Risk Factors and Enterprise Risk Management in the Financial Services Industry: A Review of Theory and Evidence

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Abstract
The objective of this paper was to critically review both theoretical and empirical literature on risk management. Theoretical literature reveals that, there seems to be no individual theory which can explain risk based on concepts used to manage it. Empirical literature has revealed the emergence of Enterprise Risk Management (ERM) as a concept used in the management of risk from an organization wide perspective with few studies done and in particular from a developing market perspective. Some of the broader themes that have emerged from research have been discussed from a perspective of determinants of implementation of ERM, effects of implementation of ERM and lastly ERM from an organizational structure perspective. Effects of implementation of ERM have further been studied from a firm performance perspective, firm value perspective, default risk perspective and disclosure requirements perspective. From a methodology perspective, regression analysis, correlation analysis and descriptive statistics seem to be the most favored techniques used and in particular in the African continent. As global trends in financial markets are fast changing our perception of financial risks and some risks such as operational, business and systemic risks are now becoming relatively important. Due to inconsistencies in the studies there seems to be further room for research from an emerging markets perspective to outline the risk factors that financial institutions take into consideration in management of risk together with current and future perspectives to further add to the development of Enterprise Risk Management as a modern risk management phenomenon.

Key Words: *Risk, Risk Management, Risk Factors, Enterprise Risk Management*

1.0. INTRODUCTION

Risk management as a formal discipline involves; identification, measurement and Estimation of risk exposures, assessment of effect of risk exposures, finding instruments and facilities to shift or trade risks, assess costs and benefits of the instruments, form a risk mitigation strategy (avoid, transfer, mitigate, keep) and evaluate performance (GARP, 2015).

Risk factors are conditions or habits that seem likely to cause volatility in the returns from the position or portfolio under consideration and broadly these may include Market risks, Credit risks and Operational risks (GARP, 2015). Modeling is a simplified representation of a system or phenomenon, as in the sciences of economics, with any hypotheses required to describe the system or explain the phenomenon, often mathematically.

Risk management as a formal discipline has been a bumpy affair, especially over the last 15 years. On the one hand, we have had some extraordinary success in risk management mechanisms and we have seen an extra ordinary growth in new institutions that earn their keep by taking and managing risks e.g. hedge funds. On the other hand, the spectacular failure to

control risk in the run-up to the 2007-2009 financial crisis revealed fundamental weaknesses in the risk management process of many banks and the banking system as a whole (GARP,2015).

This paper, which is a desk review of theory and evidence, gives the conceptual and contextual background of risk factors and modeling of risk. In particular, the paper reviews the development of Enterprise Risk Management as a model used in the management of risk from an organizational wide perspective. The paper identifies the knowledge gaps through the review of literature in terms of scope, contextual, conceptual, findings, methodology used and gives concluding remarks for future research.

1.1. Emergence of Enterprise Risk Management

The concept of Enterprise Risk management (ERM) developed in the mid-1990s in industry, expressing a managerial focus on risk management. ERM is a systematic, integrated approach to managing all risks facing an organization (Desheng D. Wuab and David. L. Olson, 2010). Business firms today are becoming more complex and may face an extensive amount of risk and thus risk management has become a central function of a business process.

According to Sara A. Lundqvist (2014), Enterprise Risk Management (ERM) practices are becoming more popular as firms are pressured to manage risks holistically. There is a general consensus that Enterprise Risk management‟s (ERM) popularity in discussions of modern risk management practices has resulted from a response to increased pressure on organizations to holistically manage risk. New demands on corporations for reporting purposes imposed by, regulatory agencies are often argued to have had a significant impact in changing the face of risk management.

In the 2007-2009 financial crisis, weaknesses in risk management became painfully visible, and companies were put under significant pressure to strengthen their risk management systems and to take appropriate actions to improve stakeholder value protection (Leen Paape and Roland F. Speckle‟, 2012). The pressure was intensified by regulators and standard setters promulgating new risk management rules and requirements. In addition, credit rating agencies like Standard & Poor‟s began to evaluate firms‟ risk management systems as part of their credit rating analysis (Michael K. McShane, Anil Nair, and ElzotbekRustambekov, 2011).

With the increased expectations outlined by regulators and the need to adopt best practices, Enterprise Risk Management has gained recognition as a potentially effective response to risk management challenges as traditional methods of risk management were inherently silo based (Sara A. Lundqvist, 2014) and would focus on particular risk factors without taking into consideration the influence of the risk factors on each other.

Enterprise Risk Management differs from traditional concept of risk management in its enterprise wide view of risk and in the adoption of a holistic approach in which for example operational, market and credit risks is addressed simultaneously rather than separately. This approach to risk management would ideally help organizations to deal with risks more effectively and hence enhance the organizations capacity to create and preserve value to its stakeholders (Sara A. Lundqvist, 2014).

Emergence and evolution of Enterprise risk management in practice has therefore attracted research attention and literature from both a business and academic perspective has begun to develop. This paper will Review both Empirical and Theoretical Literature on Enterprise Risk Management.

1.2. Statement of the problem

Existing literature has revealed the emergence of Enterprise Risk Management as a concept used in the Management of risk from an organization wide perspective, with different approaches used to conduct studies on this subject. From a review of literature, some of the broader themes that have emerged from studies have discussed ERM from a perspective of determinants of implementation of Enterprise Risk Management, and others from a perspective of effects of implementation of Enterprise Risk Management and yet others have reviewed Enterprise Risk Management from an organizational structure perspective with very few studies done from a developing market perspective.

A number of frameworks as guided by either regulatory requirements or industry best practice have also emerged to help guide firms in the implementation of Enterprise Risk Management. The number of frameworks developed has contributed to an overall uncertainty regarding the essential components of ERM as each framework identifies different components in varying degrees of definition, and while the underlying ideas of Enterprise Risk Management are consistent, dissatisfaction with existing guidance with implementation of Enterprise Risk Management is also consistent (Sara A. Lundqvist, 2014). With much of the frameworks originating from the developed world and few from a developing market perspective, it remains to be seen how effectively these have been implemented or whether they have been developed at all in the developing market.

Different methodologies have also been used with much of the studies done in the developing market having a consistent approach to analysis.As there does not seem to be a wide array of empirical research from a developing market perspective, the methodological challenges, varying degrees of definition and frameworks on Enterprise Risk Management from a developed market perspective and limited or scanty frameworks from a developing market perspective, there is a need to investigate and shed more light on risk management and in particular from a perspective of enterprise wide risk management with a view of identifying modern trends and perspectives and in particular whether there would be consistency in results from both a developing markets perspective and a developed markets perspective.

1.3. Objectives of the study

The objective of this research was to review related literature on Enterprise Risk Management so as to identify research gaps existing in both theoretical and empirical literature. Specific objectives include:

1. Assess and evaluate theories underpinning Enterprise Risk Management
2. Assess and evaluate the various methodologies used by existing empirical studies on Enterprise Risk Management
3. Assess the findings and conclusions on empirical studies on Enterprise Risk Management
4. Recommend the direction of future research that could be undertaken on Enterprise Risk Management

1.4. Significance of the study

This review will bring out research findings on risk factors and Enterprise Risk Management. The study being a review of theory and evidence will reveal areas which have either been under researched, the theories informing the topic, the common methodologies, their

strengths and weaknesses. It should alert academicians on the current directions and trends of research in risk management.

2.0. LITERATURE REVIEW

2.1. Theoretical Review

The body of academic research published on risk management techniques and derivative valuation has evolved since the early 1950‟s. A common deficiency in risk management systems and policy proposals is the lack of a firm theoretical foundation (and therefore consistency) (Michel Crouhy, Dan Galai and Robert Mark, 2014). The theoretical work on risk management is based on many simplifying assumptions and the implementation of the theoretical work is not always straight forward.

The foundations of modern risk analysis are contained in Markowitz (1952) paper concerning the principles of portfolio selection. Markowitz showed that a rational investor should analyze alternative portfolios basis their mean and the variance of their rates of return. It is however not clear as to whether the assumptions used by Markowitz (1952) would apply in real life as for example taxes and transaction costs are actually applied in real life.The assumptions by Markowitz (1952) introduced risk management from a portfolio of assets perspective and brought into play interesting insights on how risk presents itself as an important aspect in investor choices, it remains to be seen as to whether these hypotheses and assumptions can be applied from an organization wide perspective to derive an organization wide model. Applying this theory to Enterprise Risk Management, it is not clear as to whether individual risk factors can be diversified away through a portfolio.

Sharpe (1964) and Lintner (1965) take the portfolio approach further by adding the assumption that a risk free asset exists. They show that financial markets are in equilibrium when all investors hold a combination of riskless assets and the market assets as determined in such a way that they are included in the market portfolio in the Capital Asset Pricing Model (CAPM).Similar criticism to Markowitz (1952) is also applied to the assumptions of CAPM i.e. whether they would apply in the real world. The assumption that investors have homogenous expectations and trade can occur without transaction or taxation costs does not always hold true, further, investors do not always have identical preferences, the same information nor do they always hold the same portfolio i.e. market portfolio.

After the development of CAPM, Fama and French (2004) did their paper "The Capital Asset Pricing Model: Theory and Evidence", and indicated that the empirical record of the model is poor enough to invalidate the way it is used in applications. The model's empirical problems may reflect true failings. But they may also be due to shortcomings of the empirical tests, most notably, poor proxies for the market portfolio of invested wealth, which plays a central role in the model's predictions (Fama and French, 2004).

Another important development in the analysis of risk occurred in 1973, with the publication of seminal papers by Fischer Black and Myron Scholes (1973), and Robert Merton (1977) on pricing of options. The papers make use of a framework similar to that used by Markowitz, Sharpe and Lintner; namely, they assume the existence of perfect capital markets and assume that security prices are log-normally distributed or equivalently, that log-returns are normally distributed. To these they add the new assumptions that trading in all securities is continuous and that the distribution of the rates of return is stationary with Merton (1977) removing several of the assumptions of the original model in subsequent extensions of the model

with modern versions accounting for dynamic interest rates, transaction costs, taxes and dividend payout (Michel et al., 2014). Some of the assumptions of the theories can however be criticized, the first models did not incorporate dividend, most securities actually do pay dividend. It was also noted that no taxes and transaction costs were applied in the model which is not the case in the real world. To hold interest rate constant may also not always be factually correct as these tend to change from time to time. These flaws in the original models were however subsequently corrected. It is also however worthy to note that not every aspect of the market can be considered in any given model as every factor affecting the price of a security cannot be purely captured mathematically.

Franco Modigliani and Merton Miller (1958) in "the Modigliani and Miller theorem" showed that in a perfect capital market, with no corporate and income taxes, the capital structure of a firm have no effect on the value of the firm. Some of the assumptions of the Modigliani and Miller theorem can be criticized in that it does not always hold true that firms and individuals can borrow and lend at the same rates of interest because firms that hold a substantial amount of fixed assets will in most cases have a higher credit rating than individuals and hence might in fact borrow at lower rates. Further and taking into consideration the financial crisis of 2007 sophisticated financial engineering played a significant role in obscuring the true economic condition and risk taking of financial institutions (GARP, 2015). This in essence led to revaluation of highly levered firms contrary to what is stipulated by Modigliani and Miller that capital structure has no effect on firm value.

The work of Markowitz, Sharpe, Lintner, Modigliani and Miller, Black and Scholes, Fama and French form most of the backbone of the theoretical framework that support modern risk management as a principle(Michel et al., 2014). It is however important to also note that developing theories and the implementation of these theories in the business context can provide challenges and in particular taking into consideration some of the unrealistic assumptions.

2.2. Empirical Literature

From a review of empirical literature, some of the broader themes that have emerged from research can be discussed from a perspective of determinants of implementation of Enterprise Risk Management, effects of implementation of Enterprise Risk Management and Enterprise Risk Management from an organizational structure perspective. This review will however begin with looking at papers that do not fall within the broader themes identified above and then narrow down to the broader themes.

Anette Mikes and Robert S. Kaplan (2014), in the United States (US), portrayed Enterprise Risk Management as an evolving discipline by presenting empirical findings on its current state of maturity as evidenced by a survey of academic literature and field research based on a ten-year field project, over 250 interviews with senior risk officers and three detailed case studies and found that Enterprise Risk Management has become a crucial component of contemporary corporate governance reforms be as it may there is inadequate specification of how Enterprise Risk Management should be used in practice. According to Anette Mikes and Robert S. Kaplan (2014), firms carrying higher risk of financial distress are more likely than less risky ones to absorb Enterprise Risk Management which in itself is indicative of the value add of employing Enterprise Risk Management in Organizations.

From a risk factors perspective, Jennifer Blaskovich and Eileen Z. Taylor (2011), in the United States, examined how the composition of ERM groups determines which risks are

managed and which risks are ignored using descriptive statistics. Groups with accounting or finance backgrounds were found to place greater emphasis on financial risks compared with cross-functional groups. These groups also rate the financial-related risks as having greater significance to the organization than other, non-financial risks. This singular focus could prevent managers from recognizing and addressing non-financial risks of significant importance. The study by Jennifer Blaskovich and Eileen Z. Taylor (2011) is however subject to the common limitations of experimental research in that: since cases are necessarily abstract from actual business practices, it is not possible to simulate these to the rich context of a business setting, the participants had limited time to complete the task, the sample sizes may limit the generalizability of the findings, an extension of this research with more participant groups is therefore warranted. Although the MBA students sampled had significant work experience, graduate students have different incentives than practicing managers. A field study or multiple case studies with managers offer exciting opportunities for future research. The study did not also answer the question of whether the role of accounting in ERM is good or bad, right or wrong and lastly, financial risks may simply be the most important risks to an organization, and the accountants get it right, facts that were readily admitted by the researcher. The method of analysis used was also limited in so much that they only allow one to make summations about the people or objects that one is studying, the data collected could therefore not be used to generalize to other subjects not studied, this might therefore mean that the findings derived from MBA students as what was sampled may not necessarily be applied to experienced professionals who are engaged in Enterprise Risk Management.

From a perspective of determinants of implementation of Enterprise Risk Management, only one study has been done in the African continent and in Nigeria by Yusuf T. Olalekan and Abass O. Adebowale (2014), who reviewed previous studies on various factors associated with extent of ERM implementation using grounded theory analysis. The researchers adopted a qualitative approach through the review and comparative studies of factors that affect implementation of Enterprise Risk Management among firms from 2005 to 2012. Some of the factors identified included; the presence of Chief Risk Officer, board independence, Chief Executive Officer and Chief Finance Officer support for Enterprise Risk Management, regulatory influences, the pressure of “big four” audit firms, financial leverage, institutional ownership, profitability, industry related characteristics and internal influences with the most critical factors being the presence of a Chief Risk Officer and Board Independence. However, as this was a review of literature that was qualitative in nature it was exposed to weaknesses of qualitative research which are heavily dependent on the skills of the researcher, rigid, highly dependent on quantity of data and non-scientific.

Sara A. Lundqvist (2014), through an exploratory study of ERM in Sweden, aimed at determining the integral components of ERM based on how firms actually implement ERM dimensions. The scope was limited to Nordic firms. Sara A. Lundqvist (2014) used exploratory factor analysis to identify the underlying factor structure determining the implementation of ERM dimensions seen in the sampled firms and confirmatory factor analysis to evaluate a priori ERM component models based on existing frameworks for ERM implementation an approach that has not been used by any other researchers studying the determinant of implementation of ERM. Four discrete components, or pillars, of ERM implementation were identified; two prerequisite components related to the general internal environment and control activities of the firm, one component identifying risk management activities of the firm and one component with

the defining attributes of ERM implementation i.e. a) General internal environment and objective setting b) Specific risk identification and risk assessment activities c) Holistic organization of risk management d) General control activities and information and communication. All four components must be implemented to have well-implemented ERM (Sara A. Lundqvist, 2014).Further research could test the factor structure found in this study for other samples to confirm their relevance outside of the Nordic region, although it is not suspected that these pillars are country specific as suggested by Sara A. Lundqvist (2014). This can also be reviewed from a value creating perspective i.e. would the factors identified be value creating to an organization?

Other studies have had similar findings, that be as it may did not look at the broader themes identified by Sara A. Lundqvist (2014), identified issues that would fall within the scope of the broader themes i.e. Norlaile S. Hudin and Abu B. A. Hamid (2014), Nor A. M. Abdullah et al. (2012), Ahmad S. Yazid et al. (2012), Leen Paape & Roland F. Speklé (2012) amongst others. Donald Pagach and Richard Warr (2011) in the United States examined the factors that are hypothesized to be drivers of ERM implementation using a sample of 138 firms from 1992 to 2005 ERM adoption was identified using the firm's decision to hire a chief risk officer (CRO) an approach that can be criticized from the perspective that CRO might be hired but this might not factually indicate that ERM has been fully implemented if implemented at all. What remains consistent in these studies as the key determinants of implementation of ERM however, are: corporate governance, regulatory compliance, firm and industry characteristics, occurrence of risk events, vulnerabilities with success factors including; presence of a Chief Risk Officer, Internal Auditor, top management support, Board of Directors support, type and size of company and external auditor pressure.

From a perspective of effects of implementation of Enterprise Risk Management, extensive studies have been done on this area with four main broad themes coming up from previous studies i.e. effects of implementation of Enterprise Risk Management on firm performance, effects of implementation of Enterprise Risk Management on firm value, effects of implementation of Enterprise Risk management on default risk and effects of Enterprise Risk Management on disclosure requirements.

From effects of implementation of Enterprise Risk Management on firm performance perspective, Stephen Gates et al. (2013), in the United States, designed a survey of corporate ERM practices to study the practical value side of ERM measuring the components of objective setting, risk identification, risk reaction, oversight, information and communication, internal environment, management, and performance using partial least squares analysisand as part of the conclusions indicated that the use of ERM leads to increased management consensus, better-informed decisions, enhanced communication of risk taking and greater management accountability. As the internal environment improves, management improves in areas such as general management consensus, better-informed decisions, and increased accountability and as management gets better, there are improved benefits of meeting strategic goals, reducing earnings volatility, and increasing profitability (Stephen Gates et al., 2013). However, it was noted that data used in conducting the study was for 2004 it remains to be seen if circumstances could have changed at present and if a similar study were to be conducted, the same conclusions would be arrived at. Partial Least Squares used has advantage of ability to robustly handle more descriptor variables however; these have a limitation of risk of overlooking real correlations and sensitivity to the relative scaling of the descriptor variables.

Yijia Lin et al. (2012) presented a theoretical basis to study the strategic determinants, risk integration, and value creation of ERM by testing data from the U.S. property and casualty insurance industry and as part of the findingsindicated that ERM insurers have higher Tobin‟s Q, return on assets, and underwriting return on assets than non-ERM insurers. This study however concluded that ERM does not create value in contradiction to the studies by Stephen Gates et al. (2013) discussed earlier, Donald Pagach and Richard Warr (2010), in the United States, conducted a study of the effect of adoption of enterprise risk management principles on firms‟ long-term performance by examining how financial, asset and market characteristics change around the time of ERM adoption and Martin F. Grace et al. (2010) in the United States also, conducted a survey of risk management practices in the insurance industry by examining the impact of enterprise risk management on firm performance. All concluded that Enterprise Risk Management indeed creates value and enhances performance.

As part of the hypothesis development by Donald Pagach and Richard Warr (2010), the study indicates that hiring of a Chief Risk Officer is an event frequently accompanied by adoption of Enterprise Risk Management and this was used to form a basis for sample collection, there is however a risk of bias in the sample since if all the companies can be assumed to have already implemented Enterprise Risk Management, it might be difficult to know the difference from those that have not without specifically looking at variations between the two sets of companies over the same duration or the same company before Enterprise Risk Management was implemented. There are also many other factors that impact on earnings volatility much more than adoption of Enterprise Risk Management. The researcher could've assessed the impact of these externalities on their model. By focusing on hiring of Chief Risk Officer only as evidence of implementation of ERM might also be misleading since the CRO might have been hired to implement ERM and CRO might not have fully completed its implementation also, the appointment of a CRO as an identification strategy is potentially problematic: the CRO may not be using ERM; the CRO could be replacing another CRO; the appointment could merely indicate a title change, rather than reflect the firm‟s use of ERM, (Martin F. Grace et al., 2010).

From an effects of implementation of Enterprise Risk Management on firm value perspective Michael K. McShane et al. (2011) in the United States, used a newly available measure to investigate the relationship between the extent of risk management implementation and firm performance by using the Standard and Poor‟s (S&P) index that has included a risk management rating as a component in its overall rating of insurance companies, descriptive statistics, Pearson‟s correlation and multivariate analysis was used. The rating is a sophisticated and comprehensive index that assesses the risk management culture, systems, processes, and practice within the insurer. S&P assigns risk management „„ERM ratings‟‟‟ over these five categories, which are interpreted as indicating increasing levels of risk management sophistication ranging over three traditional risk management (TRM) levels and two ERM levels. Michael K. McShane et al. (2011), found evidence of a positive relationship between increasing levels of traditional risk management capability and firm value but no additional increase in value for firms achieving a higher Enterprise Risk Management rating. The setback of this study was that the S&P index that incorporated the strength of implementation of Enterprise Risk Management was only introduced in 2007 and the one used in this research was for 2008 a series of data over time would be more revealing as to whether ERM is being enhanced or not. The research does not also answer the question as to why does a stronger or excellent ERM rating not lead to even higher firm value. The assumption made by the research

here is that once ERM is implemented, any further improvements on it will not impact on firm value but noting the gap on the use of S&P index, that did not offer a time series perspective, it remains to be seen if different results will be yielded with a time series of data that show either strengthening or weakening of ERM.

Ryan Baxter et al. (2013), in the United States, investigated what factors are associated with high-quality ERM programs as measured by ratings produced by Standard & Poor‟s (S&P), the anticipated benefits of high-quality ERM for performance realized, whether markets recognize those benefits by rewarding program quality and valuing the reduction in uncertainty that better risk management brings using descriptive statistics and logistic regression, Akram Jalal-Karim (2013), evaluated the impact of ERM on boosting competitive business advantages among selected Bahrain major corporations using Cronbach alpha test, regression and correlation analysis, through the introduction of an ERM conceptual framework and also measured whether the selected firms in Bahrain have adopted ERM, the level of adoption within their business units, and the effect of this adoption on the level of competitive business advantage.

Nadine Gatzert and Michael Martin (2015), in Germany, addressed the questions of what factors drive the implementation of an ERM system in companies and whether ERM programs can actually create value once implemented by conducting a comparative assessment of empirical evidence from the literature regarding the determinants of ERM and its value once implemented, Mark Farrell and Ronan Gallagher (2015), in the United Kingdom, analyzed the valuation implications of ERM Maturity by use of data from the industry leading Risk and Insurance Management Society Risk Maturity Model over the period from 2006 to 2011. The central focus of this study was to observe the valuation implications of ERM maturity and finally Philipp Lechner and Nadine Gatzert (2016), in Germany, empirically analyzed firm characteristics that determine the implementation of an ERM system and studied the impact of ERM on firm value by focusing on companies listed at the German stock exchange. All these studies concluded that indeed ERM has a positive impact on firm value.

From an effect of implementation of enterprise risk management on default risk Sara Lundqvist and Anders Vilhelmsson (2016), in Sweden, performed an empirical investigation of the relationship between the degree of ERM implementation and default risk in a panel dataset covering 78 of the world‟s largest banks using descriptive statistics, correlation analysis and panel regression analysis and found that higher degrees of enterprise risk management implementation are negatively related to the level of default risk, or the risk a bank‟s creditor‟s face. It was not clear as to whether the findings identified in this study could be replicated across to other industries or whether it applied to banks only. Hiring of Chief Risk Officer was also used as a proxy to identify the implementation of Enterprise Risk Management limitations of which have been discussed earlier. It would be interesting to see if different results could be yielded from a perspective of level of ERM implementation.

From an effect of enterprise risk management on disclosure requirements, Daniel Zeghal and Meriem El Aoun (2016), in Canada, documented the effect of the 2007/2009 financial crisis on the volume and the quality of enterprise risk management (ERM) disclosure in the annual reports of the largest US banks, and analyzed its determinants using a content analysis approach of the annual reports and descriptive statistics and found that the ERM disclosure is significantly and positively associated with the crisis, bank size, board independence, duality and significantly and negatively associated with profitability, leverage, and board size concluding that the financial crisis had a significant effect on the volume and the quality of ERM disclosure of the

largest US banks. The study sampled 59 of the largest banks in the United States of America and as part of the conclusions indicated that the size of the bank impacts the level of disclosure, it remains to be seen if the findings would be similar if the smallest banks were included as part of the samples. From a cross section of industries perspective, it is also not clear if the findings in the banking industries would also apply in insurance industry for example, which were also heavily impacted during the financial crisis. As content analysis was used which is a readily understood and inexpensive method, that is however a purely descriptive method and may not reveal the underlying motives for the observed pattern in this case enhanced quality of ERM disclosure by the largest banks in the US post the financial crisis. Content analysis is also subject to increased error, particularly when relational analysis is used to attain a higher level of interpretation as was in this case.

From an Organizational structure perspective, only one study has been done in Africa and in South Africa by K Nagar & MG Hayes (2015) who aimed to find the relationship between organizational culture and the principles of ERM. A framework defining the typology of organizational cultures was discussed and the principles of ERM presented in the study. Methodology involved the choosing of two organization cultures for analysis i.e. sociability and solidarity. Thereafter the components of these two organizational cultures were analyzed further with regards to the relationship with ERM and an importance mark allocated for ranking purposes and averages computed to enable ranking. This was repeated to all other components of organization culture and thereafter averages plotted to the Double S Cube framework to determine the most appropriate organizational culture type. It is found that the characteristics of a communal culture (sociability) is the overall culture of organizations within the South African insurance industry and it is also the culture that best helps the ease of implementation of ERM in South African insurance companies. From the review of literature no other study has looked at ERM from this perspective and K Nagar & MG Hayes (2015), brought in a new dimension to ERM. However, this study also had its challenges, the literature review was not comprehensive enough, only 27 studies were noted as having been included in the literature review, further, the total number of firms that participated was small, out of a total of 135 firms approached, only 23 fully participated the author confirmed that this might impact on credibility. It also came out that revenue of the participating companies comprised about 89% of the market share, the researcher did not delve much into this, previous studies have proven that firm size plays a role in the implementation of ERM. Norlaile S. Hudin and Abu B. A. Hamid (2014), Nor A. M. Abdullah et al. (2012), Ahmad S. Yazid et al. (2012), Leen Paape & Roland F. Speklé (2012). Further, as the focus was also only on insurance firms, It was not clear as to whether similar findings could be identified from non-insurance companies taking into consideration the limitations also indicated in the firms that participated. The cultural context explained in this research was not clear as to whether it applies to other cultures beyond South Africa and hence an opportunity for further studies is presented as from the review of previous studies, this was the only one of its kind.

A majority of the studies that reviewed Enterprise Risk Management from an organizational structure perspective, focused on the success factors that have enabled or necessitated ERM. Akram Jalal et al. (2011), measured the awareness of Bahrain financial sector of ERM and if companies maintained an effective ERM framework using regression analysis and concluded Bahrain financial corporations are aware of the concept of ERM and its factors and awareness can be traced to the fact that companies appreciate the relevance of risk management, are aware of the different classifications of risks and that there is no one standard classification

of risk. The study brought in an angle of regulatory compliance as a driver to implementation of ERM but did not delve deeper to investigate further as to whether this is a key influencer or not, the conceptual framework also categorized risks that are faced by financial services industries to include; Financial Risk, Operational Risk, Strategic Risk and at some point Compliance risk is also included, however, this is not qualified since financial services companies face other risks that include Credit Risk and Market risk amongst others according to the Basel 2 treaty (BIS, 2006) . Breaking down the financial sector companies by area of focus e.g. Banking, Insurance, Stock Broking etc. possibly would've revealed the different risk factors that affect these firms.

Lastly, from an Africa perspective and in particular Kenya, a majority of the papers reviewed Enterprise Risk Management from a perspective of effects of its implementation on firm performance and value.Nelson Waweru and Eric Kisaka (2013) conducted a similar study to that of Hoyt and Liebenerg (2011) but in the Kenyan perspective by assessing the level of implementation of Enterprise Risk Management (ERM) in companies listed in the Nairobi Stock Exchange. Their study sought to test the significance of factors affecting this level of ERM implementation and to investigate whether the level of ERM implementation has a positive effect on the value of companies as measured by Tobin‟s Q.

The research findings of Waweru and Kisaka (2011) show that most of the organizations sampled viewed ERM implementation as a strategic business initiative as compared to a compliance requirement. The study also found that there is a significant relationship between the appointment of a Chief Risk Officer and the level of Enterprise Risk Management implementation in companies. However, it does not find a significant relationship between the level of ERM implementation and variables relating to; industry of operation, level of board independence, size of the firm, and growth rate of the firm.

Consistent with prior research and research done by Hoyt and Liebenerg (2011), Waweru and Kisaka (2011) study also found a significant relationship between a company‟s level or Enterprise Risk Management implementation and the company‟s value. The results of their study show that an increase in the level of ERM implementation in companies had a positive contribution to the value of the companies. As only companies listed in the Nairobi Stock Exchange were sampled it is not clear as to whether the same concepts apply outside the Nairobi Stock Exchange. The study concluded that companies listed at the NSE recognize some benefit of implementing ERM without interrogating this further through research by assessing data on companies not listed at the NSE. The response rate was only 22 (49%) of the targeted population and most of the respondents were from the financial services segment thus there is a probability of industry bias in the research findings. The finding that implementation of ERM is more of a strategic business initiative as compared to compliance requirement can be challenged in particular for organizations that are heavily regulated like banks whereby, regulations prescribe for a structured approach to management of risk that might necessitate ERM.

Mami Wambua (2010), sought to analyze the various risk management practices adopted by Commercial Banks and their influence on bank performance in Kenya using descriptive statistics and regression analysis and concluded that management of risk within the banking industry has a positive impact on performance and hence the banks need to increase their efforts in management of Credit, Liquidity, Interest and Foreign exchange risk. However, it was noted that other risk types like Operational Risk, Regulatory Compliance and Strategic Risk Management were not included in the study. The study also discusses Credit Risk Management, Liquidity Risk Management, Interest rate risk management and Foreign exchange risk

management and specific strategies used to manage those risk factors, this is also built into the conceptual framework that supports the study, however, these can be argued out as specific risk factors but not specific strategies used to measure and manage enterprise risk management as indicated in the topic "Enterprise Risk Management Strategies and Practices As Determinants of Performance in Commercial Banks in Kenya".

3.0. DISCUSSION OF FINDINGS

From a theoretical perspective there seems to be more focus on individual asset or portfolio risk management with focus on a specific risk factor. We see great development of risk management from Markowitz (1952) portfolio management theorem that concerns the principles of portfolio selection, to the introduction of a risk free asset under Sharpe (1964) and Lintner (1965) Capital Asset Pricing Model that took the portfolio approach one step further by adding the assumption that a risk free asset exists, Fama and French (2004) develop this theory further. Further developments and primarily due to the introduction of derivative products as risk management instruments saw the introduction of the Options Pricing Model by Fischer Black, Myron Scholes and Robert Marton‟s in 1973. Modigliani and Miller (1958) introduced the three theories of capital structure of a firm with a view of assessing how leveraging impacts on the value of the firm. The work of Markowitz, Sharpe, Lintner, Modigliani and Miller, Black and Scholes, Fama and French form the backbone of the theoretical framework that support risk management as a principle.

From an empirical study perspective, we have seen the slow development of Enterprise Risk Management as a new aspect to risk management that introduces the overall organizational wide perspective to risk management. Some of the broader themes that have emerged from research have been discussed from a perspective of determinants of implementation of Enterprise Risk Management, effects of Implementation of Enterprise Risk Management and Enterprise Risk Management from an organizational structure perspective. Effects of implementation of Enterprise Risk Management have further been studied from a firm performance perspective, value perspective, default risk perspective and disclosure requirements perspective.

From a perspective of determinants of implementation of Enterprise Risk Management only one study has been done in the African continent and in Nigeria by Yusuf T. Olalekan and Abass O. Adebowale (2014) which is indicative of there being a gap in this area as there have been limited studies into the determinants of implementation of Enterprise Risk Management from a developing world perspective. There have also been little or no quantitative studies on the determinants of implementation of Enterprise Risk Management in Africa. Questions arise therefore as to whether different drivers would be experienced from a developing market perspective. What however, remains consistent in these studies as the key determinants of implementation of Enterprise Risk Management are; corporate governance, regulatory compliance, firm and industry characteristics, occurrence of risk events, vulnerabilities with success factors including; presence of a Chief Risk Officer, Internal Auditor, top management support, Board of Directors support, type and size of company and external auditor pressure.

From a perspective of effects of implementation of Enterprise Risk Management, extensive studies have been done on this area with four main broad themes coming up from previous studies i.e. effects of implementation of Enterprise Risk Management on firm performance, effects of implementation of Enterprise Risk Management on firm value, effects of

implementation of Enterprise Risk Management on default risk and effect of Enterprise Risk Management on disclosure requirements.

From an effects of implementation of Enterprise Risk Management on firm performance, Yijia Lin et al. (2012), concluded that ERM does not create value in contradiction to the studies by Stephen Gates et al. (2013), Tony K. Quon et al. (2012), Donald Pagach and Richard Warr (2010) and Martin F. Grace et al. (2010) who all concluded that Enterprise Risk Management indeed does create value and enhances performance.

From an effects of implementation of Enterprise Risk Management on firm value perspective, all the studies sampled concluded that indeed Enterprise risk management enhances value (Michael K. McShane et al. (2011), Akram Jalal-Karim (2013), Nadine Gatzert and Michael Martin (2015), Mark Farrell and Ronan Gallagher (2015) and Philipp Lechner and Nadine Gatzert (2016)).

From an effect of implementation of Enterprise Risk Management on default risk Sara Lundqvist and Anders Vilhelmsson (2016) found that higher degrees of enterprise risk management implementation are negatively related to the level of default risk.It was not clear as to whether the findings identified in this study could be replicated across to other industries or whether it applied to banks only. Hiring of Chief Risk Officer was also used as a proxy to identify the implementation of Enterprise Risk Management; this might however be misleading as the Chief Risk Officer might have been hired to implement Enterprise Risk Management. It would be interesting to see if different results could be yielded from a perspective of level of ERM implementation.

From an effect of Enterprise Risk Management on disclosure requirements, Daniel Zeghal and Meriem El Aoun (2016) found that the ERM disclosure is significantly and positively associated with the crisis, bank size, board independence, duality and significantly and negatively associated with profitability, leverage, and board size concluding that the financial crisis had a significant effect on the volume and the quality of ERM disclosure of the largest US banks. It remains to be seen if the findings would be similar if the smallest banks were included as part of the samples. From a cross section of industries perspective, it is also not clear if the findings in the banking industries would also apply in insurance industry for example, which were also heavily impacted during the financial crisis (GARP, 2015)

From an Organizational structure perspective, only one study has been done in Africa and in South Africa by K Nagar & MG Hayes (2015). A majority of the studies that reviewed Enterprise Risk Management from an organizational structure perspective, focused on the success factors that have enabled or necessitated ERM.

From an Africa perspective and in particular Kenya, a majority of the papers reviewed Enterprise Risk Management from a perspective of effects of its implementation on firm performance and value (Nelson Waweru and Eric Kisaka; 2013 and MamiWambua; 2010) with all concluding that indeed ERM has a positive impact on firm performance and value.

From a methodology perspective, regression analysis, correlation analysis and descriptive statistics seem to be the most favored techniques used. Descriptive statistics are limited in so much that they only allow one to make summations about the people or objects that one is studying, the data collected could therefore not be used to generalize to other subjects not studied. Correlation analysis also only uncovers a relationship; it cannot provide a conclusive reason for why there's a relationship. A correlative finding doesn't reveal which variable influences the other. The use of regression analysis on the other hand assumes that the

relationship between variables being assessed can be represented in a linear model, the cause and effect relationship between the variables remains unchanged, this assumption may not always hold good and hence estimation of the values of a variable made on the basis of the regression equation may lead to erroneous and misleading results. Only two studies used exploratory factor analysis and component analysis, a technique that was not used in any of the studies in Africa. Other analysis methods used include; Monte Carlo Simulation, Lorenz Curve,Population stability index (PSI), qualitative studies through review of literature, factor analysis, Tobin Q‟s, component analysis, surveys. Tobin‟s Q was the most favored tool used in the analysis of firm performance and value.

From the empirical studies, it is revealed that there does not seem to be a unanimous agreement as to whether modern risk management approaches are consistent across several markets and industries. We see a paradigm shift regarding the way organizations view risk management, instead of looking at risk management from a silo-based perspective, the trend has shifted towards a holistic view of risk management. With limited research on this subject from a developing market perspective and in particular Africa, it remains to be seen if different conclusions can be arrived at from studies performed in the more developed markets.

4.0. RECOMMENDATIONS AND CONCLUSION

Enterprise Risk Management has emerged as a new frontier to risk management. How effectively this modern trend has been adopted in the African context remains to be seen.

From a theoretical perspective the work of Markowitz, Sharpe, Lintner, Modigliani and Miller, Black and Scholes form the backbone of the theoretical framework that support modern risk management as a principle. It is however important to also note that developing theories and the implementation of these theories in the business context can provide challenges as most of the assumptions used in these theories do not apply in the real world.

From a review of empirical literature, there seems to be limited studies on the subject and in particular from a developing world perspective with varying methodologies used in the developed world. From an African perspective, there was no quantitative research sighted on the determinants of implementation of Enterprise Risk Management and further all the studies in Africa, Kenya included, only used regression analysis, correlation analysis and descriptive statistics. There remains an opportunity to broaden the research on this subject using other methods like exploratory factor analysis. Data from publicly listed companies was also favored and with the enhanced regulatory and compliance requirements for listed companies, it remains to be seen if a review of data from private non listed companies that do not comply to similar enhanced requirements would yield different results, it is necessary to study common factors among firms, which have adopted ERM, for also firms that are not publicly listed in a stock exchange as this might offer clarity as to whether similar drivers lead to adoption of ERM across both listed and unlisted companies. It also remains to be seen if a study were to be conducted using data from different subjects across different sectors of the financial services community and the economy would also yield different results from past studies.

The financial crisis also affected several businesses; it can be argued that the performance of most businesses was not good. To assess whether ERM was a unique attribute to performance at the time of financial crisis, comparing the performance of firms that had not implemented ERM with those that had implemented ERM to gain an understanding of whether ERM did actually act as a differentiator in performance for both sets of firms would offer a different

perspective as to whether ERM can actually improve on firm value and performance. A similar logic could be used to gain an understanding as to whether ERM does actually improve performance by studying subjects before and after a systemic risk has crystallized.

Another possible area for further studies would be to assess the way in which organizations have integrated risk management in strategy setting if at all they have, or to study the impact of the internal environment of an organization on risk management effectiveness. Further, a study could also be conducted to assess the possibility of developing an ERM rating similar to that used by S&P but with unique attributes that factor a developing world‟s perspective so as to be used as a yard stick on the development of ERM in the developing market.

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