakings and assets. They can be classified into three distinctive categories based on their nature. The labeling is essential because it enables management to seek different strategies for mitigating them, rather than bundling them altogether, which reduces the efficiency of the techniques.

Furthermore, Lev & Michael (2017); Yun et al. (2016); Usman Tariq (2013) allude that uncertainties pertaining to commercial banks can be segmented into three distinct classes from a managerial point of view. Their influence on financial decisions is profound depending on their nature. Some of the instabilities can be avoided, transferred to other players in the industry, or can be eliminated as a whole. For the effective management, the bank must embrace critical business practices in all departments within the institution. The avoidance of volatilities is particularly essential if the institution aims to shun the risks, which are not crucial to the services offered. Consequently, the company shifts its focus towards the optimization of handling the essential uncertainties. Some of the actions and practices include conducting due diligence to avoid possible eccentric losses, which is accomplished through eliminating instabilities that are superfluous to the operations. Also, the organization can strengthen its underwriting standards to ensure that each economic decision is supported by a solid reason. Other operation practices to the same effect include the diversification of investment, reinsurance, and equivocation.

After avoidance, the remnants include operational and systematic risks that should be reduced to the lowest possible level. It is prudent for management to communicate with shareholders to inform them of such risks and to assure them that their impact is always mitigated, as avoiding these kinds of risks is possible. Nonetheless, the overall impact entails a significant decline in the profitability of the diverse business activities undertaken by the institution (Hopkins, 2012; Galli, 2018a; David, David, & David, 2017; Brown & Eisenhardt, 1995). Some of them can be transferred to other players in their business circles, especially if their absorption does not aid in gaining a competitive edge. However, firms need to be very careful in such transfers to ensure that they are handled by other parties who are better positioned to manage and to create a mutual benefit, even for the parent company.

The third category of uncertainties entails those that should be wholesomely absorbed and effectively managed at the institutional level, which are critical to the survival and profitability of commercial banks. More resources should be set aside to ensure that they are effectively managed, including those where the nature of the inherent uncertainty is extremely compound. Thus, they must be revealed to the non-firm interests. For instance, institutions that hold multifarious illiquid and proprietary assets may be forced to shoulder the associated risk, rather than issuing such sensitive information to other parties. Undoubtedly, revealing information pertaining to the clientele may be a breach of their privacy and may offer undue advantage to the key competitors in the industry. According to Aven (2016); Detert (2000); Gimenez-Espin (2013), the internal mitigation of some instability may be critical due to the centrality to the institution's purpose. A typical example is the propriety positions, which are accepted because of their risks and their projected returns. The management, in this case, entails monitoring both the risks and the proceeds, which is integral to conducting business.

Undeniably, the categories of risk have a profound impact on the economic decisions made by the bank. For instance, an institution may avoid channeling investment in an area that may have risks and should be avoided. On the contrary, there are areas that must be worked on regardless of the risks associated. For example, the bank has to ensure the maintenance of operations that guarantee the required levels of liquidity at all times.

Major Types of Risks Faced by Commercial Banks

Banks act as intermediaries between the financial savers and the funds-seeking investors. Fundamentally, they receive deposits from parties seeking to save and to offer credit services to others

who seek to invest. In the process of offering said services, financial institutions assume diverse uncertainties that are either financial, non-financial, or both (Berman, 2015; Galli, 2018b; Eskerod & Blichfeldt, 2005; Shenhar & Levy, 2007). Furthermore, the instabilities that are integral to the operations vary from one product to the other. Different economists and scholars have worked hand-in-hand to categorize the risks as stipulated above. The key purpose of the categorization entails the development of the assessment structures. Also, the common types of risks include reputational risk, market risks, operational risks, and the credit risk. Each risk may have sub-categories depending on the circumstance and context.

Market Risks

As indicated by Johanna & Torben (2018), market risk and the instabilities regarding revenues are described, which originate from the changes orchestrated by economic phenomena (i.e., the fluctuations of equity and commodity prices, interests, and the exchange rates). Commercial banks are susceptible to the market risks in both their trading operations and the management of internal balance sheets. According to Grace & Phillips (2014), any changes in the market risk factors lead to respective changes in the value of portfolios, including the trading and investment assortments. The three typical factors are the foreign exchange rates, liquidity, and the savings and credit interest rates. The management practices feature a mechanism to monitor, to evaluate, and to control the liquidity, the internal interest rates, total equity, the commodity price risk, and the foreign exchange rates. Thus, each factor plays an integral role in the formulation and implementation of the commercial strategy of an institution (Nabavi, & Balochian, 2018; Nikabadi & Hakaki, 2018).

Liquidity Risk

Additionally, according to Erastus & Mark (2017), a bank is said to face this type of instability if it cannot do the following: guarantee the redemption of customer deposits, cater for the liabilities, and accommodate the increases in the investment and loan portfolios. The scholars further note that a commercial bank can have a sufficient liquidity capacity if it can efficiently obtain the required monies without delays and at the most reasonable cost. Some of the common ways of increasing liquidity include the sale of assets, the augmentation of the liabilities, and the securitization of assets. Dildar & Waqar (2016), in their consultative paper, defined liquidity as the capacity of a financial institution to fund increases in their asset base and to effectively meet the financial obligation without earning objectionable losses. Also, Evelyn (2018) considers the associated risks from three specific perspectives. The first one is where an institution faces problems in availing funds at a reasonable cost because of the transaction volumes, unprecedented increase in interest rates, and their fluctuations. The second perspective considers liquidity as a safety mitigates that facilitates the gaining of time, particularly in difficult circumstances. The last perspective views liquidity risk as an extreme scenario, which arises from instances of huge financial losses that trigger issues in liquidity and the survival of the institution.

Furthermore, each of the mentioned factors has a diverse impact on the balance between liquidity risk and liquidity creation. The central factors that have a profound impact on the balance are the assets and liabilities held by the banking institution. The liabilities entail all of the sources where the funds are acquired. Also, the three major sources of funds include the long-term finances, monetary deposits, and the borrowed funds. The ratios of the three play a key role in determining the liquidity risk and the bank's capability to create liquidity. Essentially, liquidity risk is determined by the ease in which a bank can access the various funds. It is critical, as it enables financial institutions to compensate for both the projected and the unexpected fluctuations in the balance sheets to avail funds for spurring growth and expansion. Erastus & Mark (2017) note that it is important to consider liquidity risks when considering expanding credit. In such a scenario, the uncertainty should be perceived as the latent for a funding instability. Such an occurrence would trigger adverse impacts on the banks profile,

including the decline of client confidence. Fundamentally, the control of liquidity risks is essential in ensuring that an institution can meet its cash flow commitments.

However, Dildar & Waqar (2016); Winter et al. (2006a); Xue, Baron, & Esteban (2016); Von Thiele Schwarz (2017) state that the primary work of a commercial bank is the conversion of interim cash deposits into long-term loans. It is this particular role that augments their susceptibility to liquidity risk. When a single financial institution makes a liquidity blunder, then the impact may be felt in the entire banking system. For that reason, the management of liquidity risk is of critical value not only to the industrial players, but also to the regulatory authorities. In the research study from Enterprise Risk Management Committee (2014), it was concluded that the cost of liquidity has a converse correlation with the market situation and how the integral uncertainty of the borrowing institution is perceived. It implies that if there is a nationwide crisis with a dire scarcity of currency or if the impression of the institution credit declines, then funding costs will always go up. Thus, the financial market has enhanced the complexity of managing the associated risks in the past decade.

Interest Rate Risk

Fundamentally, the interest rate risk is defined as latent for alterations in interest rates or a decline in the financial institution's value. The receivables and credit products on the balance sheets have a mutual characteristic of instability, while the rates are definite for the borrowers. According to Grace & Phillips (2014), the combination of unstable rates and an expanding array of on-and-off balance sheet products have augmented the challenge associated with the interest rate risks. Nonetheless, the proper use of derivatives, including the rate swaps and financial futures, comes in handy when minimizing the rate exposure. Johanna & Torben (2018) postulate that financial institutions encounter such risks from four major sources, including optionality, the re-pricing risk, basis risk, and the yield curve uncertainty.

There has been a rising trend where interest risk stems from the diverse options tied to the assets, financial obligations, and the off-balance sheet portfolios. If management fails to institute proper control mechanisms, then the options can pose augmented risk. The alternatives held by the clients can benefit the holders and the loss of the banking institution. Furthermore, the augmenting assortment of options can entail a significant influence, which can increase the impact of the diverse option positions regarding the financial standing of the bank. In a nutshell, the management of associated risks is an amalgam of techniques, policies, and actions. These are employed by the bank to minimize the instability of diminution of the net equity, which occurs as a result of hostile interest rates. The risk may have potential effects not only on the revenues, but also on the economic value.

Operations Risk

According to Hopkins (2012); Todorović et al. (2015); Sutherland (2004), operation risk is the possible exposure to the incurrence of losses, which occurs as a result of the shortfalls in the internal processes, systems, the human resources, or from external occurrences. The advancement of technology has led to the computerization of nearly all processes. A malfunction occurring in the information systems may result in extensive damage of the entire banking system. The inability to comply with the internal risk policy regulations also increases the probability, so these types of risk are multifaceted and may be present in different levels. They may originate from human errors or failures in the information communication technology (ICT) systems. Due to their nature, such kinds of uncertainties are classified as event risks. In the absence of an effective identification mechanism, some of the instabilities may remain undocumented. Consequently, the management may not implement a corrective action in a timely manner. Eventually, it might be overly complicated to undo the consequences, so the impact may be dire. Augmenting levels of operation risks has been significantly contributed to by the modern developments in the industry, including the outsourcing of functions, the expansion of e-commerce, the retail functions, and the integration of sophisticated technology.

Furthermore, Cristina & Giulia (2017) note that recognizing the impact of the mentioned factors has triggered a high alertness among banking institutions and the development of more complex operation risk management techniques. The management teams have a critical role to play in ensuring that all the financial decisions made are in line with the risk control practices in all domains. In fact, the risk management activities should have budgetary allocations to ensure that they effectively meet the roles in identifying, assessing, and controlling operational uncertainties. There are many challenges that are associated with these techniques, and they occur for a number of reasons. Firstly, it has always proved difficult to identify universally applicable factors that can aid the formulation of standard tools and management systems. The principal reason for the wide variation is because every banking institution has its own way of conducting matters. Secondly, the exact impact of particular risks has always proved difficult to predict. Thirdly, it is nearly impossible to develop an appropriate technique that is charged with the systematic documentation of trends in the risks because gigantic operational losses are a rare phenomenon or are isolated.

The great variation in risk has prompted scholars to design an effective risk management structure. The development is based on the mutual categorization of loss occurrences, which serve as a repository for all of the data collection processes on the frequency of events and the costs involved. The gathered data is evaluated using diverse statistical techniques, such as the graphical depiction of the likelihood and the severity of the risks. The obtained result is crucial in facilitating the establishment of correlation between different uncertainties. The final phase of the process entails the estimation of worst-case losses, which might be orchestrated by the events risks. According to Roger & Christine (2018), the designing of loss distributions, based on associated risks, facilitates the computation of the capital charges to be attached for each in accordance with the existing regulations.

The proper implementation of an operations risks management structure might call for the review of the organization culture of a firm. Compliance should go beyond the rules set by the regulatory authorities. The management board should establish policies that routinely report a definite interval. The workforce should be trained on the ropes of the same, and banking institutions ought to have reliable mechanisms of self-assessment to mitigate the uncertainties with the lowest possible cost.

Strategic Risk

Nadine & Joan (2016); Parast (2011); Milner (2016) note that risks associated with corporate strategies have received relatively little attention compared to their financial and credit counterparts. Strategic risk entails an amalgam of external occurrences that can have a disastrous impact on the firm's growth trajectory and the shareholder value. Nonetheless, other scholars have had a different perspective on the same. For instance, Lev & Michael (2017); Xiong et al., (2017) view it as the potential effect on capital or revenues that originates from internal commercial activities, including poor economic decisions or the inappropriate implementation of said decisions. Similarly, the inability of a banking institution to adequately respond to changes in the industry bears a similar risk. The second school of thought defines strategic risk as a complex function of the compatibility of a firm's premeditated objectives, the commercial plans for accomplishing the goals, the resources channeled towards the achievement, and the quality of application. Simon & Hillson (2014) define strategic risk as the instability that occurs from an organization pursuing its commercial goals through using available opportunities and the bid to diminish the threats.

Whichever way strategic risk is defined or considered, it involves many threats that are not financial in nature. They can either have a credit or operation connotation and are triggered by macro-economic elements, trends in the financial industry, or failures experienced in the company's strategic choices. The primary impact is on the organization's revenues and the shareholders' value. Also, the threats compose the bank's most significant exposures many times, so they can have the most adverse impact on the overall value. Just like the other risks, they are not easy to project and they occur in multiple forms. Thus, economists and scholars have not successfully designed tools and mechanisms that can facilitate their systematic management. Formal risk management processes can

only be used where the risks involved are identifiable, so they are less suited to tackle the unexpected financial and strategic occurrences that characterize the modern business environment.

Additionally, Erastus & Mark (2017) made an attempt to point out the critical occurrences that trigger the strategic uncertainties and to catalogue them into seven distinct categories. They include an emerging competitor who takes a significant market share, squeezes the industrial margin, and uses emergent technology that could make some products obsolete. Also, the competitor could use brand erosion, market stagnation, a shift in the consumer priorities, and failure of new projects. Their idea was to build a structure that would enable the analysis of a firm's strategic threats to design counter measures that would adequately address them. The authors postulate that the secret to absorbing strategic uncertainties is having the know-how to evaluate and to respond before devoting resources to the same effect. They also suggest that management teams should conduct accurate adjustments on the capital-allocation decisions by applying a higher cost of capital to the more unstable projects. The flexibility of the internal capital framework should be augmented, as well, particularly where the environment is more competitive. The management of the uncertainties is based on the characteristics of the firm, including the strengths and weaknesses. Some of the pertinent matters include the managerial capacities, communication channels, delivery networks, and the operating systems.

The internal characteristics are weighed against the effect of the economic, regulatory, competitive, and other changes in the financial environment. An effective strategic risk management plan should significantly consider the upside and downside of the uncertainty. The approach should seek to avert all the losses triggered by unfortunate commercial decisions and to maximize on gains originating from the firm's innovation and overall growth. The exploration of upside risks entails the pursuit of openings and creating plans to maximize on them. On the contrary, countering of the downside risks involves minimizing on the probability of occurrence and the magnitude of losses. Berman (2015) hypothesizes that the initial step in the management of strategic risk is through the identification of a systematic method of assessing the firm's premeditated commercial risk. Fundamentally, it begins by pinpointing and assessing how an array of possible occurrences and phenomena will affect the business strategy (Zelinka & Amadei, 2019).

Reputation Risk

Reputation is defined as the emotional equity of a bank, so it is prone to risk. According to Dildar & Waqar (2016), a critical proportion of a majority of the successful firms share price is not composed of tangible asset, but rather from the element of goodwill. Fundamentally, a bank's reputation encompasses the diverse intangibles, including the profit potential held and the brand value. For that reason, a firm with a declining reputation may bear an adverse reputation equity, which would make its value lower than its tangible assets. In a paper from Danijela & Marina (2016), reputation risk has emerged as one of the classes bearing increasing importance. Thus, its priority has augmented among the management teams. The adverse perception regarding the image of a banking firm on the part of the various stakeholders may have a negative effect on its capacity to maintain and establish new commercial relations. Cristina & Giulia (2017); Medina & Medina (2015); Loyd (2016); Hoon Kwak & Dixon (2008) note that it may hinder the continued access, especially for the diverse funds sources (i.e., interbank loans and securitizing markets).

However, Berman (2015) opines that reputation is among the assets that are difficult to safeguard. Some postulate that it "takes decades to build a reputation and a few minutes to annihilate it," so the loss of reputation is the worst outcome in a financial institution. There are many sources of reputation risk, especially in a competitive environment. In their work, financial institutions are always torn between their market performance and the organization conduct. In a bid to accomplish the demands of the social expectations and the regulatory requirements, a bank may face the risk of dismal performance. Nonetheless, the most significant risk is perceived to be the inability to function in line with the legal frameworks governing the corporate conduct. The realization that a firm can manage such uncertainties breeds skepticism amongst the regulators, customers, and other partners. These are the

benchmarks against which the comportment is evaluated and can be the triggers of significant name losses. A typical example is the JP Morgan Chase bank and their subsidiaries. Their involvement in the scandalous Banco Espanol de Credito led to a gigantic 10 percent loss in their shareholder value. The loss was estimated to stand at roughly \$1.5 billion (Therese & Mark, 2016; Hartono et al., 2014; Galli, 2018c; Cova & Salle, 2005; Burnes, 2014). Thus, a slight decline in reputation may have more adverse financial consequences compared to those incurred from accounting losses.

The building and preservation of a reputable organization entails efficient communication and the construction of solid relationships with all the stakeholders. As Aven (2016) postulates, the creation of effective communication channels between a financial institution and the shareholder can be the basis of a long-term and strong reputation. Practices, such as the generation of accurate and timely financial reports, excellent customer service, and the issuance of edifying newsletters, are critical to the reinforcement of the credibility and maintenance of trust with the shareholders. Institutions that have a proper communications plan and can send quick responses to any controversial occurrences will yield a better reputation. The management practices for reputation risks include establishing a good reputation, maintaining it despite the tough commercial operations environment, and creating prompt mechanisms of restoration if it is soiled.

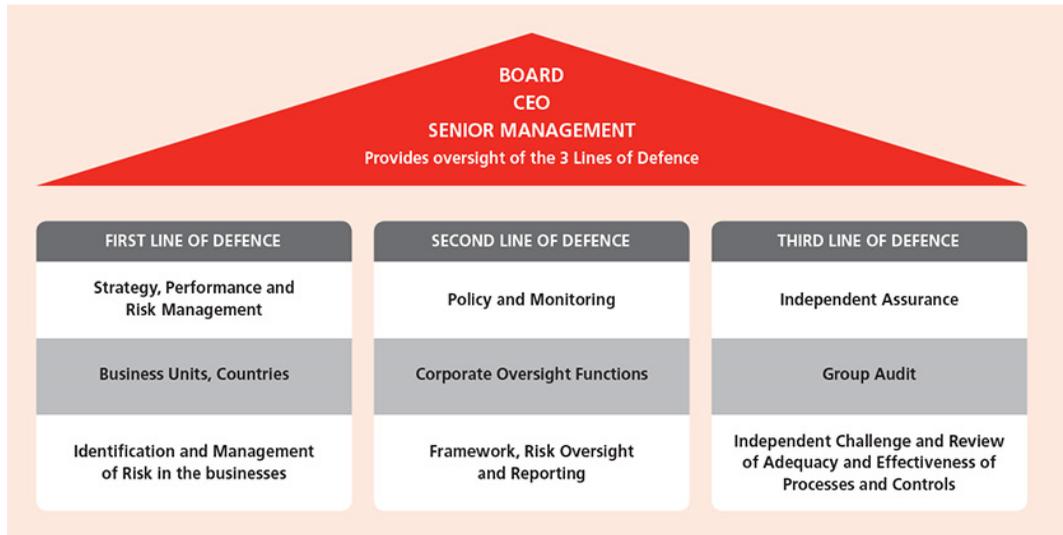
Impact of Reputation Risk on Other Uncertainties

The reputational risk has a significant potential of triggering other risks, including legal, market, and liquidity. Essentially, it may have an adverse effect on the institutions revenues, as it could spark a wave of risk occurrences, making it difficult for the management to tackle. It may also have an impact on the liabilities, since the market confidence and an institution's capacity to fund its commercial activities have a close connection to its public image. For example, a bank may be forced to settle a significant proportion of its liabilities, despite the fact that it might have an adverse impact on the liquidity portfolio. In such a scenario, the capital position is likely to change negatively. Nonetheless, reputation is more critical than a majority of other factors that affect the revenues and profitability.

Enterprise Risk Management

Erastus & Mark (2017) opine that this is one of the most useful tools that have been developed for risk integration. As seen above, there are many classes, types, and subtypes of risks, and their identification, evaluation, and mitigation may have diverse approaches. For that reason, it is important to have an integrated approach for risk management. Berman (2015); Al-Kadeem et al, (2017a); Gafi & Javadian (2018); Ahern, Leavy, & Byrne (2014) note that the past decade has paid more attention to risk management, particularly at the enterprise level. The integrated approach is beneficial because a firm can easily account for all of the risks, can establish their connection to each other, and can establish the combined impact on the overall company's performance. A company named Standard and Poor pioneered the establishment of the Enterprise Risk management evaluation to their international corporate credit rating process, which occurred in 2008. Its subsequent success augmented the implementation of Enterprise Risk Management (ERM), which became popular in the corporate world. Fundamentally, ERM is a strategy that attempts to have a holistic assessment and management of every uncertainty faced by an institution. Also, it evaluates the risk appetite of a company and provides a comprehensive report on the right treatment of risk. Essentially, it defines those that should be avoided, mitigated, and absorbed. Enterprise Risk Management Committee (2014) described ERM as a disciplined framework that facilitates the alignment of strategy, knowledge, technology, people, and that processes to assess and manage risks faced by an enterprise as it strives to create value. Thus, the system enables the elimination of the departmental and cultural hindrances. It is an all-inclusive, integrated, straightforward, and process-oriented plan to the management that can facilitate the maximization of the shareholder value for the entire organization. This is highlighted in Figure 1.

Figure 1. A pictorial illustration of the hierarchy of enterprise risk management



A report done by Enterprise Risk Management Committee (2014) defined ERM as a process that is implemented by the company's board of directors, managerial teams, and other personnel. It is applied in the alignment of master plan throughout the firm and is developed to point out potential occurrences that may impact the entity. This can confine the risk to be within the appetite limits, which could provide a rational assurance concerning the accomplishment of the firm's goals. The report further postulates that the foundation of ERM is that every organization functions to create value for its stakeholders. ERM facilitates management teams to efficiently tackle the uncertainties, associated risks, and the exploration of opportunities, which aligns them to the creation of value. Its capacity to perform all of these duties can be enhanced by its ability to align the risk appetite, to form the plans while augmenting the risk response pronouncements, to downsize the operation related surprises, to capitalize on opportunities, and to refine the employment of funds. The mentioned abilities that are encompassed in ERM enable the various personnel teams to accomplish the firm's target performance and the profitability. Also, it goes a long way in eliminating the pitfall that triggers spontaneous losses.

The Future of Risk Management in the Banking Sector

Evelyn (2018); Arumugam (2016) hypothesize that the scope of banking regulation is likely to expand in the coming years, and it is driven by four key factors. Firstly, the public and government tolerance of financial institution failures has declined, particularly after the last global economic crises. After the year 2008, legislators and regulatory authorities were focused on the fortification and expansion of the legal structure regulating financial industry. Furthermore, they were focused on strengthening the micro and macro-prudential rules throughout the sector. Secondly, the USA federal and state governments embarked on a mission to increase the surveillance of unethical and illegal practices undertaken by banking institutions. It has been enhanced by the shift of attention towards tax evasion, economic crimes, and the increasing threat of terror networks to the country. Thirdly, the government has augmented its demand concerning the adherence to the local and the international regulatory standards. Consequently, it has become an increasing practice to apply regulations that have an extra-territorial impact.

According to Nadine & Joan (2016); Badi & Pryke (2016); Andersen (2014), the emerging regulatory trends are likely to have significant effects for banking institutions risk management portfolios. The first impact entails the optimization, especially in the confines of the regulatory

structure. Banking institutions will be forced to maintain balance sheets and commercial activities that comply with the legally acceptable liquidity funding and leverage ratios. As a result, the institution's strategic degree of freedom will be curtailed, so they will be forced to embrace a highly accurate commercial optimization plan. The second involves the implementation of principle-based compliance. Banks are likely to face inadequacies in their compliance with the existing legal frameworks. Thus, they might be forced to adhere to the widened principle if they wish to cushion their enterprises against the future laws that bear retroactive impacts. Another critical development will involve the automated compliance. As the legal structures become more compound and the penalties of non-compliance are made more intense, then financial institutions will have to eliminate the human interventions.

Evolving Consumer Expectations

As indicated by Cristina & Giulia (2017), in the coming decade, shifts in the client expectations are expected to undergo tremendous change, particularly due to the advancements in the technological space. The alterations will trigger a significant change in the banking sector, which will reshape its overall profile. During that time, the application of technology will have become a norm to a myriad of clients. According to Johanna & Torben (2018), the current tech-savvy younger generation will constitute of the main earnings contributor to financial institutions by the year 2030. Lechner & Gatzert (2017) further note that a significant percentage of the bank's revenue is obtained from customers aged forty years and above. The usage of technology by the clientele is already experiencing an explosion both in developed and emerging markets. In the attempt of banks to win and to maintain the existing customers, a myriad of changes will be affected in the way their economic decisions are made and how the risks are managed to the same effect.

Some of the postulated changes include automated instant decisions and segmentation. In the coming years, financial institutions will have to offer instantaneous responses to client requests, including accounts opening and loan requests. That will be accomplished by using highly customized processes that are backed by sophisticated technologies. To accomplish such, risk functions will have to be automated to ensure that all decisions are made without any human interventions. It will involve the development of zero-based programs and the application of non-traditional data. Lev & Michael (2017) cite Kabbage as a case point, which is an online lending platform that offers convenient loans without the rigorous processes involved in the traditional lending. On segmentation, as the consumer needs evolve, banking institutions might be forced to create personal portfolios that will enable the provision of customized products for each client.

RESEARCH METHODOLOGY

The population used for the study was the banking sector in the United States of America, while the sample used for the population was the Ames National Corporation (ANC). Risk management tools were used in the evaluation of bank's risk and the subsequent impact on its financial decision-making. The research relied on secondary data obtained from diverse scholarly articles and a survey report on USA banking sector 2016 done by Price Water House Coppers. Another report's findings obtained from the Basel Committee were utilized. The risk profile of the bank and some of its economic decisions made between the year 2010 and 2017 were also examined. Some of the areas that were assessed include the balance sheet and the income statement. The analyses were done to identify the integral risks, their framework, and components. The tools deployed include tables, ratios, and charts, and the techniques were used to identify credit and market risks, which Ames National Corporation is exposed to. The tools will also enable the evaluation of the effectiveness of the risk management structure used therein.

Case Study: Ames National Corporation

The Ames National Corporation (ANC) is a Bank holding firm that consists of five subsidiary community banks that operate in central Iowa. The company boasts an asset base of \$1.3 billion. Over the last two decades, it has registered an outstanding performance in the region regardless of the financial crisis that hit the USA economy between 2008 and 2010. It has accomplished more net income and a smaller proportion of non-performing loans compared to its competitors. Essentially, the leadership at ANC attributes their success to utilizing proper risk management processes that help in making all financial decisions. The firm has embraced a system that ensures that all loans are at a low risk of default. As a result, it operates at the minimum cost per each unit of the operating revenue.

In essence, the major decisions are weighted comprehensively to ensure that it operates in an environment that allows for a long-term lending interaction. Rather than extending unsecured loans like many of its peers, it offers low interest rates and attracts a significant percentage of the borrowers. Most of the investors who seek their credit facilities invest them in agriculture and residential development. Besides that, the firm has made a series of acquisitions in the recent times. Nonetheless, the available data regarding the said procurements exhibited a high level of risk management, which ensured that the acquired subsidiaries did not have a detrimental impact on the long-term performance of the institution. The ANC will be used extensively in this paper as a case study of an organization that has successfully formulated and employed proper economic decision-making and risk management processes.

Ratios

A ratio denotes a measured expression of one quantity relative to another. Undeniably, financial accounts have multiple correlations. Ratios are used in the evaluation of the current situations and the projection of future trends. Cash flow schedules, balance sheets, and income statements are analyzed for various risk management aspects using ratios. The ratios used include capital adequacy, total risk weighted assets, return on assets, profit after tax, return on equity, and profit after tax. These ratios are used to test for efficiency, solvency, credit risk, currency risk, liquidity risk, and interest rate risk.

Graphs and Charts

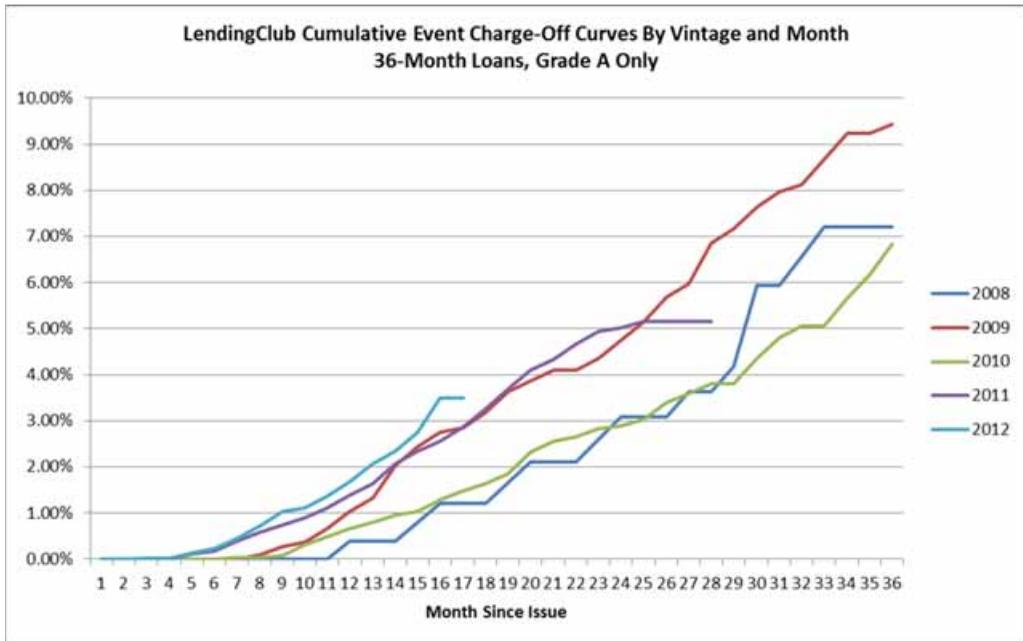
Graphs and charts are used to provide a visual demonstration of the diverse analytical results. Also, they provide a sneak peak of the current bank's situation by depicting the revenues, assets, and liabilities. The two are also beneficial in the comparison of performance over time, the trends, and the various changes regarding the operations and performance. Lastly, they provide an illustration on the types and classes of risks, levels of capital adequacy, and the overall profitability.

RESEARCH FINDINGS

Credit Risk

During the year 2016, Ames National Corporation successfully reduced the volume of exposure concentration on its hundred most significant clients compared to the year 2014. Nonetheless, the percentage of the non-performing loans to gross loans and advances endured a slight increase by about 10 percent. Notably, the bank augmented their collateral backing on loans by 38 percent in the period between 2014 and 2017. The bank also shifted its focus in lending, and about 38 percent of it went to the business and finance sectors. The ANVC maintained its loan distribution trend, and the majority of loans was granted to private entities and employed staff. It implies that the loans were collateralized. This is highlighted in Figure 2.

Figure 2. The credit risk profile for ANC



Liquidity Risk

Ames National Corporation direct investment portfolio receives its funding from diverse sources. The major source of funds has consistently remained to be the client deposits that constitute approximately 62 percent of the entire funding base. The bank has maintained a great emphasis on customers using current account, which ensures the stability of liquidity. The bank can fund its liquidity obligations at a very low cost. This is highlighted in Figure 3.

Interest Rates Risk

An analysis of the Ames National Corporation re-pricing schedule indicates that the bank has enjoyed a relatively stable asset gap of GHS (19, 399). It indicates that the revenues obtained from interests have augmented, mainly as a result of the rise in the market interest rates. During the financial crises of 2008, the bank had the lowest G.P to total ration, which stood at 6.4 percent. Nonetheless, the trend has changed in the subsequent years, and the interest rates have also been reduced to 83.9 percent.

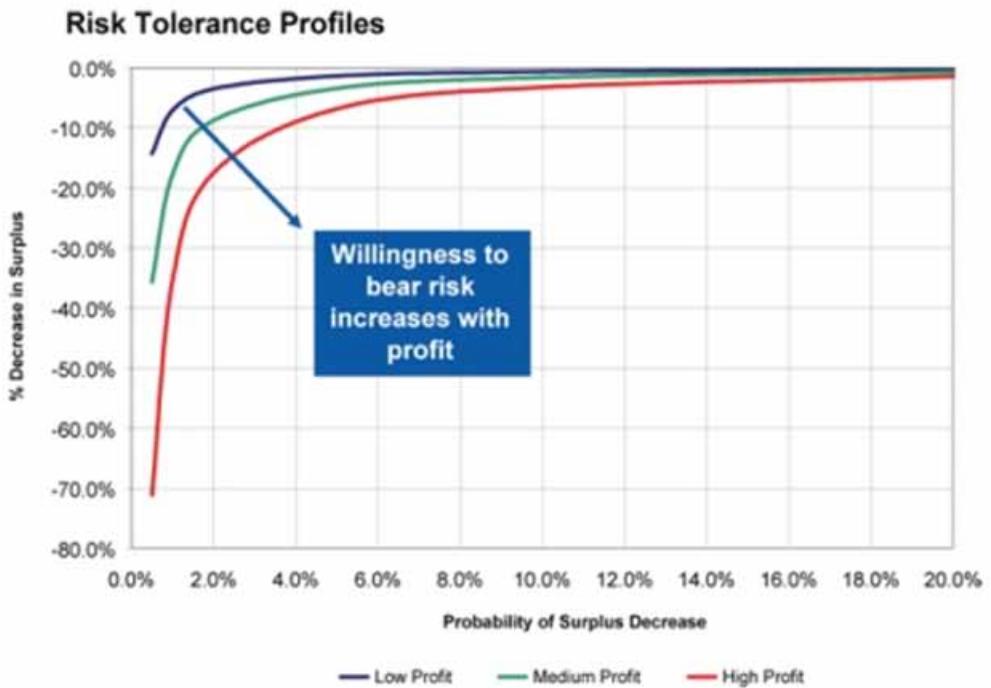
Currency Risk

Ames National Corporation also gets involved in international banking connections, so it is prone to currency risks. Results obtained from a review of the currency mismatch established that ANC has a positive net open currency position in the period running from 2010 to 2017. The bank has adopted the gold-backing system to downsize on the currency exposures, particularly after the global financial crisis. This is highlighted in Figure 4:

Figure 3. The Nonperforming assets for ANC



Figure 4. ANC's risk tolerance profile



Source: Guy Carpenter & Company, LLC

DISCUSSION

Implications to the Field of Engineering Management

Overall, the findings above indicate the dynamic nature of risk, especially in the banking sector. One of the critical reasons for conducting research on risk is because it changes rapidly over the years. For that reason, old management processes become obsolete over time, as they require constant evaluation and reinvention to stay on par with the changes that have occurred in the industry. It is also important to note that risk is universal. Commercial activities, markets, and economies have gone global, which makes risk an international affair. The interconnectedness of the world markets have further worsened the contagiousness of uncertainties in the different industries. For instance, the financial crises experienced between year 2008 and 2010 was triggered by widespread failure of financial institutions in America and some parts of Europe. The devaluation of the U.S. dollar spread the adverse impact to other economies, as it is widely used in the global economic circles.

Another realization in risk management is that uncertainties cut across business. In the earlier days, instabilities were sector focused. With the increasing integration of economies, the occurrences in a single industry bears spillover impacts on the others. The Financial Crisis of 2008-2010 is a good case study. Despite the fact that credit risks hit the financial sector, other sectors of the economy including the real estate felt the heat in equal measure. The risks in the financial markets have increased because of increased sophistication in the application of derivatives. The extensive use has significantly augmented the volatility of these sector. For instance, an organization with a proper operations portfolio can become defensive due to the projected instability of the financial markets. The enterprise risk management approach will go a long way in enabling firms deal with real-time threats, ensuring that the shareholder value is safeguarded at all times. Ames National Corporation has succeeded in maintaining a favorable risk management profile, as they have adopted the emerging integrated approaches and are not ambushed by instabilities.

Essentially, risk presents threat and opportunities, but the greatest tragedy that can befall a firm is the inability to see the two sides of risk. Uncertainties are an amalgam of upside and downside factors, so the management calls for a nuanced methodology. The most critical step is the realization that every risk must have the potential benefits and disadvantages. One can use the ratios above to decide the best combination or economic decisions that will minimize the impact of risks, while augmenting the overall value of the firm. As seen in Ames National Corporation, the best way to manage risk is not by total avoidance, but rather by maintaining the best balance between the upside and the downside. Risk emanates from diverse sources, takes diverse forms, and contains different consequences. Prior to engaging in financial decision-making, it is prudent to analyze the nature, source, and magnitude of uncertainties.

Organizational Implications

By studying the acquired skill and management strategies, it is seen that these variables, their concepts, and models are necessary to business projects and project management. Furthermore, these variables, their concepts, and models can encourage team skills for objective achievement, making them more valuable than any technology. In the results, it is made clear that strategic planning and a top-down and bottom-up approach to leadership is important, especially for project management, operations management, and process improvement.

Additionally, this study reveals that pre-existing project management and operational performance issues are attributed to poor leadership. A bottom-line approach will only target short-term problems, as supervising project management and operational performance will improve multiple aspects of a business, such as performance, profits, and costs.

It is most important to note that these variables, their concepts, and models are mostly overlooked, as seen in this study. Business leaders tend to focus on financial elements, but in the long run, a leader should manage multiple business aspects. Operations, project management, financials, performance,

strategy, and human resources are all of equal importance to a business. Thus, leadership must highlight the importance of each business element for it to thrive.

Managerial and Team Implications

Many implications are derived from this study. Firstly, the results examine the variables, concepts, models, and their relationship in a new fashion to fill a research void. These concepts can directly influence a business' performance and effectiveness, so they should be utilized to the fullest.

This study also can act as an outline for projects and performances of organizations. Leaders can produce better mentoring or managerial constructs for their teams to recognize and rectify any project and organizational performance flaws. Teams can also find their own flaws and the roots to them for overall improvements in the business.

The final implication is that there are multiple benefits to better training programs for project and organizations performance and effectiveness. Most of all, project teams, project leadership, and organizational leadership require training on evaluating a team, project, or business' performance beside standard and industry accepted models and concepts. Project and organizational leadership can also find information on managing teams and projects, which can educate teams and leaders on how teams and projects relate to their performance and reliability.

Implications and Applications to Fields of Project Management and Engineering Management

Engineers and technical professions also need more attention, as noted in this study. An engineer was once known to be a profession that required the use of technology and math for problem-solving. However, the contemporary engineer uses the same tools to find economically viable solutions to problems, which makes these variables, their concepts, and models vital to engineering decisions, as well. At project initiation, the best decisions must be made to avoid errors as the project progresses. Thus, engineers need to know about business management and maturity models to most benefit their investors.

Essentially, management concepts and engineering are both scientific, as engineering is grounded in the cause and effect relationship. Thus, there are various management schools of thinking, and management and engineering are closely related. Engineering has relied on management to improve its projects. According to research, the models to identify a project's elements are depicted in reference to business, but this study shows the need for an engineering perspective, as well as pure engineering filed techniques. These techniques include budgeting, equipment, and purchasing material. Thus, engineers and project managers can utilize various decision-making methods for engineering problems and to screen projects for viability.

Since lean thinking is not always the solution to problems, these variables, their concepts, and models are created with the concepts for projects in mind. As a result, these variables, their concepts, and models produce different environments in the IE/EM profession. Still, the structural orientation of a scope can make players in the IE/EM profession generate the required scopes of interest during every level. To create a strategy, the significant concentrations needed for every level must be applied.

With this study, useful information can be provided to stakeholders, such as system engineers, project managers, and other industrial engineering and engineering management experts, to apply maturity to project management. Also, this study encourages stakeholders to maximize on the roles of system engineering and project management, so business projects will be more successful. In general, this study treads new territory, as it focuses on ways for small companies that have few previously established processes to make new products. In this study, the product under consideration is only the company's second creation.

Risk management is overly relevant to all commercial activities in every sector of the economy. With proper risk management protocols, companies can survive various storms without feeling an impact on the overall value. Understanding the various dynamics in a particular industry is critical, as

one can effectively identify and know the best course of action. Making decisions is an integral part of risk management, and it entails the selection of the best alternatives. Risk management research teaches the critical techniques and principles that are essential to the associated processes. Three important aspects that can be applied in this field include risk identification, responses, and review. The first entails methods aimed at the determination and assessment of risks. With the second, it entails the selection of best methods of addressing the diverse uncertainties and instabilities. Finally, the third is a consideration that the environments in which economic decisions are made have evolved over time. The application entails selecting alternatives, prioritizing, and allocating resources for the chosen alternatives.

CONCLUSION

Recommendations

Despite the fact that the Ames National Corporation has adopted a dynamic and comprehensive risk management structure, this research has identified loopholes that other firms can learn from and can improve on their frameworks.

Assets and Liabilities Management

The greatest burden of risk management and financial decision-making lies herein. Banking institutions that wish to succeed in this sector must establish an Asset and Liability Committee (ALCO). The critical roles of ALCO include maintaining a keen eye on the composition liabilities and assets at a particular time to make pronouncements regarding the pricing of deposits and advances. They also make decisions on the needed maturity profile and combination of the incremental assets and liabilities.

Future Research

Adoption of an Integrated Methodology to Risk Management (ERM)

Scholars and researchers intending to conduct further study in this area should focus more on an integrated approach to risk management. Enterprise risk management has proved to be an efficient way of tackling risk variation. Undeniably, in the current dynamic business environment, firm managers need to use an assortment that facilitates the perception of various uncertainties in different domains. This will create a suitable strategy for management to gain an advantage from the diversification effects. Thus, researchers need to develop a method that enhances the synchronization of the different sector-wide metrics for risk with the institution's information technology system. Such a system will help in capturing, analyzing, and reporting on pertinent information. More research also needs to be done on the application of the economic capital methodology.

Some areas to explore in future research are the variables, concepts, models, and their relationship within other industries and managerial settings. Thus, future research can find strengths, weaknesses, and what affects the variables, concepts, and models. Secondly, researchers can use different perspectives, such as organizational, strategic, or cultural, to see how the relationships are perceived. As a result, literature can contain a deeper understanding of how culture, strategy, human resources, and operations affect the key variables.

Limitations

The terms "risk management" and "economic decision-making" cut across a myriad of financial or non-financial industries and organizations. However, the study is confined to the banking industry. In the analysis of the Ames National Corporation, some of the critical details, such as the current balance sheet and the capital ratios, were confidential. Thus, such information could not be obtained easily, which hindered some analyses on the bank's risk management profile.

The main limitation of this study was a small sample size, as it contained some key factors that were studied. Thus, some bias and validity issues can be present in the findings and conclusions. A larger sample size would be ideal. Additionally, there were only certain factors and relationships that were studied within a project environment. As a result, the conclusions and analysis only apply to project environments. Thus, the findings do not apply to other arenas, such as supply chain management, operations management, or strategic management.

Final Thoughts

In conclusion, uncertainty is a common phenomenon in both macro and microeconomics. Most of the financial and economic decisions have a degree of insecurity. A risk is a phenomenon with a certain distribution of probable outcomes. The past decade has been characterized by the most tragic financial meltdowns. As a result, countries (notably USA) have become conscious of the returns and of examining frameworks for making financial decisions and for managing the associated risks. Risk management in the financial industry has evolved considerably over the years from a mere procedure to ensure the quality of loans to a multifaceted system of techniques and instruments. In the modern times, the survival of any company was dependent on its internal abilities to prepare for potential changes. Essentially, risk has an in-depth correlation with unpredictability, as seen in the financial institution's primary element (in this case, the capital).

The common types of risks include reputational risk, market risks, operational risks, and the credit risk. Furthermore, each of them may have sub-categories depending on the circumstance. Risks change rapidly, so firms need to have dynamic management approaches. In the coming years, shifts in the client expectations are anticipated, particularly due to the advancements in the technological space. Enterprise Risk Management (ERM) is a strategy that attempts to have a holistic assessment and management of all uncertainties faced by an institution. Overall, the approach has potential, especially in the automation of risk management.

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