Spring 5-1-2016

Exploring Barriers to Effective Risk Management Through a Proposed Risk Governance Framework

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Recommended Citation

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doi: https://doi.org/10.57709/8043012

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EXPLORING BARRIERS TO EFFECTIVE RISK MANAGEMENT THROUGH A PROPOSED RISK GOVERNANCE FRAMEWORK

By

Edward Cho

A Dissertation Submitted in Partial Fulfillment of the Requirements for the Degree

Of

Executive Doctorate in Business

In the Robinson College of Business

Of

Georgia State University

GEORGIA STATE UNIVERSITY

ROBINSON COLLEGE OF BUSINESS

2015

ACCEPTANCE

This dissertation was prepared under the direction of Edward Cho's Dissertation Committee. It has been approved and accepted by all members of that committee, and it has been accepted in partial fulfillment of the requirements for the degree of Executive Doctorate in Business in the J. Mack Robinson College of Business of Georgia State University.

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ACKNOWLEDGEMENTS

Although my completed dissertation bears only my name, this doctoral journey would not have been possible without the support from many different sources. I wish to acknowledge my appreciation to those instrumental to my doctoral success.

First, thanks be to God and his strength that helped fortify my spirit because all else is determined by this that guided me on so many levels through my doctoral journey.

Next, I would like to thank my committee beginning with my chair Dr. Danny Bellenger. Dr. Bellenger was extremely helpful in providing me practical guidance in identifying possible research areas, my proposal, and planning for the execution of my research. He always knew how to convey perspectives in a way that facilitated quick understanding and hence fruitful discussions. Dr. Conrad Ciccotello and Dr. Wesley Johnston were my other committee members who provided valuable feedback on my research; I do not believe I would be in "harvest mode" or have compelling "brash/bold" perspectives respectively relative to my final paper without their guidance.

Third, I would like to acknowledge members of my cohort, Joel Mier and Catrina Jones, who were willing to accept my group research topic which helped shape the direction of my dissertation focus. I would also like to thank colleagues Bruce Fulton and Seyi Adu who assisted me in coding efforts that were instrumental in the qualitative aspects of my research.

Fourth, I need to acknowledge my family. My two sons, Derek and Devin, were very supportive and understanding of the time commitment my journey demanded. They never complained and their support was unending. For my late father who was a PhD and my mother, I dedicate my earned doctorate to their memory; I know they are proud of my accomplishment.

Finally, I must acknowledge my wife Badriah. She was always supportive through my doctoral journey and even was, at times, a willing reviewer of countless papers I produced through my doctoral journey. I could not have completed my doctorate without her tireless, unselfish, support in taking care of countless things to help ensure my success. You are truly my rock and a source of my inspiration!

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ABSTRACT

Exploring Barriers To Effective Risk Management Through A Proposed Risk Governance Framework

BY

Edward Cho

November 17, 2015

Committee Chair: Danny N. Bellenger

Major Academic Unit: Executive Doctorate in Business

As harmful as the financial crisis of 2007-2009 was, some organizations professed some benefits as a result; "we know our risks better," "we can better manage risks." Many of the organizations that hailed such positives undoubtedly had what would generally be considered sound risk management systems/practices (RMS). So, what happened? What prevented organizations RMS from perhaps better mitigating risk during the recent financial crisis than was the case? Said another way, "what are barriers to effective risk management?" This study proposes a risk governance framework (RGF) that helps distinguish phases of RMS, and is grounded in Risk principles versus a controls based foundation that many view as part of the current problem with RMS. Based on our survey of 41 Risk Managers (RM) and 96 Regulators (REG), we obtained perspectives on barriers to effective risk management including barriers to effective risk management leading up to the financial crisis of 2007-2009, the importance of Risk principles, and suggestions to improve the effectiveness of RMS. We also obtained RM and REG perspectives of the impacts to RMS from our banking environment providing a type of "insurance," impacts to RMS due to perceptions of the state of the financial/economic environment, how complete must phases of RMS be, compensation practices and its impacts to RMS, and the notion of quantitative/qualitative methods in current RMS. Leading up to the

financial crisis of 2007-2009, identified barriers to effective risk management include a lack of risk culture and under estimating risks. Some suggestions to improve RMS include improving the risk function and developing more dynamic, forwarding looking and preemptive risk management tools and techniques that blend quantitative and qualitative methods. The proposed RGF and the rich context on barriers to effective risk management obtained from our study may help practitioners and academia alike in considering ways to analyze and improve RMS.

I CHAPTER 1 INTRODUCTION

Risk management has existed as a technical discipline in financial institutions for many years and Regulators have assessed institutions on their ability to manage risk appropriately (McCormally, B. C., Allen, C. L., and Mayer, H. E., 2012; Hall, M., Mikes, A., and Millo, Y., 2013). Regulators and market participants alike have held the positives to "good management" that the discipline of risk management practices apparently brings (Hall et al., 2013; Mikes, 2011; COSO, 2004; ISO, 2009). Although evidence that risk management prominence and stature continues to increase in organizations as policy initiatives expand enterprise controls to include risk management, the global financial crisis of 2007-2009, and continuing risk management failures, call for an examination of risk management practices (Bhimani, 2009; Hall et al., 2013). With the number of years of risk managements' existence, available procedures/processes, and its importance to organizations, we have to question why does risk management fail? In this paper, we seek to explore perspectives on barriers to effective risk management.

As the financial industry has had a history of crisis, including the most recent Great Recession, we seek to continue on those institutions subject to resolution plans (Cho, Mier, Jones and Bellenger, 2014) to explore what are barriers to effective risk management. From a historical perspective, Martinez-Ruiz, E., and Pons, M.A.'s (2014) paper summarizes studies of past financial crisis. While this historical analysis of past financial crisis revealed vulnerabilities in financial markets resulting from the globalization of financial systems and processes initiated in 1971, the analysis relied on the historical evidence from the first globalization (1870-1913) to draw similarities and differences (Martinez-Ruiz et al., 2014). One of the studies is Marichal's (2014) analysis of hearings published following what many economic historians view as the first

truly global financial crisis in modern capitalism called the "Great Depression of 1873-1896." This analysis identified that pressure from the public who were troubled by the magnitude and effects of financial misconduct was the genesis of the resultant commissions established to investigate the crisis. These commission reports identified that key causes of the crisis included poor management and fraud (Martinez-Ruiz et al., 2014). Marichal's (2014) study indicates a period of calm in world finance until the financial crisis of 1907 that marked the beginning of a deep depression in the United States. Some view the most important decision taken by the U.S. Congress was to establish the National Monetary Commission (NMC). The NMC reassessed the role of banking systems culminating in the creation of the Federal Reserve Bank in 1913, which shaped the regulatory and institutional banking and financial architecture in the United States (Marichal, 2014).

Another study by Minsky (1992) suggest that financial instability does not come as a consequence of external shocks but is rather an inherent phenomenon in the financial realm. Minsky's (1992) Financial Instability Hypothesis (FIH) challenged the classic principles that the economy is constantly an equilibrium-seeking and sustaining system. The FIH suggests that over periods of prolonged prosperity, capitalist economies, i.e., an economy with pricey capital assets and a sophisticated financial system tend to move from a financial structure dominated by stability to one of instability (Minsky, 1992). As we can see from the most recent crisis of 2007-2009, learning more about previous experiences does not prevent us from suffering new crises. All major financial crises over the last two centuries have incited disbelief because of their rapidity and the large costs that resulted (Marichal, 2014). This seems evident in the case of the global financial crisis of 2007-2009.

The 2007-2009 global financial and economic crisis emerged as the most significant economic recession experienced by the United States since the Great Depression (Gökay, 2009). The financial crisis that emerged indicated a need for change as it revealed a unique financial system with a special ability to socialize losses while also privatizing profits (Guynn, 2012; Andersen, L. B., Häger, D., Maberg, S., Næss, M. B., and Tungland, M., 2012). Indeed, the economic crisis raised questions on how institution leadership, including the boards and senior executives, were managing their institutions risks which resulted in calls to improve risk management in financial institutions (Beasley, M. S., Branson, B. C., and Hancock, B., 2010; Andersen et al., 2012). Many have questioned the role and profile of risk management in financial institutions contending that challenges institutions faced were due in part to a lack of focus on identifying, assessing and managing their existing and emerging risks. Some attribute this inability to the existence of a risk management system or framework that was incapable of identifying, assessing, mitigating and monitoring risks, and because institution leaders were overconfident about their informal approaches to risk management (Aebi, V., Sabato, G., and Schmid, M., 2012; Beasley et al., 2010; Harner, 2010).

In the wake of this Great Recession, Congress passed the Dodd–Frank Wall Street Reform and Consumer Protection Act (DFA), to "promote the financial stability of the United States by improving accountability and transparency in the financial system, to end "too big to fail", to protect the U.S. taxpayer by ending bailouts, to protect consumers from abusive financial services practices, and for other purposes" (Govtrack, 2010). The DFA increased the resolution powers of regulators and Section 165(d) established requirements of resolution plans (RPs), or "living wills" for the more than 130 systemically important financial institutions that own more than $50 billion in total consolidated assets (US Government Printing Office, 2012). Section 165

also calls for risk management requirements for certain financial institutions to create independent board-level risk committees and establish or enhance its risk management, to one that operates on an enterprise-wide basis (Bugalla, J., Kallman, J., and Narvaez, K., 2014; McDonald, 2004; Martin, D., and Power, M., 2007; McCormally et al., 2012;).

As suggested in Cho et al.'s (2014) recent study, the perspectives of the RPs resulting from Section 165(d) of the DFA resulted in mixed views of their effectiveness by the experts most closely involved with their creation and regulation, namely, employees of the affected banks (BANs) and federal regulators (REGs) with RP oversight responsibilities. Cho et al.'s (2014) qualitative data provides rich perspectives from BANs and REGs, including strengths of RPs. The main strength the respondents identified was RPs created greater understanding among BANs of their own organizations, including their complexity, dependencies, and risks. According to one BAN, the RPs "have forced institutions to reconsider their corporate structures, and have started them down the path to simplification." Another BAN detailed that "they have exposed gaps in operational processes, strategic plans, and organizational structures that have been fixed as a result." The responses to the study's open ended questions fell into the primary category of "Greater Understanding" with the coded responses being, 1) Enhanced transparency on the operations and size of the organization; 2) Improved risk monitoring and reporting by BANs; and 3) Improved understanding of the institution and operational risks by BANs (Cho et al., 2014).

As important that risk management is to the banking industry, and recognizing the aforementioned strengths as shared by the BANs and REGs indicating that RPs "enhanced transparency to operations," "improved risk monitoring and reporting by bankers," and "improved understanding of the institution and operational risks by bankers" (Cho et al, 2014),

why did it take a massive regulation such as DFA and its requirement for RPs to illicit such responses relative to "risk management?" Should this "improved understanding of risks" have been byproducts of the institutions risk management practices versus a regulatory requirement in the form of RPs? The basic views on risk management is that its risk mitigation processes should be explicitly related to organizational and sub-organizational objectives and processes, yet many view that despite the growing complexities of risks faced by organizations, the level of risk management remains fairly immature (Power, 2009; Beasley et al., 2010; Hall et al., 2013; COSO, 2004). Many question whether risk management is evolving in the right direction and this appears questionable as extensive research in the discipline of risk management indicates as much. Furthermore, our review of literature identified additional concerns relative to risk management.

Current literature is varied and inconsistent on what challenges or barriers may exist to effective risk management. A great deal of literature questions the most highly referenced of risk management concepts, enterprise-wide risk management (ERM), questioning its ability to enable institutions to manage risk effectively (Power, 2004; Power, 2004b; Schiller, F., and Prpich, G., 2014; Mikes, 2009; Mikes, A., and Kaplan, R. S., 2014; Huber, C., and Scheytt, T., 2013). Criticism includes ERMs' lacking in its ability due to its high ambiguity and to some that it is internal controls based and not empirically grounded (Paape, L., and Speklè, R. F., 2012; Schiller et al., 2014; Martin et al., 2007; Power, 2009; Huber et al., 2013). Further, Schiller et al. (2014) suggests that organizations risk management is limited due to a lack of the concept of risk and risk knowledge generation with current ERM frameworks, noting a failure to recognize the value of internal communication as it can result in poor integration of risk knowledge bases and risk management systems.

This paper aims to make several contributions to theory and practice. First, based on survey data from 130 institutions subject to the RP requirements of DFA, and perspectives of certain regulatory agencies examiners and analyst and bankers with risk management responsibilities, we explore barriers to effective risk management. As noted, the study by Cho et al. (2014) identified that going through the process of creating RPs a benefit was improved risk management and knowing the organization better, yet, most of these institutions subject to RP undoubtedly had some level of risk management practices prior to DFA (McCormally et al., 2012; Hall et al., 2013; Mikes, 2011; Harner, 2010). We seek to explore what are barriers to effective risk management. This part of our study connects to previous work of Kleffner, A. E., Lee, R. B., and McGannon, B. (2003), and Beasley, M. S., Clune, R., and Hermanson, D. R., (2005), which calls for additional research including barriers to effective risk management. Our study adds perspectives from those institutions risk management practices recently required to create RPs and certain agency's regulators, thus providing insights, and practical perspectives to risk management professionals and academia.

Our study to understand barriers to effective risk management requires a lens with which to explore these barriers (Arena, M., Arnaboldi, M., and Azzone, G., 2010). To this end, which also represents our second contribution, we draw from Yaraghi, N., and Langhe, R. G., (2011) risk management systems/practices (RMS) study, which identified critical success factors to RMS. We adapted as three phases of RMS, "Readiness," "Execution," and "Administration" and some of the noted success factors, to explore these barriers. This connects with his call for leveraging these factors and phases of RMS in different empirical ways relative to risk management. Third, we refined the factors and phases of our RMS by drawing from Mikes et al.'s (2014) study which suggests three ERM design parameters and three contingency variables

classifying different types of risk events. The three design parameters are, (1) Processes for identifying, assessing, and prioritizing risks; (2) Frequency of risk meetings; and (3) Risk tools. The three contingency variables classify different types of risk events as, (1) Preventable risks; (2) Strategic execution risks; and (3) External risks. As Mikes et al. (2014) indicates that organizations risks are contingent on context and circumstances, she offers these as ideas about what risk management may depend *on*.

Lundqvist's (2014) research explored what an ERM firm "looks like" and suggests four pillars as integral to the implementation of an ERM as, (1) General internal environment and objective setting; (2) General control activities and information and communication; (3) Holistic organization of risk management; and (4) Specific risk identification and risk assessment activities. A primary motivator of her study was the use of inconsistent indicators and measures of ERM implementation. Given the nature of these pillars, we refined our RMS by aligning these pillars as underlying concepts that we view as important considerations for the phases of our RMS. Relative to Mikes et al.'s (2014) and Lundqvist's (2014) studies and resultant contributions, while we find these to be compelling and providing substantive detail, we thought of these as exactly that; key "details," which we likened to having savory sausage meat without the casing. Hence, we adapted this detail to the RMS to provide it some model structure which may ease the ability of practitioners to draw from as they consider this valuable detail for their risk management efforts and practices. This connects with their calls for leveraging these design parameters and contingency variables, and furthering analysis of the four pillars.

As noted, Schiller et al. (2014) suggests that organizations risk management is limited due to a lack of the concept of risk and risk knowledge generation with current ERM frameworks, noting a failure to recognize the value of internal communication as it can result in

poor integration of risk knowledge bases and risk management systems. As such, our fourth contribution is our proposed new "risk governance framework" (RGF). We draw from van Asselt et al.'s (2011) risk governance study which explicates the idea that risk management is to help risk professionals to familiarize themselves with a broader concept of risk. We view that what may be missing from these normative ERM frameworks are underlying guidelines that can inform thinking about how to deal with uncertain, complex and/or ambiguous risks in various contexts. These three risk principles are, (1) Communication and Inclusion; (2) Integration; and (3) Reflection. We connect with her efforts to synthesize risk governance and incorporate these principles to serve as the underlying guiding risk principles of our proposed RGF. In summary, our research on barriers to effective risk management through the lens of the proposed RGF, which incorporates the RMS enhanced as noted above, provides a risk governance framework with an RMS empirically grounded in success factors and corresponding phases, and risk theory based principles serving as underlying guidance, will provide a sound lens with which to explore perspectives on barriers to effective risk management. Tables 26, 27, 28, and 29 reflect the critical success factor variables and three phases adapted from Yaraghi et al. (2011) and enhanced with the parameters and variables from Mikes et al. (2014). Table 30 reflects the RMS design parameters and contingent variables adapted from Mikes et al. (2014). Table 31 reflects the four pillars of RMS implementation adapted from Lundqvist (2014). Table 32 reflects the three guiding risk principles adapted from van Asselt et al. (2011). Table 33 reflects the proposed RGF which draws from Yaraghi et al. (2011), Mikes et al. (2014), Lundqvist (2014), and van Asselt et al. (2011). See Appendix A for these Tables.

In the next sections we provide a perspective of risk and risk management, followed by a discussion on the evolution of risk management and the rise of enterprise-wide risk management.

This is followed by perspectives on various challenges of risk management including views on challenges with implementing an enterprise-wide risk management framework. Sections three and four present the methodology and discussion of our results. The final section five reflects our conclusions, implications, limitations, and future research suggestions.

II CHAPTER 2 LITERATURE REVIEW

II.1 Overview of Risk and Risk Management

Risk and risk management began to receive regular exposure only from about the mid-1990's onwards (Power, 2004b; Hall et al., 2013; Power, 2009; Kleffner et al., 2003; Arena et al., 2010; Martin et al., 2007). Extensive research on risk has still not produced a widely accepted definition of the term which should not be surprising as risk is studied in a broad range of fields, ranging from sciences to finance and medicine to engineering and over varied disciplines and perspectives (Doorn, 2013; Bhimani, 2009). The very concept of "risk" itself, implies the ex-ante possibility that things can go wrong including the possibility of damage, loss or injury whether in health, environmental or other terms (Power, 2004b; Harner, 2010; van Asselt et al., 2011; Corbett, 2013). The ambiguity surrounding the term risk provides various actors with a broad concept upon which they can pursue their interests; hence, it is a fundamental element that drives financial behavior (Talwar, 2011; Huber et al., 2013; Bhimani, 2009). In the business context, the concept of risk includes not only the probability of loss but also the consequences of that loss or risk event (Power, 2004b; Harner, 2010; Talwar, 2011). Historic perspective reveals that within organizations and organizations in varying industries have taken more of a silo approach thus managing risk differently and separately (Bromiley, P., McShane, M., Nair, A., and Rustambekov, E., 2014). This can be seen, for example, by a finance department addressing interest rate risks or risk associated with currency, and operations focusing on safety and quality control risks (Bromiley et al., 2014).

Relative to risk management, it is an intuitive concept and is as much art as it is science (Doorn, 2013; McCormally et al., 2012; Mikes, 2011). Risk management may be defined as a process directed towards identifying, evaluating, and determining the risks an organization is

exposed to and developing policies, processes, and procedures to monitor and manage the risks identified (Talwar, 2011; Hall et al., 2013). Some view risk management as the key to the banking industries continued survival and growth as they are in the business of managing risk, not avoiding it (Talwar, 2011). Organizations seek to define the most favorable levels of adverse outcomes based on an assessment of probability and impact, and then focus on those risks considered unacceptable (Power, 2004b; Huber et al., 2013a; Power, 2009). Risk management practices are viewed as an efficient and reasonable means to test institution policies, procedures, processes, practices, and products to reduce the harmful impacts of risk taking without stifling it; in many ways, risk management is a central corporate governance task as it sustains value creation (Huber et al., 2013; Mikes, 2008; Andersen et al., 2012; Martin et al., 2007; Pirson, M., and Turnbull, S., 2011). This expression of an organization's risk attitude at the level of the organization as a whole is referred to as its "risk appetite" and the Committee of the Sponsoring Organizations of the Treadway Commission (COSO) defines it as "the amount of risk, on a broad level, an entity is willing to accept in pursuit of value" (COSO, 2004; Paape et al., 2012).

The goal of risk management is not viewed as the elimination of all risk, but the pursuit of sensible and informed risk profiling and decision making toward increased returns (Harner, 2010; Talwar, 2011). Thus some consider that risk management issues demand greater democracy in the decision process as risk management touches many areas, and that risk knowledge itself is so uncertain, risk management may not be able to claim any unique authority (Power, 2004b). Therefore, risk management finds they are presented as risk experts, but admitting that many areas of relevant knowledge are essentially conjectural (Power, 2004b). Indeed, in financial institutions, risk management has often been described as a highly abstract yet analytical activity (Mikes, 2011). McCormally et al. (2012) suggests that financial

institutions face unique challenges in risk management as they are exposed to traditional business risks, and also to those inherent in the business of banking—for example, credit risks, and interest rate risks. Financial institutions operate in a heavily regulated environment that creates compliance risks of its own, and failure to manage these risks to the satisfaction of regulators may result in enforcement actions and significant reputational harm (McCormally et al., 2012).

Empirical work has highlighted the proliferation of risk management into different domains such as higher education, banking, and agriculture (Huber et al., 2013; Termeer, 2009). Risk management has been gaining ground in banking, fuelled by regulators and market participants calls for "good management" that the discipline of risk management practices brings as a corporate governance and management control practice applicable across all industries (Mikes, 2009; Power, 2009; Hall et al., 2013; Mikes, 2011; Paape et al., 2012; COSO, 2004; ISO, 2009). Further, their expectations regarding risk management have been rising rapidly, especially since the recent financial crisis. In that crisis, weaknesses in risk management practices that included governance side and financial risk modelling issues became visible, and it seems that the importance of risk management elevates in times of failures or crisis (Mikes, 2011; Harner, 2010). The financial crisis of 2007–2009 led regulators to call for firms to focus on enterprise-wide risk oversight and institutions faced significant pressure to strengthen their risk management systems and control practices, and to take appropriate actions to improve stakeholder value protection (Paape et al., 2012; Bhimani, 2009). Significant public policy debates and propagated new risk management rules by regulators and standard setters evidenced these pressures (Paape et al., 2012; Mikes, 2011; Bhimani, 2009). The importance of making risk management "count" in high-level strategic decisions is perhaps the most agreed upon

lesson that industry actors are taking from the recent financial crisis (Mikes, 2009). As Mikes' (2009) noted from a Wall Street quote, "After an era of go–go growth that led firms into profitable but chancy areas like mortgage securities, the industry is moving toward the kind of leader who gets down into the nitty-gritty of risk management."

II.2 Evolution of Risk Management

In light of the recent financial crisis, Power's (2004) study resonates today in that the risk management of everything turned out to be the risk management of nothing (Power, 2009; Mikes, 2011). No other term has received such a significant echo in the media during the global financial crisis of 2007-2009 than that of risk management (Huber et al., 2013; Power, 2009). In the approximate 20 years prior to this event, the interest in risk management has steadily increased (Bhimani, 2009; Huber et al., 2013). Risk management has emerged as a means for managing potential adverse organizational outcomes by using "probability x impact" frameworks to define parameters to assess and differentiate acceptable levels of unfavorable outcomes (Huber et al., 2013a; Jordan, S., Jørgensen, L., and Mitterhofer, H., 2013; Kaplan, R. S., and Mikes, A., 2012; McCormally et al. 2012). Risk management has shifted from a back-office, defensive role into a fundamental part of the business model and has emerged as a means of providing ex-ante rationalizations of the limits of prospective organizational action to optimize the outcomes of those actions (Huber et al., 2013a; Power, 2004b). This redefines the lens through which undesirable events can be assessed, tolerated, and managed by organizations (Huber et al., 2013a).

Some view the rise of risk management is a self-protective reply to a more demanding organizational environment of consumers and stakeholders (Power, 2004). Power (2004) indicates that risk management has been characterized by an increasing focus on risk

management of secondary risk such as reputation risks, which he views as a serious concern to the concept of risk management and to society. Risk related regulatory reforms, including the Turnbull report, the listing requirements of the New York Stock Exchange (NYSE), the U.S. Department of Justice Sentencing Guidelines, and the Sarbanes-Oxley Act of 2002, significantly expanded societies' perspectives and public policies related to effective risk management, and the rise of this regulatory conception of risk management, finds its roots in internal controls (Beasley et al., 2005; Martin et al., 2007; Arena et al., 2010; Harner, 2010; ICAEW, 1999; Gates, 2006). Risk management has been high on the agenda of finance practitioners and scholars as its focus has broadened to include more questions of internal control, and new risk categories including operational and reputational risks (Mikes, 2009; Huber et al., 2013a). When applied to areas outside finance departments, traditional statistical-driven techniques gave way to broader and nebulous methodologies (Huber et al., 2013; Mikes, 2011).

The growth of risk management out of internal controls has evolved risk management into an intensified focus on auditability of processes, and corresponding trails of documentation to evidence organizational adherence to interested stakeholders (Power, 2004b; Tekathen, M., and Dechow, N., 2013; Bhimani, 2009; Jordan et al., 2013). Power's (2009) disheartening view on the growth of risk management - the risk management of nearly everything - was less about managing risk as it is formally understood and more about organizations creating evidence of due process. Instead of managing risk, the financial crisis of 2007-2009 found extreme risk-taking to have played a pivotal role (Dobbin, 2010), and that risk management may have helped disguise poor risk practices (Huber et al., 2013).

II.2.1 Enterprise-wide Risk Management

Yet, risk management continues to be viewed as relevant and important in many industries and types of organizations and this is especially so when risk management takes on what many view as its most popular paradigm called enterprise-wide risk management (ERM). In September 2004, the COSO issued *Enterprise Risk Management - Integrated Framework*, to provide a model framework for ERM. The framework defines ERM as:

> A process, effected by an entity's board of directors, management and other personnel, applied in strategy setting and across the enterprise, designed to identify potential events that may affect the entity, and manage risk to be within its risk appetite, to provide reasonable assurance regarding the achievement of entity objectives (COSO, 2004; Beasley et al., 2005; Harner, 2010; Arena et al., 2010; Mikes, 2009; Beasley et al., 2010).

COSO is a coalition of the main accounting and finance trade associations in the United States and was formed due to the fraudulent financial reporting issues in the mid-1980s (Power, 2009; COSO, 2004; Power, 2007).

As we discussed, and considering the influence of the internal controls foundation over risk management, it is important to note COSO's 1992 *Internal Control – Integrated Framework* which suggested that: by calling upon the risk awareness of employees, an internal risk culture can be created; risk attitudes are aligned with strategies and objectives; hazards and opportunities are identified in relation to an organization's objectives; and risks are assessed by the potential likelihood and impact of their harm (Schiller et al., 2014; COSO, 1992). Schiller et al., (2014) suggests that organizations risk management is limited due to a lack of the concept of risk and risk knowledge generation with current ERM frameworks, which may be indicative of why current risk management has lost sight of the value of integrating risk knowledge bases and risk management systems. Instead, it seems that the COSO (1992) guidance provides the precursor

conceptual building blocks for the COSO 2004 ERM as a controls-based approach to risk management, thus a direct influence on ERM can be traced to an accounting conception of internal control (Power, 2009).

Hence, the ERM model is strongly influenced by accounting and auditing standards of control, with an emphasis on detailed controls supported with robust documentation evidencing effectiveness of the controls (Power, 2009; Talwar, 2011; Jordan et al., 2013). Our proposed risk governance framework seems warranted as it foundationally rest on risk governance principles versus emphasizing standards of internal controls which may enhance the understanding of risks and the ways in which actors and institutions, public and private, deal with risks surrounded by uncertainty, complexity, and/or ambiguity (van Asselt et al., 2011) that appear to be lacking with current organizational risk management (Schiller et al., 2014).

Nonetheless, while ERM has various sources feeding the same basic idea, the COSO (2004) version has become a global framework for best practice (Power, 2009; Paape et al., 2012; Huber et al., 2013). In a study by Viscelli (2013) 64% of interviewees indicated that they leveraged COSO as a reference or starting point but did not follow it in detail which is a telling sign and indicative of the inconsistency in ERMs noted in some research. ERM was viewed as one response to growing expectations by various stakeholders as a possible effective response to risk management challenges (Beasley et al., 2005; Paape et al., 2012). Broadly described as a "process," ERM requires a business entity to develop an organization-wide, top down approach to identifying, assessing, managing, and monitoring risks that would prevent the organization from meeting its objectives and managing risks throughout its operations (Beasley et al., 2005; Kleffner et al., 2003; Harner, 2010; Pirson et al., 2011; McCormally et al. 2012; Mikes et al., 2014; Viscelli, 2013; Talwar, 2011; Arena et al., 2010; Jordan et al., 2013). ERM is an

integrated risk-management framework intended to improve knowledge of and communication about possible risks throughout the firm, and was designed to increase the boards and senior management's ability to oversee these risks (Beasley et al., 2005; Kleffner et al., 2003; Harner, 2010; Pirson et al., 2011; McCormally et al. 2012; Mikes et al., 2014; Viscelli, 2013).

ERM differs from earlier views of risk management with its enterprise focus, and holistic versus silo approach where strategic, operational, compliance risks, and financial risks, are addressed concurrently (Paape et al., 2012; Harner, 2010; Kleffner et al., 2003; Schiller et al., 2014; Gates, 2006; Mikes, 2009). For operational risk, organizations were encouraged to consider the Basel II regulatory definition, "the risk of loss resulting from inadequate or failed internal processes, people and systems or from external events" (Basel, 2004). Operational risk is broad and includes costs associated from human error, legal liabilities, natural disasters, and can include cyber security threats and regulatory fines, while strategic risks covers the hard-to-quantify risks that threaten key strategic and business objectives (Basel, 2004; Mikes, 2008; Andersen et al., 2012; Heltman, 2015). In these secondary risks such as strategy and reputation risk, we saw efforts to quantify risks in an effort to formalize management's judgement and knowledge (Burchell, S., Clubb, C., Hopwood, A., Hughes, J., and Nahapiet, J., 1980). The COSO ERM concept defines risk management using a top-down approach that segments managerial responsibilities at all levels of decision making and planning (COSO, 2004). It considers, for example, that "each manager should be accountable to the next higher level for his or her portion of enterprise risk management, with the CEO ultimately accountable to the board" (Tekathen et al., 2013; Arena et al., 2010; COSO, 2004). The intent of this integrated approach was to help companies deal with risks and opportunities more effectively, enhancing the organization's ability to create and preserve value for its stakeholders, and to promote more

efficient use of capital in financial and non-financial institutions alike (Power, 2009; Kleffner et al., 2003; COSO, 2004).

The COSO ERM is represented as a three-dimensional matrix of eight elements deemed essential for achieving strategic, operational, reporting and compliance goals (COSO, 2004) and an organizations risk appetite is a key concept in the COSO ERM framework. Risk appetite refers to "the amount of risk, on a broad level, an entity is willing to accept in pursuit of value" (COSO, 2004). This expresses the organization's risk attitude at the level of the organization as a whole (Power, 2009; Paape et al., 2012). Risk appetite is the starting point of COSO type ERM, and according to COSO (2004), consideration and defining of the organizations risk appetite is essential for successful risk management. Risk appetite may be expressed in qualitative or quantitative terms, and at lower levels of an organization in the form of risk tolerances that are subsequently aggregated (COSO, 2004; Power, 2009; Paape et al., 2012; Harner, 2010). While the design and implementation of ERM is firm specific, it involves mapping the firm's business strategies and risks. At its core, ERM revolves around efficient and effective communication and monitoring of the organization's risks against its risk portfolio. In addition to the risk appetite, organizations are encouraged to develop key risk indicators that facilitate more effective monitoring of potential risk events (Harner, 2010; COSO, 2004). In 2009, COSO issued a thought paper, titled *Strengthening Enterprise Risk Management for Strategic Advantage*, to discuss the importance of the board's role in ERM and to provide some guidance in strengthening risk-management practices and complying with anticipated regulatory mandates on risk management to assist boards in fulfilling their role (Harner, 2010).

Once a company achieves a certain level of ERM sophistication, risk oversight begins to take on an independent status, and ways this has been signified include the appointment of a

"chief risk officer" or the transfer of risk oversight to an area such as strategic planning to avoid possible conflicts of interest in responsibilities (Gates, 2006). The purpose of such independence was that many organizations used outside auditors to design and establish the ERM objectives and sought to avoid the conflict of interest inherent in having them then be responsible for evaluating those same ERM processes (Gates, 2006). To this end, as a professional group, risk managements role included accommodating the demands of various stakeholder groups: regulators, corporate executives, shareholders, debt-holders and the general public (Mikes, 2008).

II.2.2 Role of Risk Management

It is believed by some that ERM provides a source of competitive advantage for those who can demonstrate a strong ERM capability and discipline (Beasley et al., 2005; Lessard, D., and Lucea, R., 2009). In Mikes' (2008) study, the interviewed senior risk officers emphasized that the risk function creates strategic value when risk professionals partner with the business lines and help them understand the cost of risk taking. ERM factors from a governance and organization perspective are: A clearly defined risk appetite articulated through limits and monitoring procedures; Involvement of the board; Centralized ERM organizational functions in place; A set of risk committees at both corporate and business unit levels that ensure proper communication and help to in-still risk awareness into the culture of the business (McDonald, 2004; Schiller et al., 2014; Talwar, 2011). An ERM framework should align the organization standards and policies, risk measurement methodologies, and systems and tools (McDonald, 2004; Pirson et al., 2011; McCormally et al. 2012; Mikes et al., 2014; Viscelli, 2013).

The role of risk management became more important as rating agencies introduced requirements and from continued promulgation of risk management by regulation. In May 2008,

Standard & Poor's announced its efforts in evaluating an issuer's ERM processes as an additional component of their credit evaluation procedures (Standard & Poor's, 2008). In March 2010, the Securities & Exchange Commission amended required proxy disclosures by requiring publicly traded companies to begin describing the board's role in risk management practices (Beasley et al., 2010; McCormally et al. 2012). While many financial institutions were already subject to, or encouraged to act by, these requirements, it was not until 2010 that the DFA created statutory ERM requirements explicitly for financial institutions (McCormally et al. 2012; Bugalla, J., Kallman, J., and Narvaez, K., 2014; McDonald, 2004; Martin et al., 2007). Changes in NYSE governance rules include requirements for NYSE registrant audit committees to assume responsibilities with respect to ''risk assessment and risk management,'' including risks beyond financial reporting (Beasley et al., 2005; NYSE, 2003). Basel Committee's Core Principles for Effective Banking Supervision, require regulators of banks to ensure that all banks in their country have in place a suitable risk management process to identify, measure, monitor and control risks (Talwar, 2011). This, in part, pressed regulatory agencies to become more explicit about having a risk-based approach to regulation. Regulators have repeatedly emphasized five areas: effective structural governance, robust and independent internal audit functions, consistent flow of risk-related information to the highest levels of the institution, instilling a strong corporate culture, and early identification of risks (McCormally et al., 2012).

Some recent studies have provided perspectives on the roles that risk management plays in organizations and determined that it can depend on the type of "calculative culture" within the organization (Mikes, 2008). Mikes' (2011) study identified two types of risk management: one driven by a strong shareholder value imperative (risk management by the numbers), the other corresponding to the demands of the risk-based internal control imperative (holistic risk

management). The differences in the two styles are attributed to the calculative culture of "quantitative enthusiasm" and "quantitative scepticism" (Mikes, 2009; Mikes, 2008). This shapes management preferences towards risk management, hence impacting the role that risk management plays in an organization. "Quantitative enthusiasts" aim to replace judgmental risk assessments with risk quantification whereas "quantitative sceptics" turn to risk modelling with caution, and are wary of managing risks by numbers and rely more on executive judgement (Mikes, 2009; Talwar, 2011). In light of the new regulatory requirements in financial institutions, it is not surprising that risk managers are under pressure and are tasked by boards and senior leadership to be able to demonstrate how the organization is meeting its risk management responsibilities (Mikes, 2008). Hence, the role of risk management also includes the production of risk reports, risk maps, stress test, and scenario analysis, and to also satisfy regulatory expectations (Mikes, 2009; Mikes et al., 2014; Jordan et al., 2013). Risk maps are based on risk identification and assessment processes, stress tests are based on data collection and statistical analysis, and scenario analyses are based on possible risk events that the organization may find itself impacted by (Mikes, 2009; Mikes et al., 2014; Jordan et al., 2013). In particular, regulators will look to see whether the information reaches senior management and whether and under what circumstances information reaches the Audit Committee, Risk Committee, and board (McCormally et al., 2012).

From a scholar's perspective one might believe that, with such an abundance of principles, guidelines, and standards, risk management is a mature discipline with clear and proven concepts and tools used by organizations in practice (Mikes, 2014). However, this does not appear to be the case as risk management systems are largely unproven and still emerging (Mikes, 2014). Many organizations are not implementing ERM's (Viscelli, 2013) and if they

are, they are creating their own hybrid systems to manage risk (Arena et al., 2010; Mikes, 2011; Jordan et al., 2013; Mikes, 2014). This is impactful as it makes it difficult to ascertain whether or not risk management systems such as ERM are creating their supposed value (Huber et al., 2013a; Mikes, 2008; Andersen et al., 2012; Martin et al., 2007; Pirson et al., 2011). Also, while some of the studies discussed provide perspectives on the role that risk management plays in organizations, the wide variety in risk management systems makes it challenging to understand the dynamics and components impacting risk management practices which affects the research in this space. Further, many practitioners have expressed dissatisfaction with the proposed normative and regulatory ERM frameworks (Mikes, 2014; Paape et al., 2012; Arena et al., 2010). Research into barriers to effective risk management is needed and our study seeks to provide a sound risk governance framework with which to explore what these barriers may be.

II.3 Challenges of Risk Management

The global financial crisis of 2007-2009 has negatively impacted the reputation of risk management as a suitable response to uncertainty (Huber et al., 2013; Tekathen et al., 2013). Some literature indicates that organizational focus is on adhering to expectations and avoiding potential blame by evidencing their conformance to regulatory requirements and document trails. Indeed, Power (2009) suggest that ERM might be better termed the 'risk management of nothing' being nothing more than an emblematic response to a growing audit culture, with little and even dysfunctional, impacts on routine operations (Huber et al., 2013a). This focus on auditability by interested stakeholders may cause organizations to overlook perhaps weaker indicators that may actually point towards risks (Power, 2004; Huber et al., 2013; Tekathen et al., 2013). In turn, organizations address what is referred to as policy risks thus prompting organization focus on meeting and adhering to policy actions called for by regulators and

governments (Ghoshal, 1987). Hence, we can see the evolved accounting or internal controls based risk management systems serving as organizational compliance mechanisms or "rationalization machines" which have been implicated as the reason for some company's failure, as risk management was relegated to a compliance function (Ghoshal, 1987; Beasley et al., 2010; Mikes et al., 2014; Burchell et al., 1980; Kaplan et al., 2012). Organizations can then project an illusion of control to sustain external legitimacy while doing little in practice to actually manage problems (Huber et al., 2013a; Martin et al., 2007; Powers, 2004).

The perception that risk management was part of a "tools culture" driven by concerns for audit and control undermined the extent to which organizations felt it could improve decision-making (Huber et al., 2013a). Hence, many people question the value in investing further in their organizations risk management system and practices (Beasley et al., 2010). This effect may be compounded by the notion that as it enters the organization, risk management systems such as ERM inevitably encounter other legacy risk management systems or practices which introduces variations in risk management practices (Arena et al., 2010). Most financial institutions have some kind of risk management system in place, but most of these systems are piecemeal approaches, which is further accentuated as many organization leaders believe their ad hoc and informal approaches are adequate and appropriate (Talwar, 2011; Beasley et al., 2010).

ERM may be relevant for regulators and others in need of proof of good governance as existing top-down designs for ERM are valued by regulators seeking to make senior management accountable, but such approaches are not realistic as it has become progressively detached from the reality of modern financial organizations and are not grounded in the demand for management action, which is always somehow "outside" the framework (Martin et al., 2007). Indeed, the recurring instances of risk management system weaknesses have often been

implicated as a contributor to the widespread failure of managerial and regulatory intelligence suggesting that the approach to, or implementation of, risk management practices is deficient in some respect (Power, 2009; Harner, 2010; Beasley et al., 2010). This indicates room for improving underlying processes and procedures to strengthen an organization's identification, assessment, and reporting of key risk exposures arising across all aspects of the organization (Power, 2009; Harner, 2010; Beasley et al., 2010). To this end, identifying barriers to effective risk management may bridge the gap between literature and practice in the field of risk management thus providing practitioners the ability to draw from these factors to better focus their limited resource on those things which really make the difference between success and failure (Yaraghi et al., 2011). Research into identifying barriers to effective risk management is needed to help provide such insights and perspectives to risk management professionals and academia alike.

II.3.1 Barriers to Risk Management

Current assessment still finds that empirical work on ERM is limited and can be classified along three main lines of research – describing the ERM practice, analyzing the determinants of ERM adoption, and assessing the valuation effect of ERM (Eckles, D. L., Hoyt, R. E., and Miller, S. M., 2014). In most cases, our review of risk management literature has found that the focus of the articles was not explicitly to seek barriers to effective risk management, however, our analysis has identified certain salient themes relative to barriers to effective risk management which can be categorized as strategy, organization structure, organization culture, communication, bias, process design/tools, and a final theme of the barrier being the concept of risk management itself. These are not presented as an exhaustive list, but the perspectives provide views of possible barriers to effective risk management.

It does not appear that literature supports that organizations are linking ERM to strategy (Viscelli, 2013). Poor level of board involvement and strategic oversight was found to be impactful towards ensuring the firms risk appetite was broadly understood in the organization (McCormally et al. 2012). In one case study, it appeared that a banks inability to secure the faith of the board in strategic discussions affected its risk management capabilities (Mikes, 2009). Organization structure led to a great deal of variability in a study where the multiplicity of local risk management circles throughout the firm led to data inconsistencies (Tekathen et al., 2013). Organizations may recognize certain risks and potential events were important, but in practice, there was no overarching strategy or process design, hence it was not clear who in the organization owned responsibility for "information objects" (Tekathen et al., 2013). One study found that a deterrent to risk management systems such as ERM was an organization structure that discouraged ERM (Kleffner et al., 2003).

Organizational culture was found to be a major deterrent to risk management as risk management practices were discouraged and resistance to change was constant; some studies reflected a rebellious tone where risk management practices were treated by managers as unavoidable tasks imposed by the parent company that did not add value to their existing knowledge (Kleffner et al., 2003; Arena et al., 2010). One study's finding suggested that the observed poor risk management practices could be linked to an unhealthy organizational culture which played a significant role in the failure to implement sound risk management practices (Andersen et al., 2012). "Mind-sets" can be impacted as a study showed that less attention was paid to those issues where responsibilities were shared, which suggested that rather than challenging organizational practices, it acted as a force toward organizational conservatism thus reinforcing existing understanding and practice (Huber et al., 2013a). As noted in a recent Wall

Street article, Thomas Baxter, general counsel of the Federal Reserve Bank of New York, stated in a speech on culture, "I confess that proof is hard to come by, yet I am not alone in the fundamental belief that a strong organizational culture will lead to better behaviour" (Glazer, E., and Rexrode, C., 2015). Organizational culture has also been found to negatively impact the notion of accountability as a study noted that accountability became an object of desire rather than an effect of their practice (Tekathen et al., 2013). Organization culture was identified in a study of Malaysian public companies of independent non-executive directors as impacting, or being barriers to, their effectiveness in performing their roles (Annuar, 2012). Organizational culture has been widely held to be the major barrier to creating and leveraging knowledge assets and in one study of policy formulation contributed to the observed fear of undermining an existing policy (David, W., and Fahey, L., 2000; Termeer, 2009).

Harner's (2010) research noted apparent weaknesses in communication as risk managers rarely discussed or assessed the company's overall risk profile and instead confined their risk management to separate and individual silos. Communication challenges can come in the form of pressure to conform due to positive feedback loops as Hindmoor and McConnell's (2013) study found that where a policy is perceived as being generally successful, a positive feedback emerges where pressures to extend a policy form resulting in risk signals being discounted. Harm in the form of miscommunication may arise as a study by Huber et al. (2013a) suggested that while the language of risk created a common "currency" with which to communicate, it also created potential for serious miscommunication as risk assessments communicated the most likely impacts of policy options, and paid little attention to related uncertainties. Communication through documentation can present challenges as the more parties touch the documents, the communicated character of specific issues can become opaque with each additional review

(Tekathen et al., 2013). Timeliness in communication of risk information was realized in one study where the needs for timelier and firmer signals to decision makers were identified (Mikes, 2009). The lack of communication in the form of organizational silence is a paradox where most employees know the truth about certain issues and problems yet do not speak of it to their supervisors (Morrison, E. W., and Milliken, F. J., 2000).

Relative to bias, organizations may be pressured to deliver upon immediate goals which results in bias toward the preservation of existing institution policies and procedures leading to minimizing the need to clarify and communicate risks (Hindmoor et al., 2013; Harner, 2010; Termeer, 2009). Mikes (2014) indicates that organizational biases, such as "groupthink," which is akin to organizational silence, also inhibit good thinking about risks. Groupthink arises when individuals, still in doubt about a course of action that the majority has approved, decide to keep quiet and go along (Mikes, 2014; Morrison et al., 2000).

Process design/tools challenges can be seen in circumstances where risk management practices were not able to be supported by the risk applications and infrastructure (Martin et al., 2007). In Mikes' (2009) study, process design may have proved impactful as the process of treating "red signals" were treated as learning opportunities which prompted revisions of limits versus the process being designed to risk manage and intervene. Power's (2009) study indicated potential process design issues where the need to embed "risk management and internal control systems within business processes" was an understood imperative, yet, there was little elaboration of what that might involve. Termeer's (2009) case study found that the framing of a situation as a crisis or a race to reach a deadline put additional pressure on the process, causing managers to fall back on methods and tactic's they were familiar with. Tools or risk models was a point of challenge for a bank in Mikes' (2009) study in that risk personnel spent a great deal of

time on calculating how much risk they had and ignored the bigger picture. Further, a risk controller in the study was not convinced that a risk tool was able to accurately reflect the underlying risk exposure and its dynamics (Mikes, 2009).

Some studies question facets of risk management including the paradigm ERM and the notion of risk silos. Tekathen et al. (2013) suggest that the implementation of ERM does not ensure organizational risk management but instead actualizes the ambiguity and heterogeneity of organizational risk practices. Paape et al. (2012) indicated that they found no evidence that application of the COSO framework improves risk management effectiveness to help organizations establish sound risk management (Schiller et al., 2014). One study identified an obstacle to risk management being the existence of the silo risk mentality (Kleffner et al., 2003). Hall et al.'s (2013) study expressed the negative of the organization having compartmentalized risk, i.e., operation risk, credit risk, market risk, and reputation risk, when they should be viewed as all interacting. A top Federal Reserve official said the central bank is still grappling with how to quantify certain types of risk for which incidents are unpredictable such as operational risk at the largest banks much less identify reliable controls to manage them (Heltman, 2015).

As can be seen above, while most of the studies did not explicitly seek to identify barriers to effective risk management, our analysis reveals the identification of several factors that may denote barriers to effective risk management. The study by Cho et al. (2014) identified that going through the process of creating RPs a benefit was improved risk management and knowing the organization better, yet, most of these institutions subject to RP undoubtedly had some level of risk management practices prior to DFA (McCormalley et al., 2012; Hall et al., 2013; Mikes, 2011; Harner, 2010). We seek to explore what are barriers to effective risk management.

II.3.2 Proposed Risk Governance Framework

Yaraghi et al. (2011) developed critical success factors related to risk management and developed them in a way to show how these factors relate to each other, and how RMS strategies can be defined, monitored, and controlled to provide adequate treatment to these factors from the time a organization decides to implement RMS, during the project of design and implementation, and finally throughout the life of the RMS. Our adapted three phases of RMS, readiness, execution, and administration is the first component of our proposed risk governance framework (RGF). We view these phases as part of an on-going feedback loop that should not be viewed as strictly linear. This is important as risk management and governance in institutions change over time, hence; for example, the organization may need to transition from administration back to readiness to consider new risk events and its impact to the organization and the RGF. With the variety of organization's risk management structures in existence, it would be very difficult to generalize a mapping or alignment of our three phases to an organization risk management systems/practices. Part of the strength of our proposed RGF is to provide flexibility for practitioners and academia to leverage this framework at all levels of an organization's risk management systems/practices and in a variety of industries. Hence, one should readily be able to consider the correlation of the three phases to their respective organizations risk management systems/practices. For example, from a responsibility perspective, one could consider that all three phases would be led by senior executives and committees with perhaps certain facets of the phases aligned with middle/lower level management and committees, e.g., while "strategy" approval during the readiness phase may require board approval, "process design" responsibilities during the execution phase may have more involvement of middle level management and committees.

We also draw from recent studies that provide opportunities to refine the success factors underlying the RMS and enhance the conceptualization of the three phases. We refined the factors and phases by drawing from Mikes' (2014) study which suggests three ERM design parameters and three contingency variables classifying different types of risk events. The three design parameters (see Table 30 for more details) are, (1) Processes for identifying, assessing, and prioritizing risks; (2) Frequency of risk meetings; and (3) Risk tools. Mikes (2014) identified these parameters as an "ERM mix," and as fundamental components of risk management. The three contingency variables classify different types of risk events (see Table 30 for more details) as, (1) Preventable risks; (2) Strategic execution risks; and (3) External risks. Specifically, we enhanced the CSF Process design to reflect the three design parameters and the three types of risk events. We also enhanced the CSF Environment to reflect External risks. As Mikes' (2014) study indicates that organizations risks are contingent on context and circumstances, she offers these as ideas about what risk management may depend *on*.

In Lundqvist's (2014) study, she identified four pillars that are integral to the implementation of an ERM (see Table 31 for more details) as, (1) General internal environment and objective setting; (2) General control activities and information and communication; (3) Holistic organization of risk management; and (4) Specific risk identification and risk assessment activities. Interestingly, relative to pillars 1 and 2, she found these components are not directly associated with risk management; firms that demonstrate no risk management activities could still implement these two components in a robust way, for example, if they have strong governance in place. Hence, conceptualizing dimensions or components by separating risk-related dimensions or components from those that are not directly related to risk could be a way to improve RMS (Lundqvist, 2014). Given our three phases, we refined our RMS by aligning

pillar 1 to readiness and pillar's 2, 3, and 4 to readiness, execution and administration. Furthermore, Lundqvist (2014) suggests a more consolidated framework with "broader components" as existing frameworks may offer too many components. This may provide better guidance with risk management frameworks as her study showed that organizations do not implement ERM based on existing component definitions and instead implement on broader terms. Our RMS aligns with this suggestion with three broader phases aligned to the four pillars. This may provide a framework for practitioners to draw from as it separates risk and non-risk related phases, i.e., readiness, and conceptualizes components on a broader level, i.e., readiness, execution, and administration.

The growth of risk management out of internal controls has in turn evolved risk management into an intensified focus on process, and on auditable trails of documentation thus supporting the need for external display of internal organizational coherence (Power, 2004b; Tekathen et al., 2013; Bhimani, 2009; Jordan et al., 2013). Although COSO's 1992 *Internal - Integrated Framework* suggested more of a risk awareness and internal risk culture, instead, it seems that the COSO (1992) guidance provided the conceptual building blocks for the COSO 2004 ERM as a controls-based approach to risk management, thus a direct influence on ERM can be traced to an accounting conception of internal control (Power, 2004). This drives organizations to create elaborate trails of detailed controls with corresponding documentation to prove the quality of processes (Power, 2009; Martin et al., 2007; Talwar, 2011; Jordan et al., 2013). Schiller et al. (2014) suggests that organizations risk management is limited due to a lack of the concept of risk and risk knowledge generation with current ERM frameworks, which may be indicative of why current risk management has lost sight of the value of integrating risk knowledge bases and risk management systems.

The notion of "risk governance" has been coined only recently and is generally linked to efforts related to "TRUSTNET – concerted action on risk governance" (van Asselt et al., 2011). The concept of risk governance pertains to the various ways in which many actors, individuals, and institutions, public and private, deal with risks surrounded by uncertainty, complexity, and/or ambiguity (van Asselt et al., 2011). Risk governance provides a conceptual as well as normative basis for how to deal responsibly with uncertain, complex, and/or ambiguous risks in particular (van Asselt et al., 2011). However, research suggests that COSO ERM does not address the management of uncertainties (Tekathen et al., 2013). Risk principles may serve as guidance for practitioners as they need to understand how different individuals and groups within organizations define risk, potential biases in risk assessment, and challenges in implementing risk management initiatives as many risks cannot be calculated on the basis of probability and effects alone (Bromiley et al., 2014; van Asselt et al., 2011). Risk governance highlights the importance of uncertain, complex, and/or ambiguous risks; however, it is a consistent finding that in most of these cases, the risks are treated, assessed, and managed as if they were simple (van Asselt et al., 2011). Perhaps it is the uncertainty around what constitutes risk which lends it the capacity to alter, define, and reshape risk management activities in particular ways (Bhimani, 2009). The lack of precise definitional characteristics enables the concept of risk to effect organizational risk management by conferring legitimacy on redefining boundaries of risk management (Bhimani, 2009). The failures to deal adequately with risks such as the financial crisis demonstrate the need to develop alternative concepts and approaches to deal with uncertain, complex, and/or ambiguous risks (van Asselt et al., 2011).

We therefore draw from van Asselt et al.'s (2011) risk governance study. While there may be other risk governance principles, van Asselt et al.'s (2011) study synthesized the body of

scholarly ideas and proposals on governance of systemic risks and explicates the idea that risk management is to help risk professionals to familiarize themselves with a broader concept of risk. We view that what may be missing from these normative RMS frameworks are underlying guidelines that can inform thinking about how to deal with uncertain, complex and/or ambiguous risks in various contexts. We adapted van Asselt et al.'s (2011) set of three principles which are (see Table 32 for more details), (1) Communication and Inclusion; (2) Integration; and (3) Reflection. These principles should be read as a synthesis of what needs to be seriously considered in organizing structures and processes to manage risks (van Asselt et al., 2011). Schiller et al., (2014) notes organizational failure to recognize the value of communication as it can result in poor integration of risk knowledge bases and risk management systems. Bromiley et al. (2014) suggests that as underlying strategic choices strongly influence firm-level risk, then risk management efforts at lower levels may have limited value, hence it is important to consider communication and inclusion with risk management practices. Risk management should be embedded and integrated in the company's cultural and organizational fabric that it is barely noticeable as a distinct management function at either the strategic or tactical level (Lessard et al., 2009). The integration principle may provide guidance as risk management requires coordination so that decisions made at one level in the organization do not result in the creation of new risks at other levels (Lessard et al., 2009). Reflection is important as it is difficult for risk governance to be routinized (van Asselt et al., 2011); managers make decisions based on what they believe and often their beliefs differ greatly from objective measures of risk (Bromiley et al., 2014). Also, individuals or organizations do not make consistent risk judgments or have consistent risk preferences, hence, the incorporation of the risk governance reflection principle, may enhance understanding managerial mental models of cause and effect for hard-to-measure

types of risk (Bromiley et al., 2014; van Asselt et al., 2011). We refined and enhanced our RMS by utilizing these three risk principles to function as underlying guiding principles to managing risks, which completes our refinements and enhancement to the RMS thus resulting in the RGF (see Table 33 for more details).

II.3.3 Summary

Our research on barriers to effective risk management through the lens of the RGF, which as Table 33 shows, incorporates the RMS enhanced as noted above, provides an RGF with an RMS empirically grounded in success factors and corresponding phases, and risk theory based principles serving as underlying guiding principles to enhance risk management, will provide rich perspectives on barriers to effective risk management. We view the proposed RGF as a model that may provide practitioners a more practical framework to draw from to enhance their organizations ability to address "organizational realities" (Arena et al., 2010, Martin et al., 2007) versus providing a mere auditability of risk management practices (Power, 2004; Huber et al., 2013; Tekathen et al., 2013). By leveraging our proposed RGF, we can explore the various phases of RMS where barriers to effective risk management may arise thus creating unanticipated effects. We provide practitioners a model to draw from that foundationally rest on risk governance principles versus internal control basis, which may enhance the understanding of risk governance and the various ways in which many actors, individuals, and institutions, public and private, deal with risks surrounded by uncertainty, complexity, and/or ambiguity (van Asselt et al., 2011) that appear to be lacking with current organizational risk management (Schiller et al., 2014). Lastly, we do not necessarily portray the RGF as an enterprise-wide risk management system, but more so a model that may be drawn upon by practitioners in varying industries and at

all levels of an organization's risk management practices (Talwar, 2011). Figure 1 depicts the RGF.

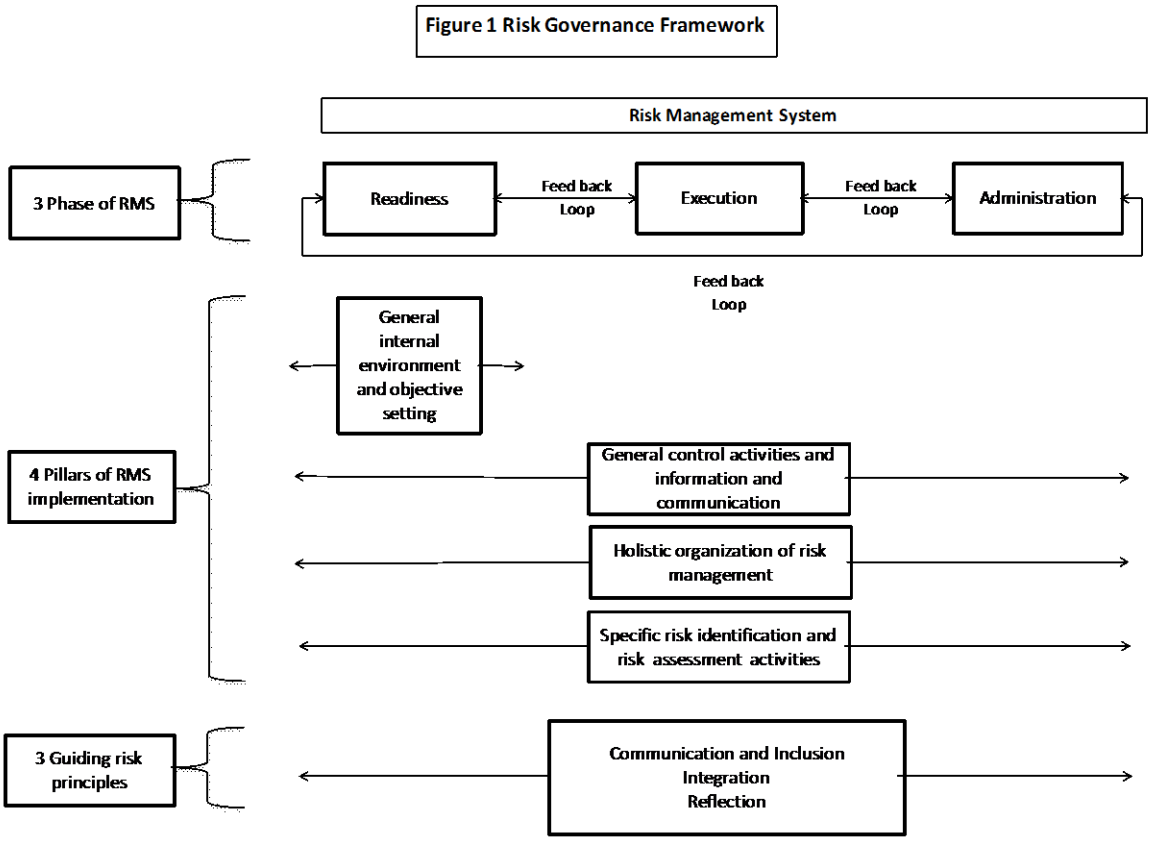

Figure 1 Risk Governance Framework

II.3.4 Research Model

The study by Cho et al. (2014) identified that going through the process of creating RPs benefits cited by respondents were improved risk management and knowing the organization better, yet, most of these institutions subject to RP undoubtedly had some level of risk management practices prior to DFA (McCormalley et al., 2012; Hall et al., 2013; Mikes, 2011; Harner, 2010). We seek to explore barriers to effective risk management for the 130 institutions subject to the RP requirements of DFA. We draw from Yaraghi et al.'s (2011) RMS study, which identified critical success factors to RMS to explore barriers to effective risk management. We

adapted as three phases of RMS, readiness, execution, and administration, and some of the noted success factors, to explore these barriers. Figure 2 is the conceptual framework leveraging the RGF.

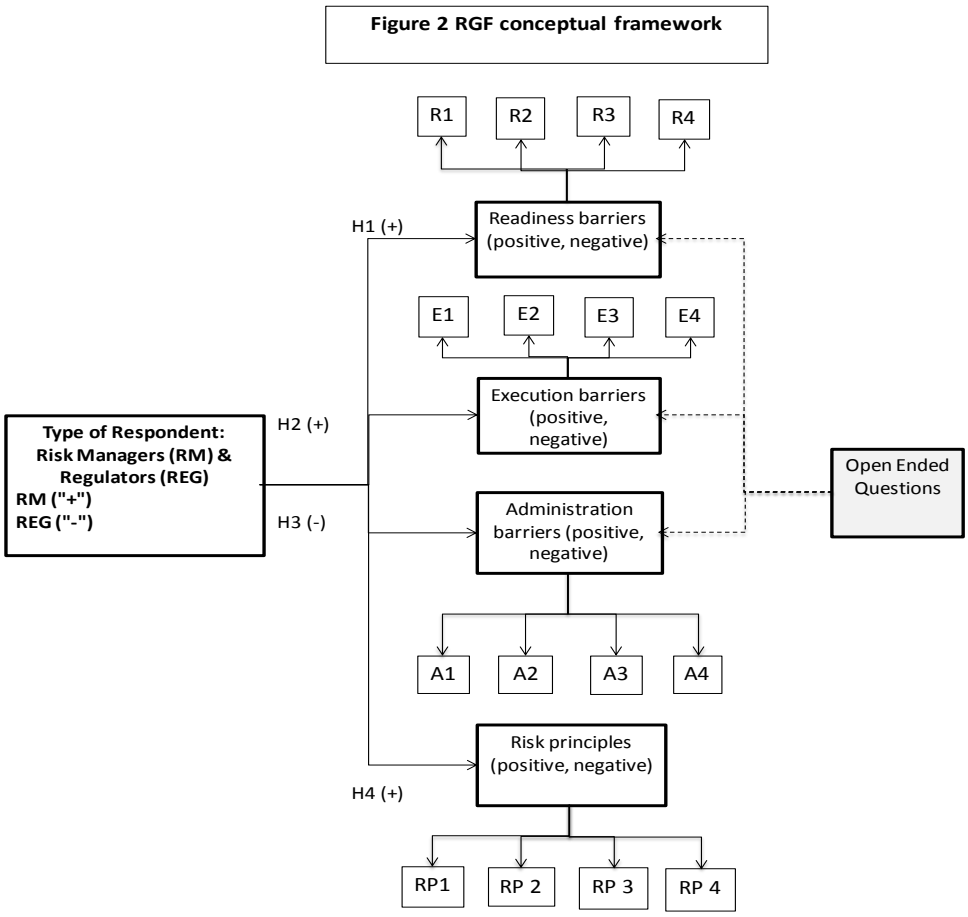

Figure 2 RGF conceptual framework

We will seek to obtain the perspectives of the respondents and based on our review of the survey results, we will test the following hypotheses:

H1 - Both RMs and REGs will not view Readiness factors as barriers to effective risk management.

H2 - RMs will have a higher perception than REGs that Execution factors are barriers to effective risk management.

H3 - REGs will have a higher perception than RMs that Administration factors are barriers to effective risk management.

Relative to the three risk governance principles, as van Asselt et al. (2011) expressed that her study does not provide a model in the strict sense of the word, there is no prior empirical research performed on the three risk principles as adapted to the RGF, therefore, our analysis is structured around a research question (i.e., survey question 5; see the questionnaire located in Appendix B) and focusing on analyzing those results rather than testing the theory. Hence, we will review the survey results and test the following hypothesis:

H4 - Both RMs and REGs will view Risk principles as favorable towards effective risk management.

Our survey data comes from institutions subject to RPs and many of these institutions most likely have risk management practices in place and/or underway and many may have enterprise-wide risk programs in place or underway. As we seek to explore barriers to effective "risk management" and not just "enterprise -wide" practices, we control for this plausible factor by focusing on the three phases of readiness, execution, and administration and the variables to subscribe to the notion of "risk management" practices and not just "enterprise-wide" practices.

III CHAPTER 3 DATA AND METHODOLOGY

III.1 Research Approach

The goal of this research is explore barriers to effective risk management. Based on survey data from 130 institutions subject to the RP requirements of DFA, and certain regulatory agency's examiners and analyst, we explored these barriers using our proposed RGF as the lens through which we performed the analysis. Appendix B has the survey questionnaire we used in this study. The survey questions were adapted from Yaraghi et al.'s (2011) study which defined critical success factors and their properties for risk management systems and from Cho et al.'s (2014) study on perceptions of the effectiveness of RPs. The questions asked were designed to reveal possible barriers to effective risk management in the phases of readiness, execution, and administration. We also explored perspectives relative to the three risk principles (van Asselt et al., 2011) that serve as guiding principles for the RGF. We complimented the results from our Likert-type scaled survey with several open ended questions and the feedback provided to those. Therefore, we chose a mixed methods approach as the qualitative results may provide richer insights into the quantitative analysis findings (Venkatesh, 2013).

III.2 Data Collection

Our sampling of experts had two criteria, such that respondents are (1) involved in or knowledgeable about risk management systems and practices and (2) currently employed in the financial industry or serve as a financial industry expert (REG) (Cho et al, 2014). We identified the financial industry individual as risk management personnel (RM) at the 130 financial institutions subject to RP requirements. We defined RMs as the members of financial institutions who are responsible for the firm's risk management activities. REGs are employed by the Federal Reserve District Banks (Fed), the Office of the Comptroller of the Currency

(OCC), the Federal Reserve System (Board), or the Federal Deposit Insurance Corporation (FDIC), and involved in the oversight of one of the 130 RPs.

To locate RMs and REGs with firsthand knowledge of risk management systems/practices, we contacted approximately 650 Fed, FDIC, and OCC regulators with job titles of "Examiner" or "Analyst," including Board personnel responsible for the supervision and regulation of the financial institutions, as well as bankers with explicit titles or responsibilities relative to risk management. All 12 Fed's were included. We also solicited information from approximately 130 LinkedIn members currently employed by the approximately 130 institutions whose public profiles suggested possible responsibilities for risk management oversight. The questionnaire is comprised of 20 questions: 7 quantitative and 8 open-ended, qualitative items; there was also one question that served to identify the respondent as RM and REG; three questions captured demographic information; and one question captured whether or not the respondent would like to obtain a summary of the study. We collected the data between June 15, 2015 and August 8, 2015.

First, we asked potential respondents to identify the type of organization that currently employed them. The options provided to respondents included, "Financial institution" and "Government regulatory agency."

Second, respondents selected their responses on a Likert-type, seven-point scale on their views of barriers to effective risk management systems/practices in the phases of readiness, execution, and administration. We also measured their perspectives on the three risk principles and the value they placed on these principles towards effective risk governance and risk management. Eight open-ended questions helped us gain insight into what these expert respondents viewed as barriers to effective risk management, including factors shaping

perceptions of risk management, as well as what changes they would suggest to improve the effectiveness of risk management systems/practices. A weighted response question asked respondents to choose, from a list of nine possible barriers that we gathered from previous literature, which ones they believe are barriers to effective risk management.

III.3 Data Analysis

III.3.1 Quantitative Data

Our statistical tests include Independent Samples T-Test to evaluate differences between RMs and REGs relative to the phases of RMS and perspectives as to the extent that barriers to effective risk management exist in the phases of readiness, execution, or administration. We performed independent samples t-test to evaluate perspectives of the importance of the three risk principles towards effective risk management and to rank the respondents response to a weighted response question that asked respondents to choose, from a list of nine possible types of barriers that we gathered from previous literature, which ones they believe are barriers to effective risk management. To examine differences between RMs and REGs, we summed for each variable the numerical values of each of our subscales including the three phases of readiness, execution, and administration and took the mean to produce the total score (Burns, 2008).

III.3.2 Qualitative Data

The responses to our eight open-ended questions were analyzed and coded in accordance with descriptive coding methods (Miles, M.B., Huberman, A.M., and Saldana, J., 2014). First, one author reviewed the responses to the open-ended Question 8 (see in Appendix B) and applied a content analysis technique to develop phrase categories or coded responses based on each respondent's response to the question (Myers, 2009). The barriers listed in our Question 7

(see in Appendix B), were used to help shape the coded responses. Still, the majority of our coded responses emerged through Inductive coding from our collected data (Miles et al., 2014).

Second, the same author reviewed the responses in the remaining seven open-ended questions and used where possible the coded responses generated from Question 8. Myers (2009) content analysis technique was employed to develop additional coded responses based on each respondent's response to each of the seven remaining open-ended questions where necessary. As a result, each of the eight open-ended questions reflected a set of coded responses and some of the coded responses were applicable to more than one open-ended question.

Third, we invited two REGs who were participants in the survey, and hence familiar with the survey tool, to code the eight open-ended questions. We did not seek to utilize a RM as one of the coders, as the nature of the topic and interaction by "banker" along with "regulator" generated angst and raised concerns of confidentiality. Independently, each REG applied the content analysis technique (Myers, 2009), but utilized the coded responses that were previously identified for each of the eight open-ended questions by the one author.

Fourth, the one author obtained the completed coded responses from both REGs and consolidated the three independent coded responses. This was performed for each open-ended question. This first cycle coding identified differences in the coded responses assigned. This was attributed to the fact that some of the open-ended questions elicited broad responses for a single question from a respondent.

Fifth, we collaborated on determining the common coded response and on determining common themes, for each respondent's response in each of the eight open-ended questions, to summarize them. For intercoder reliability, the first cycle coding ranged in agreement from 58

percent to 92 percent and 98 percent to 100 percent after the second cycle (Miles et al., 2014). Table 1 reflects the cycle percentages by the eight open-ended questions.

Table 1 Intercoder Reliability

Question Number *	First cycle %	Second cycle %
8	69	99
9	89	100
10/11	92	100
12	72	99
13	74	99
14	70	98
15	58	99
16	68	99

*****There were approximately eight open-ended questions seeking various perspectives relative to RMS. These questions are covered in more detail below.

IV CHAPTER 4 RESULTS

IV.1 Comparison of RMs and REGs

Table 2 provides descriptive profiles of our respondent group of 41 RMs and 96 REGs who completed our survey. Many of our respondents are overwhelmingly male, 78% and 77% for RMs and REGs respectively, and a large majority had four year college degrees (32% and 33% for RM and REG respectively), some postgraduate (7% and 17% for RM and REG respectively), and postgraduate degrees (59% and 49% for RM and REG respectively). The respondent group was represented by a broad age range but most were 35 years or older, with the largest percentage population in the age range of 45-54 at 44% and 38% for RMs and REGs respectively.

Table 2 Descriptive Profiles

Profile *	**RM and REG ****	**Descriptor**	***n***	**Percent**
Gender *******	RM	Male	31	78%
		Female	9	22%
	REG	Male	72	77%
		Female	22	23%
Education	RM	Some college, no degree (includes community college)	1	2%
	REG		1	1%
	RM	Four year college or university degree/Bachelor's degree (e.g., BS, BA, AB)	13	32%
	REG		32	33%
	RM	Some postgraduate or professional schooling, no postgraduate degree	3	7%
	REG		16	17%
	RM	Postgraduate or professional degree, including master's, doctorate, medical or law degree (e.g., MA, MS, PhD, MD, JD)	24	59%
	REG		47	49%
Age	RM	Less than 25 years old	0	0%
	REG		1	1%
	RM	25-34	1	2%
	REG		7	7%
	RM	35-44	12	29%
	REG		25	26%
	RM	45-54	18	44%
	REG		36	38%
	RM	55 or older	10	24%
	REG		27	28%

*****We provide profile prospective of our respondent groups.
****** Respondent groups are RM (Risk Managers) and REG (Regulators).
******* The total number of RMs is 41 and REGs is 96, however, 3 (1 RM and 2 REG) did not provide their Gender.

Our research provides rich perspectives on barriers to effective risk management. This includes their views obtained from open-ended questions on compensation practices, the current unique banking environment with the concept of "too big to fail" providing perhaps a type of "insurance" in that some organizations would be "bailed out," how complete risk management systems/practices should be to be "effective," the impact of the state of the financial/economic environment in shaping perceptions of effective risk management, barriers to effective risk management leading up to the financial crisis of 2007-2009, whether current risk management practices are more "quantitatively" or "qualitatively" driven, and finally what changes they would suggest to improve the effectiveness of risk management systems/practices.

We conducted Independent Samples T-Test to evaluate our four hypotheses and to facilitate analysis of mean scores for our one weighted response question to rank the respondents perspectives on the list of nine possible barriers. For our H1, that both RMs and REGs will not view Readiness factors as barriers to effective risk management revealed that RMs and REGs do not differ significantly in terms of Readiness factors (see Table 3), such that both groups expressed moderately strong views that weaknesses in these Readiness factors may manifest barriers to effective risk management.

Table 3 Summary of Readiness Independent Samples T-Test

Readiness Factor Variables	Mean		t*	Sig
	RM	REG		
Readiness - Poorly defined strategy (Strategy is defined as the organizations vision, mission, and long-term objectives.)	5.56	5.81	-.88	.38
Readiness - Poor organization culture (Organization culture is defined to include staff morale and commitment, and flexibility to change.)	5.80	6.34	-1.94	.06
Readiness - Lack of appropriate resources (Resources is defined to include infrastructure including human resources, and technical resources (cost and time are included in this category.)	6.05	5.96	.42	.68
Readiness - External environment in which the organization is operating (Environment is defined to include the effects of market, suppliers, competitors, socio-political systems, and the organization's partnership and joint venture strategies.)	4.61	4.52	.30	.77

*****We tested hypothesis 1 - Both RMs and REGs will not view Readiness factors as barriers to effective risk management.

For our H2, that RMs will have a higher perception than REGs that Execution factors are barriers to effective risk management revealed that RMs and REGs do not differ significantly in terms of Execution factors (see Table 4), such that both groups expressed strong views that weaknesses in these Execution factors may manifest barriers to effective risk management.

Table 4 Summary of Execution Independent Samples T-Test

Execution Factor Variables	Mean		t*	Sig
	RM	REG		
Execution - Poorly understood strategy (Strategy is defined as the organizations vision, mission, and long-term objectives.)	5.46	5.73	-.89	.38
Execution - Poor process design (Process design is defined to include processes for identifying, assessing, and prioritizing risks; frequency of risk meetings; and risk tools design; and availability of documented process ownerships for the organization's internal processes.)	5.95	6.08	-.57	.57
Execution - Lack of accountability (Accountability is defined to include defined job roles/responsibilities, and the level of employee involvement in risk management systems/practices.)	6.20	6.53	-1.53	.13
Execution - Inadequate risk performance reporting (Performance reporting is defined to include risk measurement, monitoring, and feedback reporting.)	5.85	6.07	-.93	.35

*****We tested hypothesis 2 - RMs will have a higher perception than REGs that Execution factors are barriers to effective risk management.

For our H3, that REGs will have a higher perception than RMs that Administration factors are barriers to effective risk management revealed that the "Administration – Inadequate levels of top management support of risk management systems/practices" factor was statistically significantly different (RM M = 5.88, REG M = 6.48; t = -2.14, p = .04), such that REGs more strongly viewed this Administration factor as manifesting barriers to effective risk management systems/practices than RMs (see Table 5). The difference in this factor reveals perhaps a level of skepticism that REGs may have as part of their supervisory oversight in dealing with top management that may not exist with RMs working under that management. It could boil down

to a level of confidence issue. However, similar to Readiness and Execution phases, both respondent groups expressed strong views that weaknesses in these Administration factors may manifest barriers to effective risk management.

Table 5 Summary of Administration Independent Samples T-Test

	Mean		t*	Sig
Administration Factor Variables	**RM**	**REG**		
Administration - Poorly communicated strategy hinders (Strategy is defined as the organizations vision, mission, and long-term objectives.)	5.34	5.55	-.75	.46
Administration - Inadequate organization structure (Organization structure includes the design, allocation of authorities, and responsibilities.)	5.68	5.81	-.48	.63
Administration - Inadequate levels of top management support of risk management systems/practices (Support is defined to include driving accountability and ownership of risk management systems/practices.)	5.88	6.48	-2.14	.04**
Administration - Inadequate communication of risk issues (Communication is defined to include processes to identify, assess and prioritize risks, including software/data analysis tools used to facilitate the communication.)	5.49	6.10	-1.94	.06

***** We tested hypothesis 3 - REGs will have a higher perception than RMs that Administration factors are barriers to effective risk management.

** Significance at the .05 level. Our testing revealed that the "Administration – Inadequate levels of top management support of risk management systems/practices" factor was statistically significantly different (RM M = 5.88, REG M = 6.48; t = -2.14, p = .04), such that REGs more strongly viewed this Administration factor as manifesting barriers to effective risk management systems/practices than RMs

For our H4, that both RMs and REGs will view Risk principles as favorable towards effective risk management revealed that RMs and REGs do not differ significantly in terms of the Risk principles (see Table 6), such that both groups expressed strong views that these Risk

principles are important to effective risk governance and risk management. The strong beliefs of the importance of Risk principles is consistent with the perspective that Risk principles may serve as guidance for practitioners as they need to understand how different individuals and groups within organizations define risk, potential biases in risk assessment, and challenges in implementing risk management initiatives (Bromiley et al., 2014; van Asselt et al., 2011).

Table 6 Summary of Risk Principles Independent Samples T-Test

	Mean		t*	Sig
Risk Principle Variables	**RM**	**REG**		
Communication is key to effective risk governance and risk management (I.e., communication exchanges between policy makers, stakeholders, and experts.)	6.32	6.18	1.04	.30
Inclusion is key to effective risk governance and risk management (E.g. involving people in risk-related decisions through which they gain ownership.)	5.93	6.03	-.59	.56
Integration is key to effective risk governance and risk management (I.e., synthesis of risk perceptions and values; risk management is not usually about a single risk, it requires risks-benefits evaluations and risk-risk trade-offs.)	6.29	6.08	1.31	.19
Reflection is key to effective risk governance and risk management (I.e., risk governance cannot be routinized. Actors must reflect on what they are doing to manage risk and continue to emphasize that the risks are uncertain, complex, and ambiguous, as the temptation to treat them as simple and to apply familiar routines remains huge.)	5.93	5.67	1.56	.12

***** We tested hypothesis 4 - Both RMs and REGs will view Risk principles as favorable towards effective risk management.

Our hypotheses, with the exception of the one Administration factor that was statistically significantly different, while not supported, gave us more practical comfort relative to perspectives of RMs and REGs. We tailored these hypotheses to baseline presumptions of

perspectives that we felt RMs and REGs would have. For example, for H2, that RMs would have a higher perception than REGs that Execution factors are barriers to effective risk management was predicated on the possibility that as RMs live closer with RMS execution daily, that RMs would have stronger views than REGs that Execution factors may manifest barriers to effective risk management. Similarly, for H3, that REGs would have a higher perception than RMs that Administration factors are barriers to effective risk management was predicated on the view that as supervisors, with focus and concerns more relative to governance and administration of RMS, REGs would have a higher perception than RMs that barriers to effective risk management may manifest in the Administration phase. While one Administration factor (Inadequate levels of top management support of RMS) proved to be statistically significantly different, the other three Administration factors did not. Further, for H1, that both RMs and REGs will not view Readiness factors as barriers to effective risk management was predicated on the view that perhaps a weakness with RMS relative to our respondent groups of RMs and REGs would stem from a greater focus by these groups on Execution and Administration phases due to our previous views noted. With the challenges and scrutiny that RMS faces, one could take solace with these hypotheses not being proven, which would seem to evidence alignment in RMs and REGs perceptions that barriers to effective risk management may manifest in all the phases of Readiness, Execution, and Administration, including the balanced perspective that Readiness factors are not overshadowed by the latter two phases of Execution and Administration.

The study by Cho et al. (2014) identified that going through the process of creating RPs a benefit was improved risk management and knowing the organization better, yet, most of these institutions subject to RPs undoubtedly had some level of risk management practices prior to DFA (McCormally et al., 2012; Hall et al., 2013; Mikes, 2011; Harner, 2010). Our proposed

RGF lens enabled exploration of RMS and our respondents strongly viewed that barriers to effective risk management can manifest in the phases of Readiness, Execution and Administration. The respondents also strongly viewed the importance of the three risk principles to effective risk governance and risk management. To further augment our exploration of barriers to effective risk management, we turned to the qualitative data for additional perspectives.

IV.2 Selected Barriers to Effective Risk Management

Table 7 displays the responses to the Likert-type question that featured nine possible barriers to effective risk management. We obtained the mean scores to each of the nine barriers by RM and REG and took the average of their mean scores and ranked the nine barriers. Tekathen et al.'s (2013) study suggests accountability became an object of desire in organizations. In line with this, the most highly ranked item selected overall was Accountability, i.e., lack of accountability, poorly defined job roles/responsibilities, and the level of employee involvement in risk management systems/practices (Average mean score = 6.01). Personnel, i.e., lack of qualified personnel to execute risk management practices (Average mean score = 5.91), and Oversight, i.e., inadequate oversight by the board and senior leadership (Average mean score = 5.65) ranked second and third overall respectively. The rankings of items differed by respondent category though. That is, REGs indicated that their second ranked concern was Oversight, (REG mean score = 6.01) versus Personnel. Further, of the nine barriers, only Oversight's Independent Samples T-Test indicated a significant difference in scores for RMs and REGs (RM M = 5.29, REG M = 6.01; t = -2.90, p = .004), such that REGs more strongly viewed inadequate oversight by the board and senior leadership as a barrier to effective risk management systems/practices than RMs.

Table 7 Degree to which RMs and REGs felt the following is a barrier to Effective Risk Management

Rank *	Barrier to Effective Risk Management	Mean Score		
		Avg	RM	REG
1	**Accountability:** Lack of accountability, poorly defined job roles/responsibilities, and the level of employee involvement in risk management systems/practices.	6.01	5.93	6.09
2	**Personnel:** Lack of qualified personnel to execute risk management practices.	5.91	5.93	5.88
3 **	**Oversight:** Inadequate oversight by the board and senior leadership.	5.65	5.29	6.01
4	**Strategy:** Lack of a well-defined and clearly understood vision, mission, and long-term strategy toward risk management in the organization.	5.54	5.51	5.56
5	**Disparate Risk Mgmt:** Disparity of local risk management processes and enterprise level risk management processes.	5.24	5.20	5.28
6	**Documentation:** Inadequate level of documentation, i.e., lack of clearly documented risk issues or concerns.	5.09	5.07	5.11
7	**Inclusion:** Lack of lower levels of management involvement in risk assessments.	5.02	4.85	5.19
8	**Environment:** Organization challenges in accommodating socio-political factors/pressures.	4.45	4.41	4.49
9	**Auditability:** Risk management systems/practices are more focused on auditability and documentation evidence.	4.24	4.41	4.07

Question: *For each of the following statements, please indicate the degree to which you feel each is a barrier to effective risk management. The scale is 1 to 7 where 1 means "Very Low Significance as a Barrier" and 7 means "Very High Significance as a Barrier." Possible*

** Rank is based on the average of the mean score for RM and REG.*

*** Of the 9 barriers, only Oversight's Independent Samples T-Test indicated a significant difference in scores for RMs and REGs (RM M = 5.29, REG M = 6.01; t = -2.90, p = .004), such that REGs more strongly viewed Inadequate oversight by the board and senior leadership as a barrier to effective risk management systems/practices than RMs.*

IV.3 Compensation Practices

Tables 8 and 9 summarizes the respondents' responses to the open-ended question: *"Do you believe that an organization's compensation practices may manifest barriers to effective risk management? If so, relative to the previously discussed phases of "Readiness," "Execution," and "Administration," does it manifest barriers to effective risk management more in one of these phase versus another?"*

Our count and phase analysis indicates that both RMs and REGs believe compensation practices may manifest barriers to effective risk management and generally in the Execution phase. Our coding and subsequent content analysis identified five major categories of the types of barriers that may manifest: misalignment to strategy (e.g., compensation practices not tied to strategy), risk taking (e.g., compensation practices that encourages excessive risk taking), compensation controls (e.g., lack of compensation related controls), risk culture (e.g., culture that does not promote risk management), and risk management personnel (e.g., lack of experienced, sufficiently compensated risk management staff).

Table 8 Compensation Practice Barriers to Effective Risk Management – Counts and Phases (Readiness (R), Execution (E), Administration (A))

		Do Compensation Practices Manifest Barriers to Effective Risk Management?				Phases Barriers Manifest In			
Respondent Type	**Number of Respondents**	**Yes**	**No**	**Unsure**	**% Yes**	**R**	**E**	**A**	**Highest % / Phase**
RM	32	29	3	0	91%	9	17	11	46% / E
REG	79	70	8	1	89%	8	41	16	63% / E

Question: *Do you believe that an organization's compensation practices may manifest barriers to effective risk management? If so, relative to the previously discussed phases of "Readiness," "Execution," and "Administration," does it manifest barriers to effective risk management more in one of these phase versus another? Please be as specific as possible.*

Both RMs and REGs believe compensation practices may manifest barriers to effective risk management. RMs and REGs responded "Yes" at 91 percent and 89 percent respectively. While both respondents indicated that compensation practices may manifest barriers in all three phases, the highest percent cited was for the Execution phase at 46 percent and 63 percent for RMs and REGs respectively.

Table 9 Compensation Practice Barriers to Effective Risk Management – Categories

			Number of Responses / Percentage of Total		
Category	**Coded Response**	**Representative Response**	**RM**	**REG**	**Total**
Misalignment to Strategy	Performance/Compensation not aligned with organization risk tolerance, objectives. Compensation practices not tied to strategy.	*Effective risk management is all about Execution and the design and Administration of the systems is necessary but completely insufficient. Employees need to be hired and compensated for behaving consistently with the strategy. Currently, people do what is inspected not what is expected. (RM)*	11 / 46%	23 / 38%	34 / 40%
Risk Taking	Compensation practices encourages excessive risk taking.	*Yes, compensation practices can promote ineffective decision making which leads to taking excessive risks (just to earn a large bonus as an example). The barrier to effective risk management this creates is in the Execution phase more so than in the Readiness or Administration phases. (REG)*	3 / 13%	19 / 31%	22 / 26%
Compensation Controls	Lack of compensation related controls, i.e. governance, safeguards, and escalation controls. Performance/Compensation not aligned with organization risk tolerance, objectives.	*I believe that compensation practices in the Execution phase could manifest barriers to effective risk management if they do not have the proper controls. If there were not compensating Risk Appetite controls on growth of new accounts for example, you could grow the number of accounts by dropping the credit quality scores of the purchasers to increase the potential pool of clients. This would result in higher sales, but would also potentially increase your losses significantly. The controls along with the proper governance and escalation process is a key component of risk management of*	6 / 25%	11 / 18%	17 / 20%

		the process. (RM)			
Risk Culture	Culture that does not promote risk management.	*An organization's compensation practices can become barriers, but likely on the outer edges of compensation practices (all variable based on revenue as an example). Generally, this would lead to poor Readiness and Execution more than Administration, as the culture would not be one to establish strong risk management practices (vs. oversee/administration). (RM)*	2 / 8%	5 / 8%	7 / 8%
Risk Management Personnel	Lack of experienced, sufficiently compensated risk management staff.	*Yes. Effective Risk Mgrs have to be experienced with stature and vision. Banks must be willing to pay for both to attract the right people. (REG)*	2 / 8%	3 / 5%	5 / 6%

Question: *Do you believe that an organization's compensation practices may manifest barriers to effective risk management? If so, relative to the previously discussed phases of "Readiness," "Execution," and "Administration," does it manifest barriers to effective risk management more in one of these phase versus another? Please be as specific as possible.*

Misalignment to strategy - based comments were the most common among both RMs and REGs of the types of barriers that may manifest. They indicated that misaligned organization risk tolerance and objectives to strategy are drivers of possible barriers to effective risk management. As one RM stated, "Effective risk management is all about Execution and the design and Administration of the systems is necessary but completely insufficient. Employees need to be hired and compensated for behaving consistently with the strategy. Currently, people do what is inspected not what is expected." This theme was echoed in spirit in the following REG comment, noting "Whenever compensation is an incentive to a certain behavior, the behavior must align with risk management strategies or the compensation becomes a barrier to effective risk management." It is not surprising that this theme emerged as the top theme for this question as this appears consistent, more broadly, with prior studies that suggest that organizations are not linking ERM to strategy (Viscelli, 2013).

Risk taking - themed comments were the next most common. A higher percentage of REGs indicated this, compared with RMs, but the overall themes were consistent, namely, that compensation practices encourages excessive risk taking. One REG commenting on the excessive risk taking explained, "Yes, compensation practices can promote ineffective decision making which leads to taking excessive risks (just to earn a large bonus as an example). The barrier to effective risk management this creates is in the Execution phase more so than in the Readiness or Administration phases." A RM shared a similar view about risk taking, "Compensation practices which are not aligned to risk management practices manifest barriers during the execution phase. The execution phase is when risk is actually taken and where risk should be managed. Without alignment, organization may inadvertently foster a risk-taking philosophy."

The remaining themes reflected compensation control comments (e.g., lack of compensation related controls, i.e. governance, safeguards, and escalation controls), risk culture (e.g., culture that does not promote risk management), and risk management personnel (e.g., lack of experienced, sufficiently compensated risk management staff).

IV.4 Banking Environment Provides a Type of "Insurance"

We asked respondents to share their views on the notion of "insurance" and if in banking it manifests barriers to effective risk management. Tables 10 and 11 summarizes the respondents' responses to the open-ended question: *"Do you believe that the current unique banking environment provides a type of "insurance" for some organizations with the concept that "too big to fail" may indicate the organization would be "bailed out?" If so, relative to the previously discussed phases of "Readiness," "Execution," and "Administration," does this*

notion of "insurance" manifest barriers to effective risk management more in one of these phases versus another?"

Our count and phase analysis indicates some differences in perspectives between RMs and REGs that the notion of "insurance" may manifest barriers to effective risk management. However, both RMs and REGs believed if barriers did manifest, it would generally be in the Execution phase. Our coding and subsequent content analysis identified six major categories of the types of barriers that may manifest: incentives (e.g., creates moral hazard or sense of safety net promoting higher or excessive risk taking), risk culture (e.g., culture that does not promote risk management), repercussions (e.g., lack of appropriate repercussion, e.g., civil, criminal penalties, global requirements), regulatory oversight (e.g., higher cost of "insurance," i.e., higher capital requirements result in more effective risk management), complexity (e.g., the barrier is really "too big to manage," i.e., poor data management, reporting), and misalignment to strategy (e.g., performance/compensation not aligned with organization risk tolerance, objectives).

Table 10 Banking Environment Provides a Type of "Insurance" Thus Creating Barriers to Effective Risk Management – Counts and Phases (Readiness (R), Execution (E), Administration (A), Not Specified (NS))

		Does the notion of "Insurance" Manifest Barriers to Effective Risk Management?				Phases Barriers Manifest In				
Respondent Type	**Number of Respondents**	**Yes**	**No**	**Unsure**	**% / Yes or No ***	**R**	**E**	**A**	**NS****	**Highest % / Phase**
RM	31	9	21	1	68% / No	0	3**	0	6	100% / E
REG	81	40	38	3	49% / Yes***	6	10	6	21	45% / E

Question: *Do you believe that the current unique banking environment provides a type of "insurance" for some organizations with the concept that "too big to fail" may indicate the organization would be "bailed out?" If so, relative to the previously discussed phases of "Readiness," "Execution," and "Administration," does this notion of "insurance" manifest barriers to effective risk management more in one of these phases versus another? Please be as specific as possible.*
***** *Reflects the higher responses for Yes or No. REGs indicated more Yes responses to the notion of "Insurance" manifesting barriers to effective risk management than RMs.*

******** *Of the 9 Yes responses, only three indicated a phase and all were Execution where barriers to effective risk management may manifest. Respondent did not specify a phase, hence, "Not Specified" or NS.*
********* *While REGs responses indicated "Yes" their "No" responses were 47 percent. This slight difference seems to indicate questions exist on the notion of "insurance" and the "moral hazard" it may present.*

RMs and REGs perspectives that the notion of "insurance" may manifest barriers to effective risk management differed. RMs responded "No" at 68 percent while REGs responded "Yes" at 49 percent. Also, although REGs "Yes" responses were higher than REGs "No" responses at 49 percent and 47 percent respectively, this slight difference would seem to indicate questions exist for this respondent group on the notion of "insurance" and the "moral hazard" it may present relative to impacts to effective risk management. However, while perspectives that the notion of "insurance" may manifest barriers to effective risk management differed for RMs and REGs, for those respondents who indicated phases where barriers may manifest, the highest percent cited for both RMs and REGs was for the Execution phase at 100 percent and 45 percent respectively.

Table 11 Banking Environment Provides a Type of "Insurance" Thus Creating Barriers to Effective Risk Management – Categories

			Number of Responses / Percentage of Total		
Category	**Coded Response**	**Representative Response**	**RM**	**REG**	**Total**
Incentives	Creates moral hazard or sense of safety net promoting higher or excessive risk taking. Culture that does not promote risk management.	*I do believe that the concept of "too big to fail" is providing a safety net for large organizations. "Readiness" again would be most likely affected because the inclination to take risk is higher when there is a safety net. Although SIFIs failing would cause ripples in the economy, just about any type of safety net has the opportunity to be misused. In certain circumstances, I believe the safety net might actually incentivize misuse and risky behavior because the organization knows it will be "caught" by the net and protected from sustaining fatal damage. (REG)*	2 / 29%	18 / 50%	20 / 47%
Risk Culture	Culture that does not promote risk management.	*Not for "Readiness or Administration." Actually those two are the most regulated. For the key activity*	2 / 29%	5 / 15%	7 / 15%

		"Execution" I think "too big to fail" might be a factor in enabling a poor risk culture. (RM)			
Repercussions	Lack of appropriate repercussion, e.g., civil, criminal penalties, global requirements. Individuals are not held accountable.	*Clearly, large banks that were "bailed out" were indeed taking advantage of "insurance", however, I feel that the common perception is that "the banks were saved, in spite of their poor management"; really society was saved from the likely economic disaster that would have occurred. That being said, I feel that the management of the banks and investment banks that were both directly and indirectly responsible did not experience appropriate repercussions in terms of civil and criminal penalties. (RM)*	2 / 29%	3 / 8%	5 / 12%
Regulatory Oversight *	Higher cost of "insurance," i.e., higher capital requirements result in more effective risk management.	*I believe that in the current environment bank's that benefit from "too big to fail" are paying a high price for that "insurance" (i.e., through high capital requirements and regulatory demands).This has forced risk organizations to become more active in challenging all business decisions and the quality of the information those decisions are based on. If anything, this has resulted in more effective risk management. (RM)*	1 / 13%	4 / 11%	5 / 12%
Complexity	The barrier is really "too big to manage," i.e., poor data management, reporting.	*It is NOT a matter of "too big to fail" - it is a matter of "too big to MANAGE"! The concept of "insurance" is less of a barrier than the fact that the largest banking organizations cannot manage the more local cultures that are ingrained, particularly when several disparate entities are acquired over a short period of time such that integration was not well executed. (REG)*	0 / 0%	3 / 8%	3 / 7%
Misalignment to Strategy	Performance/Compensation not aligned with organization risk tolerance, objectives.	*Generally yes, although the post-Dodd Frank environment, and the recent court decision in the AIG case, creates some uncertainty regarding the ability or willingness of the government to step in. I believe the failure to tie compensation to bad risk decisions/results is a much bigger driver for bankers to take outsize risks. (REG)*	0 / 0%	3 / 8%	3 / 7%

Question: *Do you believe that the current unique banking environment provides a type of "insurance" for some organizations with the concept that "too big to fail" may indicate the organization would be "bailed out?" If so, relative to the previously discussed phases of "Readiness," "Execution," and "Administration,"*

does this notion of "insurance" manifest barriers to effective risk management more in one of these phases versus another? Please be as specific as possible.
** Interestingly, some respondents indicated the current environment benefits from "too big to fail" as organizations are paying a high price for that "insurance" and believe that this has resulted in more effective risk management.*

Incentives - based comments were the most common overall for RMs and REGs of the types of barriers that may manifest. They indicated that the sense of a "safety net" promoted higher or excessive risk taking. As one REG stated, "I do believe that the concept of "too big to fail" is providing a safety net for large organizations. "Readiness" again would be most likely affected because the inclination to take risk is higher when there is a safety net. Although SIFIs failing would cause ripples in the economy, just about any type of safety net has the opportunity to be misused. In certain circumstances, I believe the safety net might actually incentivize misuse and risky behavior because the organization knows it will be "caught" by the net and protected from sustaining fatal damage." One RM stated, "Yes. Execution. The concept of "too big to fail" wasn't introduced until there was a need. Now the term is widely accepted and is no doubt being used to leverage risk taking in extremely large organizations, but this is an opinion as I have no supporting evidence to back it up. Should we end up in another bail out situation, expect applicability of the term and conditions to resurface."

Risk culture - themed comments were next most common. They indicated "too big to fail" might be a factor in enabling a poor risk culture. One RM stated, "Not for "Readiness or Administration." Actually those two are the most regulated. For the key activity "Execution" I think "too big to fail" might be a factor in enabling a poor risk culture." One REG stated, "I would think this would be a factor in the readiness phase. Too big to fail is more problematic at the top of the house in developing sound strategic plans that adequately incorporate sound risk management - and setting the culture for risk management from the top." The risk culture theme is consistent with Andersen et al. (2012) who appeared to find that poor risk management

practices could be linked to an unhealthy organizational culture which played a significant role in the failure to implement sound risk management practices.

For some RMs and REGs regulatory oversight themed comments were provided and interestingly, these themes indicated a perceived benefit to effective risk management arising from the notion of "insurance" and "too big to fail." Some respondents indicated the current environment benefits from "too big to fail" as organizations are paying a high price for that "insurance" and believe that this has resulted in more effective risk management. As one RM stated, "I believe that in the current environment bank's that benefit from "too big to fail" are paying a high price for that "insurance" (i.e., through high capital requirements and regulatory demands).This has forced risk organizations to become more active in challenging all business decisions and the quality of the information those decisions are based on. If anything, this has resulted in more effective risk management." One REG shared the essence of this perspective with the following, "Yes. The "Big Banks" had an advantage of too big to fail. With what Federal Reserve Board has proposed, increased capital requirement for large banks will reduce the advantage."

The remaining themes reflected repercussions (e.g., lack of appropriate repercussion, e.g., civil, criminal penalties, global requirements), complexity (e.g., the barrier is really "too big to manage," i.e., poor data management, reporting), and misalignment to strategy (e.g., performance/compensation not aligned with organization risk tolerance, objectives).

IV.5 RMS Phases and Percent Complete

We asked respondents through a two part question to share their views on the RMS phase factors of Readiness, Execution, and Administration and "how complete" must the phase factors be for risk management systems/practices to be effective. The first part sought perspectives of

either “100 percent complete” or “<100 percent complete.” The second was an open-ended question seeking any additional perspectives to the percentage complete portion of the question. Tables 12, 13, and 14 summarizes the respondents’ responses to the question: “*Relative to the previously discussed phases of “Readiness,” “Execution,” and “Administration” factors, for risk management systems/practices to be considered “effective,” please select the answer that best reflects your personal views: 1. All phases of Readiness, Execution, and Administration factors must be complete and in place for risk management systems/practices to be “effective.” 2. All phases of Readiness, Execution, and Administration factors must be in place, but do not have to be 100% complete, for risk management systems/practices to be “effective.” Please provide any additional perspectives to your choice for the percentage complete question above.*”

Our count analysis indicates both RMs and REGs share the perspective of “<100 percent complete;” RMs and REGs indicated 80 percent and 74 percent respectively with this view. Our coding and subsequent content analysis for respondents who offered perspectives for “100 percent complete” identified four categories of perspectives for their choice of the percentage complete portion of the question: dynamic risk management (e.g., risk systems/practices should be dynamic and evolve with environment), key risk controls (e.g., include yearly simulations and trials), interconnectivity, and risk culture (e.g., risk systems/practices specifications should be implemented completely).

Our coding and subsequent content analysis for respondents who offered perspectives for “<100 percent complete” identified eight categories of perspectives for their choice of the percentage complete portion of the question: dynamic risk management (e.g., risk systems/practices can have gaps but still be effective), risk management maturity level (e.g., experienced risk managers can offset risk systems/practices that are not 100% complete), risk

culture (e.g., risk culture should enable risk systems/practices to be effective), key risk controls (e.g., risk systems/practices can have gaps but still be effective), qualitative challenges (e.g., risk systems/practices can have gaps but still be effective), level of investment (e.g., risk systems/practices can have gaps but still be effective), accountability (e.g., risk systems/practices should be complemented by accountability), and issue awareness (e.g., risk systems/practices should be dynamic and evolve with environment).

Table 12 Must all phases of Readiness (R), Execution (E), Administration (A) factors be complete for Risk Management Systems/Practices (RMS) to be Effective or may the R,E,A factors be in place but be < 100% complete and still be Effective – Counts

		For RMS to be Effective		
Respondent Type	**Number of Respondents**	**100% Complete**	**<100% Complete**	**Highest % / 100% or <100%**
RM	41	8	33	80% / <100%
REG	96	25	71	74% / <100%

Question: *Relative to the previously discussed phases of "Readiness," "Execution," and "Administration" factors, for risk management systems/practices to be considered "effective," please select the answer that best reflects your personal views:*
1. All phases of Readiness, Execution, and Administration factors must be complete and in place for risk management systems/practices to be "effective."
2. All phases of Readiness, Execution, and Administration factors must be in place, but do not have to be 100% complete, for risk management systems/practices to be "effective."
Please provide any additional perspectives to your choice for the percentage complete question above. Please be as specific as possible.

For RMS to be effective, both RMs and REGs indicated that all phases of Readiness, Execution, and Administration factors must be in place, but do not have to be 100% complete, for risk management systems/practices to be "effective." RMs and REGs responded "<100 percent complete" at 80 percent and 74 percent respectively.

Table 13 RMs and REGs who offered Perspectives with their choice of 100% Complete – Categories

Category	Coded Response	Representative Response	Number of Responses / Percentage of Total		
			RMs	REGs	Total
Dynamic Risk Management	Risk systems/practices should be dynamic and evolve with environment. Risk systems/practices specifications should be implemented completely.	*Target state goal should be 100 percent with the bar constantly being raised in the future. (RM)*	2 / 100%	0 / 0%	2 / 33%
Key Risk Controls	Include yearly simulations and trials.	*Must be 100% completed with yearly simulation and table top trials.(REG)*	0 / 0%	2 / 50%	2 / 33%
Interconnectivity	Risk systems/practices specifications should be implemented completely.	*Weaknesses in certain aspects of risk management will hinder performance in other processes (REG)*	0 / 0%	1 / 25%	1 / 17%
Risk Culture	Risk systems/practices specifications should be implemented completely.	*An effective risk management framework must be complete in order to create and instill a positive culture. Leaving a framework incomplete sends the message that risk management is not a priority. (REG)*	0 / 0%	1 / 25%	1 / 17%

Question: *Relative to the previously discussed phases of "Readiness," "Execution," and "Administration" factors, for risk management systems/practices to be considered "effective," please select the answer that best reflects your personal views:*
1. All phases of Readiness, Execution, and Administration factors must be complete and in place for risk management systems/practices to be "effective."
2. All phases of Readiness, Execution, and Administration factors must be in place, but do not have to be 100% complete, for risk management systems/practices to be "effective."
Please provide any additional perspectives to your choice for the percentage complete question above. Please be as specific as possible.

Most respondents did not provide additional perspectives on their selection for the first part of this question regarding their choice of "100 percent complete." Further, while our coding and content analysis for respondents who offered perspectives did identify categories, there were no common categories between RMs and REGs. For RMs, the most common category was dynamic risk management and for REGs, the most common category was key risk controls. Relative to dynamic risk management, one RM offered this perspective for their selection of

"100 percent complete," "While there's degrees to each of the factors of risk management, all three need to be working in concert for risk management to be effective across categories of risk." For key risk controls, one REG stated, "In short, you don't know what you don't know. In order to be confident that risk management systems are operating effectively, they need to be fully implemented, executed, and tested for effectiveness and sustainability." The two remaining categories of interconnectivity, and risk culture were common for REGs but not for RMs. For interconnectivity, one REG offered this perspective for their selection of "100 percent complete," "Weaknesses in certain aspects of risk management will hinder performance in other processes." Relative to risk culture, one REG stated, "An effective risk management framework must be complete in order to create and instill a positive culture. Leaving a framework incomplete sends the message that risk management is not a priority."

Table 14 RMs and REGs who offered Perspectives with their choice of <100% Complete – Categories

			Number of Responses / Percentage of Total		
Category	**Coded Response**	**Representative Response**	**RMs**	**REGs**	**Total**
Dynamic Risk Management	Risk systems/practices should be dynamic and evolve with environment. Risk systems/practices can have gaps but still be effective.	*Risk management is an evolving process. What works today, may not work tomorrow. You can have systems that are effective but there is always room for improvement. (REG)*	6 / 43%	15 / 45%	21 / 45%
Risk Management Maturity Level	Risk systems/practices should be dynamic and evolve with environment. Experienced risk managers can offset risk systems/practices that are not 100% complete.	*Effective Risk management is about the ability to identify, quantify and report the risk, not all of which will be immediately possible when the risk is initially discovered. All of the phases should be able to move to 100% complete, but "effective" management includes the ability to provide early warning signs of emerging themes and issues. (RM)*	3 / 21%	8 / 24%	11 / 23%

Risk Culture	Risk culture should enable risk systems/practices to be effective. Risk systems/practices can have gaps but still be effective.	*If Readiness and Execution have been met, the risk management culture should take hold and allow the processes to be effective. Then Administration aspects may be completed over time to fully implement the system. Risk management is more than the sum of the processes or the system used to manage risk; it must be socialized and operationalized. The administration of the system should be just a formality at that point. (REG)*	4 / 29%	5 / 16%	9 / 19%
Key Risk Controls	Risk systems/practices can have gaps but still be effective.	*It's more about balance and focus on the key governance control that all good firms have which is absolute clarity regarding "kill, feed, starve" decisioning relative to the operation. Well defined "kill power" user manifests in stable and steady operating results. (REG)*	0 / 0%	2 / 6%	2 / 5%
Qualitative challenges	Risk systems/practices can have gaps but still be effective.	*Given the dynamic economic environment, I think it will be a big challenge to ever hit 100%. I think the key themes - structure, staff and transparency must be in place, but 100% may not be achievable. The risk is everything becomes so focused on documentation that decisions can't be made in a timely manner. It becomes document management, not risk management. Granted there is a balance, but I think 100% is not realistic. Furthermore, it is a qualitative assessment making it hard to drive consistency, etc. of what 100% means. (RM)*	1 / 7%	0 / 0%	1 / 2%

Level of investment	Risk systems/practices can have gaps but still be effective.	*The question does not focus on the concept of "most effective"; to reach that level of effectiveness (maximum level of effectiveness of the risk management processes does require that the three factors all be 100% complete or working within the firm. Basically, less than 100% implementation of all three factors will lead to a level of effectiveness that is less than maximum effectiveness, but most likely is at a reasonably good level of effectiveness, all things considered. I keep thinking that the answer is you get what you pay for -- meaning if the three factors are 100% implemented the likelihood that the level of risk management effectiveness is very high or at an upper level is good; on the reverse end, if the three factors are implemented at say a 23% level, the overall level of risk management effectiveness will be much lower, BUT STILL BETTER THAN IT WOULD BE IF THE THREE FACTORS WERE NOT IMPLEMENTED AT ALL. So risk management is on a sliding scale, you get more out of it the more you put into it across the level of implementation of the three factors, Readiness, Execution, and Administration. (REG)*	0 / 0%	1 / 3%	1 / 2%
Accountability	Risk systems/practices should be complemented by accountability.	*Accountability for risk takers (call it 'culture' if you must) is the key to risk management. You can have all the systems and/or processes in the world, plus a highly experienced / motivated risk management team, but it matters not when the body creating risk is not held accountable. (REG)*	0 / 0%	1 / 3%	1 / 2%
Issue Awareness	Risk systems/practices should be dynamic and evolve with environment.	*Awareness of the issues and a well designed and progressing plan for improving RM practices is often enough to manage a firm well. (REG)*	0 / 0%	1 / 3%	1 / 2%

Question: *Relative to the previously discussed phases of "Readiness," "Execution," and "Administration" factors, for risk management systems/practices to be considered "effective," please select the answer that best reflects your personal views:*
1. All phases of Readiness, Execution, and Administration factors must be complete and in place for risk management systems/practices to be "effective."
2. All phases of Readiness, Execution, and Administration factors must be in place, but do not have to be 100% complete, for risk management systems/practices to be "effective."
Please provide any additional perspectives to your choice for the percentage complete question above. Please be as specific as possible.

More respondents provided additional perspectives on their selection for the first part of this question regarding their choice of "<100 percent complete." Dynamic risk management-based comments were the most common among both RMs and REGs. Unlike for "100 percent complete" where our coding and subsequent content analysis did not identify dynamic risk management as a category for REGs, this category was the most common among both RMs and REGs for "<100 percent complete." One REG stated, "Given that risk management practices are still evolving, waiting until all components are in place and functioning is worse than having a phased approach to risk management processes." As echoed by one RM, "My belief is that you have to do as much as you can, as soon as you can in regards to identifying and mitigating risks. You cannot wait until all phases are perfect and all systems are "Go", the process must be iterative and malleable."

Risk management maturity level - themed comments were the next most common. They indicated that experienced risk managers may offset risk systems/practices that are not 100% complete. One RM stated, "Effective Risk management is about the ability to identify, quantify and report the risk, not all of which will be immediately possible when the risk is initially discovered. All of the phases should be able to move to 100% complete, but "effective" management includes the ability to provide early warning signs of emerging themes and issues." Similarly, one REG stated, "In any organization, there may be gaps or identified weaknesses that exist, but may be offset by key strengths to maintain an effective risk management structure.

The key factor is the existence of an experienced and skilled management structure that knows its strategic objectives, establishes an effective governance structure, and effectively communicates to all levels of the organization that can be easily understood and followed."

Risk culture - themed comments were the third most common. They indicated that risk systems/practices can have gaps but still be effective with a strong risk culture. One REG offered, "If Readiness and Execution have been met, the risk management culture should take hold and allow the processes to be effective. Then Administration aspects may be completed over time to fully implement the system. Risk management is more than the sum of the processes or the system used to manage risk; it must be socialized and operationalized. The administration of the system should be just a formality at that point." One RM shared a similar cultural perspective stating, "I believe you could still have some small gaps in the process but still have an effective system in place. Self ID audit issues should be encouraged to document the gaps and remediate the issues while the gaps are small." For RMs, however, this themed comment ranked second and risk management maturity level ranked third.

Similar to "100 percent complete," our coding and content analysis for respondents who offered perspectives for their choice of "<100 percent complete," identified some categories that were not common between RMs and REGs. These remaining themes reflected key risk controls (e.g., risk systems/practices can have gaps but still be effective), qualitative challenges (e.g., qualitatively challenges can make executing risk systems/practices difficult and inconsistent), level of investment (e.g., risk systems/practices can have gaps but still be effective), accountability (e.g., risk systems/practices should be complemented by accountability), and issue awareness (e.g., risk systems/practices should be dynamic and evolve with environment).

IV.6 State of the Financial/Economic Environment

We asked respondents to share their views on the importance of the state of the financial/economic environment in shaping general perceptions of the effectiveness of risk management and if it may manifest barriers to effective risk management. Tables 15 and 16 summarizes the respondents' responses to the open-ended question: "*How important is the state of the financial/economic environment in shaping general perceptions of the effectiveness of risk management? (i.e., if we are coming out of a financial crisis then general perceptions of risk management may be different than if there is a long period of stability.) and Relative to the previously discussed phases of "Readiness," "Execution," and "Administration," do you believe that the state of the financial/economic environment may manifest barriers to effective risk management? (E.g., in periods of long stability, management may begin to focus less on Execution factors thus creating potential barriers to effective risk management.)*"

Our count and phase analysis indicates that both RMs and REGs believe the state of the financial/economic environment is important in shaping general perceptions of the effectiveness of risk management and these perceptions may generate barriers to effective risk management generally in the Execution phase. Our coding and subsequent content analysis identified six major categories of the types of barriers that may manifest: risk focus (e.g., periods of stability reduces the focus on or priority of risk management), risk taking & complacency (e.g., periods of stability promotes more risk taking and complacency), sustainability (e.g., it can cause risk management to be backward instead of forward looking), perceptions (e.g., strong risk culture and risk management is not sustained during perceived periods of stability), regulatory oversight (e.g., it has increased the levels of regulatory oversight including risk management), and

complexity & interconnectedness (e.g., complexity and interconnectedness of financial/economic environment creates barriers to effective risk management).

Table 15 How Important is the State of the financial/economic environment in shaping general perceptions of the Effectiveness of Risk Management and do you believe that these perceptions may manifest Barriers to Effective Risk Management – Counts and Phases (Readiness (R), Execution (E), Administration (A), Not Specified (NS))

		Level of Importance in State of financial/economic environment shaping perceptions of the Effectiveness of Risk Management.					Phases Barriers Manifest In				
Respondent Type	**Number of Respondents**	**High**	**Moderate**	**Low**	**Not Important**	**% / Level of Importance***	**R**	**E**	**A**	**NS**	**Highest % / Phase**
RM	31	21	8	1	1	68% / H	4	24	15	3	56% / E
REG	78	54	16	3	5	69% / H	9	60	38	5	56% / E

Question: *How important is the state of the financial/economic environment in shaping general perceptions of the effectiveness of risk management? (i.e., if we are coming out of a financial crisis then general perceptions of risk management may be different than if there is a long period of stability.). Please be as specific as possible.*
***** *Reflects the percentage of the most frequent level of importance. Both RMs and REGs viewed the state of the financial/economic as highly important to shaping general perceptions of the effectiveness of risk management.*

Both RMs and REGs believe the state of the financial/economic environment is important in shaping general perceptions of the effectiveness of risk management. RMs and REGs indicated a high level of importance at 68 percent and 69 percent respectively. While both respondents indicated that the state of the financial/economic environment may manifest barriers in all three phases, the highest percent cited was for the Execution phase with both RMs and REGs at 56 percent.

Table 16 State of the financial/economic environment shapes general perceptions of the Effectiveness of Risk Management may Manifest Barriers to Effective Risk Management – Categories

			Number of Responses / Percentage of Total		
Category	**Coded Response**	**Representative Response**	**RMs**	**REGs**	**Total**
Risk Focus	Periods of stability reduces the focus on or priority of risk management. Strong risk culture and risk management is not sustained during perceived periods of stability. It can cause risk management to be backward instead of forward looking.	*Higher capital levels are mitigating risk, but too much focus on new regulation and the prior problems continues to reduce the focus on the next set of problems. Ill prepared to identify at this point. (REG)*	12 / 40%	29 / 40%	41 / 39%
Risk Taking & Complacency	Periods of stability reduces the focus on or priority of risk management. Periods of stability promotes more risk taking and complacency.	*The longer the time since the last crisis, the higher the probability that resources will be shifted to other priorities. The redeployment of resources will impact execution first, but will ultimately impact all phases. (RM)*	7 / 23%	21 / 28%	28 / 27%
Sustainability	Strong risk culture and risk management is not sustained during perceived periods of stability. It can cause risk management to be backward instead of forward looking.	*Bank's fundamentals should not change as a result of economic environment. During good times and bad times bank's approach to risk should not change. Good times do not last. It is an economic cycle. Bank's risk appetite and how it carries out its risk tolerances determines its own fate. (REG)*	6 / 20%	12 / 16%	18 / 17%
Perceptions	State of the economy can promote incorrect perceptions of the level of risk in the environment and the quality of risk management. Strong risk culture and risk management is not sustained during perceived periods of stability.	*I believe it could, but the implementation of compensating capital controls, risk appetites and management reporting and escalation that is an effective risk management system provides a more stable environment regardless of the state of the economy. (RM)*	2 / 7%	10 / 13%	12 / 12%
Regulatory Oversight *	It has increased the levels of regulatory oversight including risk management.	*Yes, due to the compression of bank's earnings they will only implement the risk management they are forced to by regulators.*	2 / 7%	2 / 3%	4 / 4%

		(REG)			
Complexity & Interconnectedness	Complexity and interconnectedness of financial/economic environment creates barriers to effective risk management.	*The main features of the financial/economist environment that creates barrier to effective risk management are the complexity and interconnectivity of financial and economic institutions. (RM)*	1 / 3%	0 / 0%	1 / 1%

Question: *Relative to the previously discussed phases of "Readiness," "Execution," and "Administration," do you believe that the state of the financial/economic environment may manifest barriers to effective risk management? (E.g., in periods of long stability, management may begin to focus less on Execution factors thus creating potential barriers to effective risk management.) Please be as specific as possible.*
** Interestingly, some respondents indicated the Regulatory Oversight can manifest barriers to effective risk management by "driving the focus of risk management" or that there is a "lag between financial entrepreneurialism and regulation."*

Risk focus - based comments were the most common among both RMs and REGs of the types of barriers that may manifest. They indicated that periods of stability can reduce risk focus and that strong risk management should be maintained in up and down financial/economic cycles. One REG stated, "Yes, in periods of long stability, management may begin focusing on revenue priorities and may cut funding to risk remediation activities thereby creating a barrier to effective risk management." This theme was echoed in spirit in the following RM comment, noting "Interest on the maintenance of effective risk management practices will continue to decline, now that a period of improvement and the beginnings of a more stable environment is on the horizon, so this will become a barrier to effective risk management."

Risk taking & complacency - themed comments were the next most common. A slightly higher percentage of REGs indicated this, compared with RMs, but the overall themes were consistent, namely, that periods of stability may promote more risk taking and complacency. One RM commented, "Yes, executives, business unit managers, and risk managers can become lax in their diligence and, I feel, can lose the focus on the independence of their role. Risk inventories may not be reviewed as thoroughly, and relationships between business unit and risk

executives may become such that the required institutionalised friction between roles may be lessened. "Times are good, do we really need to do a ground-up inventory of our business unit risks?"" A REG shared a similar view, "I do believe the financial/economic environment may manifest barriers. All phases may be affected in long periods of stability, creating more incentive for risk, less emphasis on renewing and revising risk management practices over time, and lax implementation of existing risk management practices." The risk focus and risk taking & complacency themes are in line with Huber et al. (2013a) who suggest that conservatism can reinforce existing understanding and practices.

Sustainability - themed comments were the third most common. They indicated that strong risk systems/practices should be sustained regardless of the state of the financial/economic environment. One REG offered, "Bank's fundamentals should not change as a result of economic environment. During good times and bad times bank's approach to risk should not change. Good times do not last. It is an economic cycle. Bank's risk appetite and how it carries out its risk tolerances determines its own fate." One RM shared a similar perspective stating, "If proper controls and documentation are in place, theoretically, the external environment would not hinder REA. Separating risk reporting lines from finance to ensure independence is also important."

For some RMs and REGs regulatory oversight themed comments were provided and interestingly, indicated that they may manifest barriers to effective risk management. This is due to regulatory oversight "driving the focus of risk management" or that there is a "lag between financial entrepreneurialism and needed regulation." One REG stated, "Yes, due to the compression of bank's earnings they will only implement the risk management they are forced to by regulators." One RM shared the essence of this perspective with the following, "It doesn't act

as a barrier necessarily, but can act as a catalyst when regulations and oversight are adjusted to promote sustained economic growth."

The remaining themes reflected perception comments (e.g., state of the economy can promote incorrect perceptions of the level of risk in the environment and the quality of risk management), and complexity & interconnectedness (e.g., complexity and interconnectedness of financial/economic environment creates barriers to effective risk management).

IV.7 Categories of Barriers to Effective Risk Management By RMS Phase

The hypotheses tests for the three phases of Readiness, Execution, and Administration clearly indicate both RMs and REGs view that weaknesses in these phases' factors may manifest barriers to effective risk management. We augment the perspectives toward these phases by capturing the types of barriers to effective risk management that may result as identified from three of the open-ended questions presented earlier where we sought the respondent groups' perspectives on phases that may manifest barriers. Table 17 lists the previously discussed category of barriers by phase as determined by our content analysis for the questions pertaining to compensation practices, the banking environment providing a type of "insurance," and the state of financial/economic environment.

Table 17 Categories of Barriers to Effective Risk Management By Phase of Readiness, Execution, and Administration from the Three open-ended questions pertaining to Compensation Practices, Banking Environment Provides a Type of "Insurance," and State of the Financial/Economic Environment

Phase	Compensation Practices*	Banking Environment Provide a Type of "Insurance" *	State of Financial/Economic Environment*
Readiness	• Misalignment to Strategy (RM, REG) • Risk Culture (RM, REG) • Risk Taking (RM, REG)	• Incentives (REG) • Risk Culture (REG)	• Perceptions (REG) • Risk Focus (RM, REG) • Risk Taking & Complacency (REG) • Sustainability (REG)
Execution	• Compensation Controls (RM, REG) • Misalignment to Strategy (RM, REG) • Risk Culture (RM, REG) • Risk Management Personnel (REG) • Risk Taking (RM, REG)	• Complexity (REG) • Incentives (RM, REG) • Misalignment to Strategy (REG) • Regulatory Oversight (REG) ** • Risk Culture (RM, REG)	• Perceptions (RM, REG) • Regulatory Oversight (RM, REG) *** • Risk Focus (RM, REG) • Risk Taking & Complacency (RM, REG) • Sustainability (RM, REG)
Administration	• Compensation Controls (RM, REG) • Misalignment to Strategy (RM, REG) • Risk Culture (REG) • Risk Management Personnel (REG) • Risk Taking (RM, REG)	• Incentives (REG) • Risk Culture (REG) • Repercussions (REG)	• Complexity & Interconnectedness (RM) • Regulatory Oversight (REG) *** • Risk Focus (RM, REG) • Risk Taking & Complacency (RM, REG) • Sustainability (RM, REG)

***** *We include in parenthesis beside each barrier category the respondent group who indicated this phase based upon our content analysis.*

*** Some respondents indicated the current environment benefits from "too big to fail" as organizations are paying a high price for that "insurance" and believe that this has resulted in more effective risk management.*
**** Some respondents indicated the Regulatory Oversight can manifest barriers to effective risk management by "driving the focus of risk management" or that there is a "lag between financial entrepreneurialism and regulation."*

Some categories overlap phases and this is because the nuances of categories appear to have aspects that may result in alignment with different phases depending on the lens through which it is being viewed. As one RM states, "I believe that compensation practices in the execution phase could manifest barriers to effective risk management if they do not have the proper controls. If there were not compensating Risk Appetite controls on growth of new accounts for example, you could grow the number of accounts by dropping the credit quality scores of the purchasers to increase the potential pool of clients. This would result in higher sales, but would also potentially increase your losses significantly. The controls along with the proper governance and escalation process are a key component of risk management of the process." Whereas one REG stated, "An organization's compensation structure may be designed in a manner to introduce misconduct risk in an otherwise perceived effective risk management framework. This would be evident in the Administration phase, where well-written policies and adequate reporting exists."

The table presents a more explicit view relative to phases and not surprisingly aligns with the earlier detailed analysis. For the notion of "insurance," RMs largely indicated "No" regarding its impact to manifesting barriers, hence, most of the categories noted are mainly cited by REGs. Similarly, it is easier to see why regulatory oversight seemingly contradicts itself as a benefit to effective risk management for the notion of "insurance," i.e., organizations paying a higher price for "too big to fail" and has forced organizations to scrutinize their business decisions, and as a barrier to effective risk management for the state of the financial/economic

environment, i.e., regulation my drive risk focus or may be the root cause of lags between financial entrepreneurialism and supervision.

IV.8 Barriers to Effective Risk Management Leading up to the Financial Crisis of 2007-2009

We asked respondents to share their perspectives on barriers to effective risk management leading up to the financial crisis of 2007–2009. Table 18 summarizes the respondents' responses to the open-ended question: "*Benefits cited by bankers and regulators that were preparing Resolution Plans included improved understanding of the bank and improved risk management. However, risk management practices were in place prior to the requirement for Resolution Plans. What do you believe were barriers to effective risk management at firms leading up to the financial crisis of 2007-2009?*"

Our coding and subsequent content analysis identified 13 major categories of the types of barriers to effective risk management at firms leading up to the financial crisis of 2007– 2009: risk culture (e.g., lack of a risk culture and accountability), underestimating risk (e.g., under estimating risk, including the nature of it; type of risk; and its level of possible systemic impact), siloed risk management (e.g., siloed risk management processes and inadequate resources), corporate greed (e.g., revenue incentives driving transaction decisions), risk focus (e.g., periods of stability/complacency reduces the focus on or priority of risk management), complexity & interconnectedness (e.g., complexity and interconnectedness of financial/economic environment creates barriers to effective risk management), overconfidence (e.g., overconfidence in existing risk management processes), regulatory oversight (e.g., weak regulatory oversight), misalignment to strategy (e.g., performance/compensation not aligned with organization risk tolerance, objectives), repercussions (e.g., lack of appropriate repercussion, e.g., civil, criminal

penalties, global requirements), standardized risk management (e.g., risk management practices that were too standardized and lacked adaptability), independent oversight (e.g., lack of independent risk assessments/oversight), and qualitative challenges (e.g., firms lacked the qualitative perspective to properly and consistently execute risk management).

Table 18 Barriers to Effective Risk Management leading up to the Financial Crisis of 2007 through 2009 – Categories

			Number of Responses / Percentage of Total		
Category	**Coded Response**	**Representative Response**	**RMs**	**REGs**	**Total**
Risk Culture	Lack of a risk culture and accountability. Risk Management practices that were too standardized and lacked adaptability.	*Lack of need for effective risk management - it is not embedded cultural in most organisations, and certainly not within organisations that have a strong focus on Investment banking, so are more prone to risk taking. Historically, I have not found effective risk management practices and culture to be embedded appropriately within these types of banks and financial services, so it is not surprising that ineffective practices were in place prior to the regulators mandates for RRP requirements. (RM)*	6 / 21%	15 / 21%	21 / 21%
Underestimating Risk	Under estimating risk, including the nature of it; type of risk; and its level of possible systemic impact. Firms lacked the qualitative perspective to properly and consistently execute risk management.	*There was insufficient emphasis on risk management, as well as no clear definition. Inconsistency was a large barrier. And, outside of credit risk management, regulators were not emphasizing it or gauging it as a "system" or "culture" (although there were measurements and regulatory guidance in place). / In addition, many risks inherent in the financial sector are not easily quantified, such as compliance and reputation risks. . (REG)*	6 / 21%	8 / 11%	14 / 14%
Siloed Risk Management	Siloed risk management processes and inadequate resources.	*Lack of integration from an enterprise level down to a LOB unit level. Lack of a multidisciplinary view of risks (credit vs. tech vs. operational vs. fraud vs. vendors vs. market vs. business continuity, etc.) caused each to managed within a silo. Focus on safety/soundness vs.*	3 / 11%	11 / 15%	14 / 13%

		consumer protection. / / There was also a lack of accountability. The gov't would fine or issue a MRA, but until they took control of capital reallocation it was less of an area of focus for CEO/Board level executives. (RM)			
Corporate Greed	Corporate greed. Lack of a risk culture and accountability.	*I believe the barriers included complacency (e.g., prosperity, what bubble?), lack of accountability (e.g., "too big to fail" so called insurance policy) and too much greed (e.g., revenue based incentives primarily driving all financial transaction decisions, including those decisions made by Rating agencies. Risk management was not part of the compensation equation.) (REG)*	0 / 0%	11 / 15%	11 / 11%
Risk Focus	Periods of stability/complacency reduces the focus on or priority of risk management.	*Complacency. As long as the business was thriving and regulators weren't knocking on the door, management was more apt to assume risk exceeding its stated risk appetite. (RM)*	4 / 13%	5 / 7%	9 / 9%
Complexity & Interconnectedness	Complexity and interconnectedness of financial/economic environment creates barriers to effective risk management.	*Certainly the complicated legal structures of firms contributed to poor understanding of aggregate risk in the firm. Poor/disjointed systems and poor data contributed to the ability to identify and quantify key risks, both at business line level and at the enterprise level. Complex financial products (including legal/contractual obligations) were not well understood by decision maker. But we need to keep in mind that the unprecedented national collapse of the housing market, the black swan/100 year event drove a lot of the crisis. I doubt even the best risk managed shops could have prepared for something that was considered inconceivable by virtually all market participants in 2005. (REG)*	3 / 11%	3 / 4%	6 / 6%
Overconfidence	Overconfidence in existing risk management processes.	*Prior to the financial crisis, I believe the management of many large institutions held a "misguided level of confidence" regarding the effectiveness of their risk management practices.*	2 / 7%	4 / 5%	6 / 6%

		Since the crisis, many institutions experienced large losses and many lessons have been learned. There now exists a different mindset about risk management. Many large institutions have enhanced their risk management practices and have hired experienced professionals and staff for these functions. (RM)			
Regulatory Oversight	Weak regulatory oversight.	*Lack of government oversight and policies were to relax in favor of financial institutions. (REG)*	1 / 3%	5 / 7%	6 / 6%
Misalignment to Strategy	Performance/Compensation not aligned with organization risk tolerance, objectives. Corporate greed.	*Shareholder demands for increased share value conflict with sound risk management practices, which tend to limit share value growth. (REG)*	0 / 0%	6 / 8%	6 / 6%
Repercussions	Lack of appropriate repercussion, e.g., civil, criminal penalties, global requirements.	*I feel that incentives offers to processors, executives, and salespeople were greater than the perceived repercussions of their actions. Plus, "everyone else was doing it". (RM)*	2 / 7%	2 / 3%	4 / 4%
Standardized Risk Management	Risk Management practices that were too standardized and lacked adaptability.	*The major barriers were reliance on past paradigms and an inherent bias of the manner in which types of risks would manifest themselves. (REG)*	1 / 3%	2 / 3%	3 / 3%
Independent Oversight	Lack of independent risk assessments/oversight.	*Execution and independent assessment (oversight) needs to be in place for each organization (RM)*	1 / 3%	0 / 0%	1 / 1%
Qualitative Challenges	Firms lacked the qualitative perspective to properly and consistently execute risk management.	*This assumption is incorrect. Firms did not have good risk management practices. If that was the case the key risk indicators would have driven management to make good decisions early and prevent the collapse of institutions (e.g. banks did not have adequate liquidity.) Firms had in place quantitative risk controls, but not qualitative actions plans to execute. Furthermore, they didn't even know what hit them. (REG)*	0 / 0%	1 / 1%	1 / 1%

Question: *Benefits cited by bankers and regulators that were preparing Resolution Plans included improved understanding of the bank and improved risk management. However, risk management practices were in place prior to the requirement for Resolution Plans. What do you believe were barriers to effective risk management at firms leading up to the financial crisis of 2007-2009? Please be as specific as possible.*

Organizational culture was found to be a major deterrent to risk management as risk management practices were discouraged and resistance to change was constant (Kleffner et al., 2003). Consistent with this, risk culture - based comments were the most common overall among RMs and REGs of the types of barriers to effective risk management at firms leading up to the financial crisis of 2007– 2009. They indicated that risk culture and accountability were missing in most organizations. One RM stated, "Lack of need for effective risk management - it is not embedded cultural in most organisations, and certainly not within organisations that have a strong focus on Investment banking, so are more prone to risk taking. Historically, I have not found effective risk management practices and culture to be embedded appropriately within these types of banks and financial services, so it is not surprising that ineffective practices were in place prior to the regulators mandates for RRP requirements." One REG stated, "Herd mentality and the need to stay in the game. If you are in the business of banking, as the competitive pressures move to weaker risk management principles, institutions need to decide where their breaking point is and get out. The consequences of pulling back require the willingness to sacrifice returns and prepare to ride out the storm."

Underestimating risk and siloed risk management - themed comments tied for the next most common. A higher number of RMs responses aligned to underestimating risk whereas for REGs, it was siloed risk management, but the overall number of responses for both was equal. For underestimating risk, one RM commented, "The greatest barrier may have been a lack of imagination - I think the severity of the financial crisis game as a genuine shock and really challenged peoples assumptions about the soundness of their institutions. Also, risk management functions are much better resourced now than they were in 2007 so there were significant barriers arising from a lack of trained staff." A REG shared a similar view, "Underestimation of

"worst case" scenarios. People who quantified risk underestimated the downside. Management doesn't understand models and relied too heavily on models…The failure to understand that actions that benefit the individual firm in the short run could make the situation worse for the industry."

For siloed risk management, one RM stated, "Lack of integration from an enterprise level down to a LOB unit level. Lack of a multidisciplinary view of risks (credit vs. tech vs. operational vs. fraud vs. vendors vs. market vs. business continuity, etc.) caused each to managed within a silo. Focus on safety/soundness vs. consumer protection. There was also a lack of accountability. The Gov't would fine or issue a MRA, but until they took control of capital reallocation it was less of an area of focus for CEO/Board level executives." Similar to this perspective, one REG offered, "Lack of a fully integrated, enterprise-wide approach to risk management (structural/governance defects), inadequate resources devoted to risk management functions (under skilled and under staffed), MIS insufficient to provide for risk data aggregation across the firm (fragmented IS and reporting structure), mis-aligned employee incentive compensation policies (emphasizing profits without appropriate consideration of associated risks), and cultural/tone-from-the-top environmental factors that allowed and sometimes encouraged excessive risk taking were several of the key barriers to effective risk management."

Corporate greed - themed comments were the fourth most common, however, only REGs comments reflected this theme. Interestingly, our coding and subsequent content analysis did not identify this theme with RMs, yet, the instances from REGs alone were enough that this theme ranked fourth overall. One REG offered, "I believe the barriers included complacency (e.g., prosperity, what bubble?), lack of accountability (e.g., "too big to fail" so called insurance policy) and too much greed (e.g., revenue based incentives primarily driving all financial

transaction decisions, including those decisions made by Rating agencies. Risk management was not part of the compensation equation.)" Another stated, "Focus on profitability over safety and soundness. Lack of concentration risk management practices. Short-term incentive compensation practices need to put capital to use."

Risk focus - based comments were the fifth most common overall among RMs and REGs. They indicated that the long stability leading up to the crisis reduced risk focus for many organizations. One REG stated, "I think the sustained period of stability was a factor. Also the stress scenarios used by management across the LOBs and risk categories did not expose the level of credit and liquidity risk within the institutions." A RM shared a similar perspective stating, "A long period of stability caused increased loosening until the system imploded."

The remaining themes reflected complexity & interconnectedness (e.g., complexity and interconnectedness of financial/economic environment creates barriers to effective risk management), overconfidence (e.g., overconfidence in existing risk management processes), regulatory oversight (e.g., weak regulatory oversight), misalignment to strategy (e.g., performance/Compensation not aligned with organization risk tolerance, objectives), repercussions (e.g., lack of appropriate repercussion, e.g., civil, criminal penalties, global requirements), standardized risk management (e.g., risk management practices that were too standardized and lacked adaptability), independent oversight (e.g., lack of independent risk assessments/oversight), and qualitative challenges (e.g., firms lacked the qualitative perspective to properly and consistently execute risk management).

IV.9 Quantitative, Qualitative, or Mixture

Respondents were asked to share their perspectives on current risk management systems/practices and whether they believe current RMS were more quantitatively, qualitatively

driven, or if it were a mixture of both. Tables 19 and 20 summarizes the respondents' responses to the open-ended question: *"Would you describe current risk management systems/practices as more "quantitatively driven" (i.e., increasing availability of data and the rising sophistication of risk modeling renders more and more risk types as manageable by numbers), or "qualitatively driven" (i.e., risk modeling and managing risks by numbers is turned to with caution; risk measurements are trend indicators which may complement or be overwritten by senior managerial discretion, experience and judgment) and to provide any additional perspectives."*

Our count analysis indicates that both RMs and REGs believe that current RMS are more quantitatively driven. Our coding and subsequent content analysis for respondents who offered perspectives identified six major categories of perspectives: quantitative (e.g., risk management is becoming more driven from models/numbers), mixture (e.g., risk management needs to balance strengths of both), judgment (e.g., data does improve risk management, but judgment of management should be a factor), process & tools (e.g., quantitative practices, however, the related processes, e.g., complex governance, complex models, do not allow for effective risk management), qualitative (e.g., qualitative as some risk are inherently difficult to quantify), and risk type (e.g., mixture as some risk are more quantifiable than others).

Table 19 Are current Risk Management Systems/Practices (RMS) more "Quantitatively" Driven or "Qualitatively" Driven – Counts (QT = Quantitative; QL = Qualitative; M = Mixture; D = Depends on Firm)

		Current Risk Management Systems more QT, QL, M, or D				
Respondent Type	**Number of Respondents**	**QT**	**QL**	**M**	**D**	**Highest % / View ***
RM	32	17	6	9	0	53% / QT
REG	76	33	9	28	6	43% / QT

Question: *Would you describe current risk management systems/practices as more "quantitatively driven" (i.e., increasing availability of data and the rising sophistication of risk modeling renders more and more risk types as manageable by numbers), or "qualitatively driven"*

(i.e., risk modeling and managing risks by numbers is turned to with caution; risk measurements are trend indicators which may complement or be overwritten by senior managerial discretion, experience and judgment)? Please be as specific as possible.
***** *Reflects the percentage of the most frequent view. Both RMs and REGs viewed current RMS as more Quantitatively driven.*

Both RMs and REGs indicated that current RMS are seemingly more quantitatively driven. RMs and REGs indicated quantitative at 53 percent and 43 percent respectively. Many REGs however identified mixture (37 percent) and comments appear to be reflective of the current regulatory environment that calls for modeling techniques in determining capital levels that must be augmented by qualitative measures such as scenario analysis and strength of internal controls. For the REGs who indicated it depends on the firm, comments were light with responses such as "depends on the institution," or "it depends on size and complexity of the institution."

Table 20 RMs and REGs who offered Perspectives with their choice of QT, QL, M, or D – Categories

			Number of Responses / Percentage of Total		
Category	**Coded Response**	**Representative Response**	**RMs**	**REGs**	**Total**
Quantitative	Risk management is becoming more driven from models/numbers. Modeling/tools should not replace management judgment.	*Quantitatively driven. We must be able to set quantifiable limits and measure against them to consider the risk management program to be effective (RM)*	11 / 34%	24 / 32%	35 / 33%
Mixture	Risk management needs to balance strengths of both. Mixture as some risk are more quantifiable than others.	*It's a mix that I think the industry is still trying to get right now. There is a need to quantify risk, but it cannot stand by numbers alone. It needs to be balanced with the knowledge and experience of management and independent risk managers. Finding that balance is something that I see banks struggle to get right. (REG)*	9 / 28%	23 / 31%	32 / 30%
Judgment	Modeling/tools should not replace management judgment. Data does improve risk management, but judgment of management should be a	*More qualitatively driven. Some risks can be easily measured given the availability of data, but we tend to over engineer a risk management process by assigning variables, weighting and then computing some risk*	4 / 13%	11 / 15%	15 / 14%

	factor. Qualitative as management should use data with caution to complement experience.	*score so that we can neatly and easily compartmentalize risks. While it's a helpful exercise to separate major risks from less material ones, it also simplifies the subjectivity and time bound nature of assessing risks and discounts management discretion, experience and judgment. (RM)*			
Process & Tools	Quantitative practices, however, the related processes, e.g., complex governance, complex models, do not allow for effective risk management. Risk management is becoming more driven from models/numbers.	*Current risk management is at a crossroads. Historically, it may have relied more heavily on quantification for risk management, but it has not proven to be effective as a "forward looking" mechanism. The maturation of qualitative based methodologies such as the risk and control self assessments and scenario analysis are reaching the point to be on the stage with quantitative methodologies. However, the banks need to strengthen their data management practices to ensure both quantitative and qualitative tools function effectively. (REG)*	5 / 16%	7 / 9%	12 / 11%
Qualitative	Qualitative as some risk are inherently difficult to quantify. Risk management is becoming more qualitatively driven.	*It's more qualitative. There should be a balance between the two. In some cases, there is a lack of talent or expanding emphasis on the quantitative side. We risk having blind spots by just solely going on senior management discretion. It's what you "don't see" or what you're not 'willing to see' that creates issues/events. (RM)*	3 / 9%	7 / 9%	10 / 9%
Risk Type	Risk management needs to balance strengths of both. Mixture as some risk are more quantifiable than others.	*Qualitatively driven, with the exception of credit risk management which tends to be quantitative. Due to the maturity of certain risk management practices (e.g. credit, liquidity, and interest rate risk) in most institutions, they are more easily quantified, are ingrained and garner significant attention. Other risks, such as compliance and reputation risk, are extremely difficult to quantify. Most measurements of these nebulous risks tend to be performance indicators and not*	0 / 0%	3 / 4%	3 / 3%

	risk indicators, backwards-looking and not forward-looking. This leads management to be more reactive rather than proactive. (REG)	

Question: *Would you describe current risk management systems/practices as more "quantitatively driven" (i.e., increasing availability of data and the rising sophistication of risk modeling renders more and more risk types as manageable by numbers), or "qualitatively driven" (i.e., risk modeling and managing risks by numbers is turned to with caution; risk measurements are trend indicators which may complement or be overwritten by senior managerial discretion, experience and judgment)? Please be as specific as possible.*

Quantitative themed comments were the most common among both respondent groups. They indicated that risk management is becoming more driven by models and numbers with capabilities to set quantifiable limits and measure against them. According to one REG, "They are more quantitatively driven, which is primarily due to 1) the large size and complexity of large institutions, which requires more quantitatively driven approaches, and 2) regulators have pushed banks that way, especially through exercises like CCAR. Regulators have all but ignored or severely undervalued the qualitatively driven de-risking and risk management that has take place post-crisis. For example, some banks have significantly de-risked via improved AQ, changed underwriting practices and strategies, and running-off problem assets, but regulators give them little credit and instead focus on the bank's CCAR models." Another REG stated, "Risk management is more quantitatively driven as institutions attempt to model for every situation." The RMs shared these perspectives as one stated, "Risk management practices are more quantitative today than they were prior to the crisis. Additional work is required to ensure that the models are more robust, the data used in decision making process are high quality. The key to sustainability is process excellence." Another RM shared, "Yes, current risk management practices are more quantitatively driven in my space. It's all about scorecard management and how we are tracking that."

Mixture - themed comments were the next most common. As noted, a higher number of REGs responses aligned to this theme than RMs with the difference between REGs indication of quantitative and mixture counts from our content analysis resulting in 24 and 23 respectively. One REG stated, "The current risk management environment is a mixture of quantity and quality driven methodologies with history established and models to project into the future a range of performance scenarios and financial outputs." Another REG offered similar perspectives which also seemed to capture challenges organizations face today by stating, "Many firms are trying to hold on to quantitatively driven systems given the time and effort placed into creating complex models. However, the importance of qualitative factors is being realized and a shift is taking place. I believe both are almost equally considered in today's companies." An RM shared a similar perspective stating, "I believe it is a combination of both. I think we've got better numbers for the models, but that the past performance bias of the models may not be as good a predictor of future performance due to the large number of changes that have been implemented. I believe we need a more effective way to weight the changes in the business, for example practices that have been stopped or businesses that have been sold as a moderator to the capital models."

Judgment - themed comments were the third most common. For both RMs and REGs who initially appeared to indicate quantitative, qualitative or mixture, our content analysis identified such an explicit indication of the importance of judgment regardless of said indication, this category was thus created. As an example, one RM stated, "The shift is toward quantitative but the current mix is still typically 60 / 40 qualitative / quantitative. Dependence on experience, judgment and reflection will not diminish, but will be fortified with better quantification of risk factors." One REG shared a similar perspective indicating, "I believe, current risk management

practices are being driven by both quantitative and qualitative factors. The regulatory and legislative environment seems to be largely driving a change toward a more quantitative approach. For example, Basel legislation seems to be pushing the banks toward developing sophisticated risk rating programs and risk modeling systems, to calculate the bank's risk based capital calculation. However, the bank's still seem to maintain a sense of expert judgment and discretion, in their risk management programs and modeling assumptions. In my opinion, the bankers seem to realize the importance of providing this judgmental overlay, to the quantitative modeling approach."

Process & tools - themed comments were the fourth most common. Our content analysis for both RMs and REGs indicated some of the comments that appeared initially as quantitative or mixture themes were in fact driving at deeper concerns with processes and tools that needed to be reassessed, as without these, the data was meaningless. According to one RM, "I would describe my experience as more quantitatively driven at the present. We are in an environment of over measuring and reporting. In fact the amount of data and reporting has become so dense that in fact the metrics/reporting themselves can be a barrier to effective risk management." A similar sentiment was offered by a REG who stated, "They are more quantitatively driven which in most cases can be a problem because the banker does not understand the data and what it is really telling them. Garbage in - garbage out. " This perspective appears to be in line with Martin et al.'s (2007) study which suggest process tool challenges can be seen in circumstances where risk management practices were not able to be supported by the risk applications and infrastructure.

Qualitative - themed comments were fifth as both RMs and REGs indicated some risks are inherently difficult to quantify. One RM state, "It's more qualitative. There should be a

balance between the two. In some cases, there is a lack of talent or expanding emphasis on the quantitative side. We risk having blind spots by just solely going on senior management discretion. It's what you "don't see" or what you're not 'willing to see' that creates issues/events." A REG shared this view stating, "It is mostly qualitatively driven. Quantitative measures vary significantly by risk discipline, product line, etc. However I still believe decisions to concentrate on certain asset classes or activities is largely strategic outcomes based on organizational perceptions of what they are good at. I have yet to visit a bank where statisticians are occupying the executive suites."

Risk type - themed comments were only identified with REGs. Similarly to judgment and process & tools, our content analysis indicated the responses were driving at the impact that the type of risk may have. As one REG shared, "Qualitatively driven, with the exception of credit risk management which tends to be quantitative. Due to the maturity of certain risk management practices (e.g. credit, liquidity, and interest rate risk) in most institutions, they are more easily quantified, are ingrained and garner significant attention. Other risks, such as compliance and reputation risk, are extremely difficult to quantify. Most measurements of these nebulous risks tend to be performance indicators and not risk indicators, backwards-looking and not forward-looking. This leads management to be more reactive rather than proactive." Another REGs comment indicated impacts of risk type by stating, "I think it is a mixture of both. Some things such as credit risk are more easily quantifiable than other things such as strategic or operational risk." While this theme was only identified with REGs, it is consistent with Lundqvist's (2014) study's suggested pillar of "specific risk identification and risk assessment activities which is integral to implementing enterprise risk management systems/practices."

IV.10 Suggestions to Improve the Effectiveness of RMS

In our final open-ended question, we asked respondents to share their suggestions to improve the effectiveness of risk management systems/practices. Table 21 summarizes the respondents' responses to the open-ended question: *"What changes would you suggest to improve the effectiveness of risk management systems/practices?"*

Our coding and subsequent content analysis identified eight major categories of suggestions: improve risk function (e.g., risk management that functions and emanates consistently at Enterprise level down to current business activity level), risk culture (e.g., culture of risk management and accountability supported by the board and senior leadership), preemptive techniques (e.g., develop more dynamic, forward looking, and preemptive risk management tools and techniques that blends quantitative and qualitative), aligned to strategy (e.g., performance/compensation aligned with organization risk tolerance, objectives), regulatory oversight (e.g., strengthen regulations and regulatory oversight), repercussions (e.g., implement stronger repercussion for individual and organization, e.g., civil, criminal penalties, capital penalties), industry standards (e.g., risk management standards tailored at an industry level), and independent oversight (e.g., stronger independent assessment of risk management, e.g., outside organization/3rd line of defense).

Table 21 Suggestions to Improve the Effectiveness of Risk Management Systems/Practices – Categories

			Number of Responses / Percentage of Total		
Category	**Coded Response**	**Representative Response**	**RMs**	**REGs**	**Total**
Improve Risk Function	Enhance the risk monitoring and challenge function with the right people involved in process. Improve risk management metrics and reporting.	*Human resources responsible for risk management must be treated like critical employees instead of a necessary evil. They should be qualified and empowered to do their jobs effectively. They should also see themselves in senior*	6 / 21%	21 / 27%	27 / 26%

	Risk management that functions and emanates consistently at Enterprise level down to current business activity level. Experienced, sufficiently compensated risk management personnel.	*management - both in terms of promotion opportunities and in terms of support from senior management. (REG)*			
Risk Culture	Culture of risk management and accountability supported by the board and senior leadership. Performance/Compensation aligned with organization risk tolerance, objectives.	*The mandate of senior management, and examples of senior management support of the enterprise and in-business-unit risk groups would improve the perception of the risk management process across the firm. The perception of a risk (and audit) group much be culturally changed to that of a partner to the business, not an adversary. (RM)*	5 / 18%	16 / 21%	21 / 20%
Preemptive Techniques	Develop more dynamic, forward looking, and preemptive risk management tools and techniques that blends quantitative and qualitative. Stronger risk analysis and use of lessons learned. Improve risk management metrics and reporting.	*Needs to be established to handle short-term and long-term issues/situations facing the institution. Must be dynamic to adjust to unforeseen events in the market place and be able to identify and measure existing risks. (REG)*	7 / 25%	12 / 15%	19 / 18%
Aligned to Strategy	Performance/Compensation aligned with organization risk tolerance, objectives. Culture of risk management and accountability supported by the board and senior leadership.	*Compensation tied to risk management across all disciplines / Rewards for elevating high risk processes or self identified audit issues / Acknowledgement and training / Communication (RM)*	4 / 14%	14 / 19%	18 / 17%
Regulatory Oversight	Strengthen regulations and regulatory oversight.	*Maintain current high level, macro oversight by banks and regulators. However, insure that regulators have the capacity (staff and experienced/trained examiners sufficient to conduct targeted reviews. Ensure continuous monitoring is in*	2 / 7%	6 / 8%	8 / 8%

		place at all large (>$10B). (REG)			
Repercussions	Implement stronger repercussion for individual and organization, e.g., civil, criminal penalties, capital penalties.	*Financial accountability at the most senior levels (i.e. CEOs and board members), as well as business line heads. (REG)*	0 / 0%	5 / 6%	5 / 5%
Industry Standards	Risk management standards tailored at an industry level.	*I would recommend more consistency in how risk management is managed in the industry. Focus would be to ensure all financial institutions are managing to the same high standards. (RM)*	3 / 11%	1 / 1%	4 / 3%
Independent Oversight	Stronger independent assessment of risk management, e.g., outside organization/3rd line of defense.	*I think a periodic, independent assessment of risk management systems and practices is needed in an organization on a regular basis. This can be from the third line od defense, but an outside firm's view is the best. They see risk management across an industry and can provide valuable help in identifying emerging trends. (REG)*	1 / 4%	2 / 3%	3 / 3%

Question: *What changes would you suggest to improve the effectiveness of risk management systems/practices? Please be as specific as possible.*

Lessard et al. (2009) suggest that risk management should be embedded and integrated in the company's cultural and organizational fabric such that it is barely noticeable as a distinct management function at either the strategic or tactical level. Also, Lundqvist's (2014) study suggests "holistic organization of risk management" as a pillar that is integral to the implementation of enterprise risk management systems/practices. In line with these perspectives, the most common suggestion category overall was improve risk function. They indicated that risk management functions that emanate at the enterprise level down to business activities are key as are risk management monitoring and challenge functions with the right skilled resources. According to one REG, "Human resources responsible for risk management must be treated like critical employees instead of a necessary evil. They should be qualified and

empowered to do their jobs effectively. They should also see themselves in senior management - both in terms of promotion opportunities and in terms of support from senior management." One RM offered, "Staff operational and compliance risk management functions as needed to provide the depth of coverage required to proactively monitor and assist in managing risk."

Risk culture-themed comments was the second most common category overall. These responses reflected earlier comments of the importance of a strong risk culture and compensation practices. One RM suggested the following, "The mandate of senior management, and examples of senior management support of the enterprise and in-business-unit risk groups would improve the perception of the risk management process across the firm. The perception of a risk (and audit) group much be culturally changed to that of a partner to the business, not an adversary." One REG shared a similar view stating, "It has to start at the top of the organization. The board and senior management need to fully understand and support its enterprise risk management framework. Risk management needs to be integrated in all levels of the organization. To improve systems and practices, we need to ensure that we are providing appropriate education and training to develop the proper talent needed to sustain sound progress towards developing risk management into a business as usual function."

While preemptive techniques was overall the third most common suggestion, this was the top suggestion overall for RMs. Both RMs and REGs indicated however the need to develop more dynamic, forward looking, risk management tools and techniques that blends quantitative and qualitative methods. This is consistent with Mikes (2014) study which suggests design parameter of risk tools which we adapted to the Execution phase. This theme of preemptive techniques may provide practitioners context to consider relative to the Execution phase. One RM stated, "Better tools that can be scaled to measure and quantify effectively. Balance of

adherence vs risk taking. We tend to over-do one at the expense of the other depending on the financial climate and performance of the company. Good leadership with vision and willingness to have transparency." This view was shared by one REG who stated, "Focus on preemptive risk management processes. Too often risk management policies and practices are developed after an incident has occurred and are prepared to correct prior existing issues, while attempting to stop future occurrences."

Although aligned to strategy was overall the fourth most common suggestion, this ranked third overall for REGs. Both respondent categories indicated a need to improve alignment between risk culture and risk accountability to strategy. One RM suggested, "Compensation tied to risk management across all disciplines / Rewards for elevating high risk processes or self identified audit issues / Acknowledgement and training / Communication." A REG shared this perspective indicating, "More stringent compensation, hiring and governance requirements. The Chief Risk Officer should be as important to the Company as the CEO and as independent. Compensation and should be a direct reflection of performance over the long term. A hindrance to compensation management is the ability for talented individuals to job hop without regard for their previous employer."

The overall fifth most common suggestion was regulatory oversight, however, this ranked sixth overall for RMs. Both suggested the strengthening of regulations and regulatory oversight. As one REG stated, "Maintain current high level, macro oversight by banks and regulators. However, insure that regulators have the capacity (staff and experienced/trained examiners sufficient to conduct targeted reviews. Ensure continuous monitoring is in place at all large (>$10B)." One RM offered this suggestion, "There needs to be appropriate pressure by regulators on firms to improve effectiveness and keep focus on risk management. However,

prescriptive approaches are less beneficial that conceptual frameworks left to the banks/insurers to interpret and apply themselves as they see appropriate to the unique aspects of their organizations. Regulators genuinely need to eliminate the "too big to fail" perception in the market place by reinstating Glass Steagall and reducing the size of banks and increasing the number of larger banks. Too much focus on the largest financial institutions at the expense of smaller financial institutions."

Repercussions was the overall sixth most common suggestion, however, this ranked last overall for RMs and all responses to this category were from REGs. Perhaps this should not be surprising given the nature of this category relative to bankers and regulators. One REG offered, "Accountability for risk takers, if not from within (upper management / Board / shareholders), then the financial institution regulatory agencies should step up their game by making full use of remedies already at their disposal (suspensions and/or removals/permanent industry bars)." Another REG suggested, "Let individual firms bear the consequences of the failed risk management, e.g. eliminate "too big to fail"," while another stated, "Financial accountability at the most senior levels (i.e. CEOs and board members), as well as business line heads."

The overall seventh most common suggestion was industry standards. They suggested the development of more industry centric risk management to drive consistency, more industry collaboration, and more global coordination. One REG stated, "Risk mgmt and regulatory supervision should be more coordinated across the global while still taking into consideration the different cultures and beliefs." This sentiment was reflected in one RMs comment stating, "A lot of progress has been made on risk management, but reducing variability within and across institutions will be required for risk management to be effective within the industry."

The final suggestion was independent oversight where they suggested stronger independent assessment of risk management systems/practices. As offered by one REG, "I think a periodic, independent assessment of risk management systems and practices is needed in an organization on a regular basis. This can be from the third line of defense, but an outside firm's view is the best. They see risk management across an industry and can provide valuable help in identifying emerging trends." This was echoed by one RM stating, "Independence needs to be there; stronger then third line."

IV.11 Suggestions to Improve the Effectiveness of RMS: Analyzed Through Descriptive Profiles

We sought to further analyze the suggestions to improve the effectiveness of RMS as reflected in Table 21 by analyzing the suggested improvements by the respondent groups descriptive profiles captured in Table 2 to determine if there were differences in the ranking of the suggested improvements by analysis through gender, education, and age of our respondent groups of RM and REG. Tables' 22, 23, and 24 summarize the suggested improvements by gender, education, and age respectively.

Table 22 summarizes the suggested improvements by gender of the respondent groups. The gender total count differs from the education, age, and summary of suggested improvements Tables of 28 RMs and 77 REGs. The gender total count is 27 RMs and 76 REGs as two respondents did not provide their gender, however, we were still able to code these two respondent's responses through our content analysis and hence include the category of their coded response as part of the gender total count. These two are reflected in the table as "blank."

Table 22 Suggestions to Improve the Effectiveness of Risk Management Systems/Practices – Analyzed Through Descriptive Profiles – Gender

Respondent Group			Category *							
	Gender **	Count	IRF	RC	Pre	AtS	RO	Rep	IS	IO
RM	Male	21	2	3	7	3	2	0	3	1
	Female	6	3	2	0	1	0	0	0	0
	Blank	1	1	0	0	0	0	0	0	0
	Sub-total	**28**	**6**	**5**	**7**	**4**	**2**	**0**	**3**	**1**
REG	Male	60	17	10	10	13	5	3	1	1
	Female	16	3	6	2	1	1	2	0	1
	Blank	1	1	0	0	0	0	0	0	0
	Sub-total	**77**	**21**	**16**	**12**	**14**	**6**	**5**	**1**	**2**
	Overall Total Count * **		**27**	**21**	**19**	**18**	**8**	**5**	**4**	**3**

***** The Category acronyms correspond to the Categories identified in Table 24 resulting from our content analysis, subsequent coding, and category identification as follows: IRF = Improve Risk Function; RC = Risk Culture; Pre = Preemptive Techniques; AtS = Aligned to Strategy; RO = Regulatory Oversight; Rep = Repercussions; IS = Industry Standards; IO = Independent Oversight.
******Two respondents (1 RM and 1 REG) did not provide their gender, however, we were still able to code these two respondent's responses through our content analysis and hence include the category of their coded response as part of the gender total count. These two are reflected in the table as "blank."
*******The overall total count reflects the summation of the sub-totals for RMs and REGs for each Category. This conforms to the total count figures presented in Table 21.

While the overall total count conforms to the totals in suggested improvements to RMS Table 21, which we expected, we do note several differences in rankings of suggestions for improvement of RMS by gender. First, for RMs, the most frequent category was preemptive techniques; yet, females had no responses that were coded as this. For females, the top category was improve risk function which aligns to the top overall category when combining both respondent groups. It is difficult to surmise what may be the root cause driver of the difference in males versus females relative to preemptive techniques, however, relative to its top ranking to the RM respondent group would seem to suggest this is due to their intimacy with risk management in day to day activities as bankers and hence their desires for the development of

more dynamic, forward looking, and preemptive risk management tools and techniques that blends quantitative and qualitative methods.

Second, for REGs, the most frequent category was improve risk function and it was the top category for males. However, for females, it was second, behind risk culture. Perhaps one driver may be the females desire to be overall more protective. Yet, as with RMs and their overall top choice of preemptive techniques, not surprisingly, the top choice for our supervisory regulators of improve risk function may be driven in part by their sense of the importance of oversight and governance capabilities in financial institutions.

Table 23 summarizes the suggested improvements by education of the respondent groups. We collapsed education into two groups; four year college or less and more than four year college. Unlike gender, all respondents provided their education profile thus there is no blank label and consistent with the suggested improvements Table 21 and gender Table 22, the respondent group counts are 28 and 77 for RMs and REGs respectively.

Table 23 Suggestions to Improve the Effectiveness of Risk Management Systems/Practices – Analyzed Through Descriptive Profiles – Education

Respondent Group			Category *							
	Education **	**Count**	**IRF**	**RC**	**Pre**	**AtS**	**RO**	**Rep**	**IS**	**IO**
RM	Four year college or less	7	1	3	1	2	0	0	0	0
	More than four year college	21	5	2	6	2	2	0	3	1
	Sub-total	**28**	**6**	**5**	**7**	**4**	**2**	**0**	**3**	**1**
REG	Four year college or less	28	10	6	6	5	1	0	0	0
	More than four year college	49	11	10	6	9	5	5	1	2
	Sub-total	**77**	**21**	**16**	**12**	**14**	**6**	**5**	**1**	**2**
	Overall Total Count ***		**27**	**21**	**19**	**18**	**8**	**5**	**4**	**3**

***** The Category acronyms correspond to the Categories identified in Table 24 resulting from our content analysis, subsequent coding, and category identification as follows: IRF = Improve Risk Function; RC = Risk Culture; Pre = Preemptive Techniques; AtS = Aligned to Strategy; RO = Regulatory Oversight; Rep = Repercussions; IS = Industry Standards; IO = Independent Oversight.
****** We collapsed education into two groups; four year college or less and more than four year college.
*******The overall total count reflects the summation of the sub-totals for RMs and REGs for each Category. This conforms to the total count figures presented in Table 21.

The sub-totals and the overall total count numbers do not change compared to the suggested improvements Table 21, and gender Table 22. For RMs, the most frequent category of preemptive techniques was generally suggested by those with more than a four year degree; this may provide those individuals with additional insights and perspectives and may serve as the difference between individuals with similar overall years of experience. This may also reflect additional learned perspectives resulting in more explicit suggestions such as industry specific risk management standards and independent oversight beyond the traditional third line of defense, versus perhaps the more general notion of "culture," which was the top category for RMs with four year college or less. Similarly for REGs, the distinctions appear to be in categories of repercussions, industry standards and independent oversight, which may reflect additional learned perspectives resulting from additional formal education.

Table 24 summarizes the suggested improvements by age of the respondent groups. We collapsed age into three groups; less than mid (i.e., 34 or less), mid (i.e., 35 – 44), and more than mid (i.e., 45 or more). Unlike gender, all respondents provided their age profile thus there is no blank label and consistent with the suggested improvements Table 21, gender Table 22, and education Table 23, the respondent group counts are 28 and 77 for RMs and REGs respectively.

Table 24 Suggestions to Improve the Effectiveness of Risk Management Systems/Practices – Analyzed Through Descriptive Profiles – Age

Respondent Group			Category *							
	Age **	Count	IRF	RC	Pre	AtS	RO	Rep	IS	IO
RM	Less than Mid	0	0	0	0	0	0	0	0	0
	Mid	9	3	2	1	1	0	0	1	1
	More than Mid	19	3	3	6	3	2	0	2	0
	Sub-total	**28**	**6**	**5**	**7**	**4**	**2**	**0**	**3**	**1**
REG	Less than Mid	4	1	2	0	1	0	0	0	0
	Mid	15	2	3	3	4	2	1	0	0
	More than Mid	58	18	11	9	9	4	4	1	2
	Sub-total	**77**	**21**	**16**	**12**	**14**	**6**	**5**	**1**	**2**
	Overall Total Count * **		**27**	**21**	**19**	**18**	**8**	**5**	**4**	**3**

***** The Category acronyms correspond to the Categories identified in Table 24 resulting from our content analysis, subsequent coding, and category identification as follows: IRF = Improve Risk Function; RC = Risk Culture; Pre = Preemptive Techniques; AtS = Aligned to Strategy; RO = Regulatory Oversight; Rep = Repercussions; IS = Industry Standards; IO = Independent Oversight.
****** We collapsed age into three groups; less than mid (i.e., 34 or less), mid (i.e., 35 – 44), and more than mid (i.e., 45 or more).
*******The overall total count reflects the summation of the sub-totals for RMs and REGs for each Category. This conforms to the total count figures presented in Table 21.

The sub-totals and the overall total count numbers do not change compared to the suggested improvements Table 21, gender Table 22, and education Table 23. For RMs, the most frequent category of preemptive techniques was generally suggested by those in the more than

mid group; this may be indicative of the experiences of these individuals with existing risk management techniques utilized within their institutions thus prompting this response. For REGs, the most frequent category if improve risk function may be a reflection of these seasoned supervisory regulators to improve risk function to enhance oversight and governance capabilities in financial institutions.

V CHAPTER 5 CONCLUSIONS, IMPLICATIONS, LIMITATIONS, AND FUTURE RESEARCH

V.1 Conclusions

Despite the past history of financial crisis' including the most recent Great Recession and the resultant calls to improve risk management, there is still good reason to worry about the role and profile of risk management as financial institutions continue to be distressed by negative events. Yet, current assessment still finds that empirical work on ERM is limited (Eckles et al., 2014) and in most cases, our review of risk management literature has found that the focus of the articles was not explicitly to seek barriers to effective risk management.

This research contributes to the literature in a number of ways. Our exploration of barriers to effective risk management connects with previous work of Kleffner et al. (2003), and Beasley et al. (2005) that calls for additional research including barriers to effective risk management. The proposed RGF utilizes an RMS with three phases of Readiness, Execution, and Administration adapted from Yaraghi et al. (2011) connects with his call for leveraging these factors and phases of RMS in different empirical ways relative to risk management. We refined our RMS by drawing from Mikes et al.'s (2014) study which suggests three ERM design parameters and three contingency variables classifying different types of risk events and Lundqvist's (2014) research which suggests four pillars as integral to the implementation of an ERM. This connects with their calls for leveraging these design parameters and contingency variables, and furthering analysis of the four pillars. Schiller et al. (2014) suggests that organizations risk management is limited due to a lack of the concept of risk and risk knowledge generation with current ERM frameworks. Hence, our final contribution is our proposed RGF that draws from van Asselt et al.'s (2011) three risk principles which connects with her efforts to

synthesize risk governance and incorporate these principles to serve as the underlying guiding risk principles of our proposed RGF.

As a result, our research on barriers to effective risk management through the lens of the proposed RGF, which incorporates the RMS enhanced as noted, provides rich perspectives on barriers to effective risk management and suggestions to improve effectiveness of risk management which may help practitioners and academia alike consider ways to analyze and improve risk management.

In comparing RMs and REGs, the findings indicate that our respondents strongly viewed that barriers to effective risk management can manifest in the phases of Readiness, Execution and Administration. The respondents also strongly viewed the importance of the three risk principles to effective risk governance and risk management. Both RMs and REGs have similar views of the selected barriers to effective risk management ranking accountability, i.e., a lack of accountability, poorly defined job roles/responsibilities, and the level of employee involvement in risk management systems/practices, as the top item with only the Independent Samples T-Test for oversight indicating a statistically significant difference. Some studies suggest that the focus on auditability by interested stakeholders may cause organizations to overlook perhaps weaker indicators that may actually point towards risks (Power, 2004; Huber et al., 2013; Tekathen et al., 2013). Our results however do not seem to support that auditability focus is a strong barrier to effective risk management. Of the selected nine possible barriers to effective risk management, auditability ranked ninth overall and for REGs, and tied for eighth overall for RMs.

Both RMs and REGs believe compensation practices may manifest barriers to effective risk management and indicated the greatest barrier may arise from compensation practices that are misaligned to strategy. They indicated personnel "should be compensated for behaving

consistently with the strategy, i.e., performing what is expected and not inspected." This misalignment could also be with an organizations risk tolerance levels as one REG noted the importance of "aligning to risk management strategies." In addition, excessive risk taking and lack of compensation related controls round out the top three. While both respondent groups indicated that barriers may manifest in the Execution phase, the percentage of REGs who viewed this was higher than RMs and both indicated Administration as the second most impacted phase which appears reasonable with the notion of properly administering compensation practices to ensure alignment to strategy.

The notion of "insurance" creating barriers to effective risk management reflected some differences between RMs and REGs where RMs generally did not believe barriers would manifest and REGs generally indicated it may. However, it is interesting that REGs "Yes" response was 49 percent and "No" response was 47 percent which seems to indicate questions exists on the notion of "insurance" and the "moral hazard" it may present. For some RMs and REGs, regulatory oversight themed comments indicated a perceive benefit to risk management resulting from the "higher price is paid through high capital requirements" thus causing organizations to "become more active in challenging business decisions." However, there was agreement on the phase where barriers may manifest; for those respondents who indicated phases, the highest percent for both RMs and REGS was for the Execution phase.

On how complete RMS must be to be "effective," both respondent groups overall indicated "<100 percent complete." The top category of themes for both "100 percent complete" and "<100 percent complete" was dynamic risk management. The general notion for both appeared to be that regardless of the percent complete, "the bar on RMS should be dynamic and evolve with the environment." There were clear indications of the importance of risk culture

with RMS but its meaning differed, e.g., the "<100 percent complete" responses indicated the risk culture as important to enable RMS when less than 100 percent, yet, for "100 percent complete" was cited with, "Leaving a framework incomplete sends the message that risk management is not a priority." The second top category for "100 percent complete" and "<100 percent complete" was key risk controls and risk management maturity level respectively. For "100 percent complete" key controls included yearly simulations and trail testing of key controls and for "<100 percent complete" respondents indicated strong risk managers can offset incomplete RMS.

The state of the financial/economic environment is viewed as important in shaping general perceptions of the effectiveness of risk management and that these perceptions may generate barriers to effective risk management. Both RMs and REGs viewed the level of importance as overall high. If barriers were to manifest they would generally do so in the Execution phase. Administration was the next most cited phase where barriers may manifest. Risk focus was the top category as respondents indicated that periods of stability may reduce the focus on or priority of risk management. Concerns were also expressed that strong risk culture needs to be maintained in both up and down cycles. Similarly, both respondent groups indicated that perceived stability may drive more risk taking and complacency. Interestingly both respondent groups indicated regulatory oversight may manifest barriers by "driving the focus of risk management" or that there is a "lag between financial entrepreneurialism and regulation."

In an effort to identify barriers to effective risk management leading up to the financial crisis of 2007-2009, our analysis revealed 13 major categories. The top three are risk culture, underestimating risk, and siloed risk management. Organization culture was identified in a study of Malaysian public companies of independent non-executive directors as impacting, or being

barriers to, their effectiveness in performing their roles (Annuar, 2012). In line with this, risk culture was the top theme overall among RMs and REGs. They indicated that risk culture and accountability were missing in most organizations as one RM stated: "Lack of need for effective risk management - it is not embedded cultural in most organisations, and certainly not within organisations that have a strong focus on Investment banking, so are more prone to risk taking. Historically, I have not found effective risk management practices and culture to be embedded appropriately within these types of banks and financial services, so it is not surprising that ineffective practices were in place prior to the regulators mandates for RRP requirements." Underestimating risk responses from both respondent groups indicate insufficient stress testing and consideration of tail events, a lack of imagination, and lack of understand of the types of risks present. Both respondents indicated siloed risk management as the third category citing a lack of integration from an enterprise level down to a LOB unit level. They indicated this included inadequate resources devoted to risk management functions.

Mikes' (2011) study characterized two types of calculative risk cultures of "quantitative enthusiasm" and "quantitative scepticism" and our results seem generally consistent in that our content analysis of respondents' responses identified a mixture category indicating both quantitative and qualitative even though mixture was not offered in the survey question. However, our results do not appear to align with the notion of "scepticism" with quantitative information but rather a need to balance the "strengths" of quantitative and qualitative methods. Nonetheless, both RMs and REGs indicated that current RMS are seemingly more quantitatively driven. REGs however also identified with mixture along with quantitative at 37 percent and 43 percent respectively. Quantitative based themes indicated large size and complexity of institutions require more quantitative driven approaches which have been amplified by

regulations such as capital adequacy reviews. The mixture based themes do not necessarily cast quantitative method in a negative light but rather impress the growing importance of qualitative methods such as scenario analysis and risk control self assessments and that simply some risk are just inherently difficult to quantify.

The final perspectives obtained from the respondent group were suggestions to improve the effectiveness of RMS. REGs suggested as their top choice, which was the top choice overall, to improve the risk function. This includes enhancing the function with experienced, sufficiently compensated personnel; improving monitoring and challenge functionality by ensuring the right people are involved in the process; and improving risk metrics and reporting. While improve risk function was the top category overall, for RMs, it was second and the top category was preemptive techniques. RMs suggests the development of more dynamic, forward looking and preemptive risk management tools and techniques that blend quantitative and qualitative methods; stronger risk analysis and use of lessons learned; and also improving metrics and reporting. Risk culture was overall second and both respondent groups indicated the importance of a strong risk culture emanating down from the board and senior leadership with heavy emphasis on accountability; and ensuring performance/compensation practices are aligned to organization risk tolerances, objectives and strategy.

Our study adds perspectives from those institutions risk management practices recently required to create RPs and certain agency's regulators, thus providing rich insights, and practical perspectives to risk management professionals and academia alike. In most cases, our review of risk management literature has found that the focus of the articles was not explicitly to seek barriers to effective risk management. Our study provides such focus and additional perspectives. Also, we do not necessarily portray our proposed RGF as an enterprise-wide risk

management system or as a framework for just financial institutions, but more so a model that may be drawn upon by practitioners in varying industries and at all levels of an organization's risk management practices.

V.2 Implications

Our research indicates that empirical work on risk management is limited and can be classified along three main lines of research – describing the ERM practice, analyzing the determinants of ERM adoption, and assessing the valuation effect of ERM (Eckles et al., 2014). While these paradigms may offer continuing research opportunities, we suggest a different mission for risk management in research and practice. Our agenda would move us away from perhaps why RMS is or is not adopted to one of why does it not function as fully as intended.

Given the emphasis on RMS and the seemingly continued focus on it and the challenges it has faced, the extant research often seems peripheral to the core importance of RMS: to mitigate risks. RMS adoption, including its most popular form of ERM, and whether its organically developed or whether you are getting the necessary valuation from RMS, does not seem as controversial any more versus the time where most financial institutions were throwing around the acronym of "ERM" as the savior against risk. It seems since, and perhaps evidenced by literature and more importantly, real life negative events, that RMS, including ERM, has continued to miss the mark of its intended purpose: to mitigate risk. Our mission seeks to pursue research of RMS in empirical ways that go beyond the traditional paradigms to new, more realistic and practical views.

At the core of our mission are four perspectives. We share these perspectives to help move away from these current paradigms that seems to, in part, drive RMS research and to help practitioners leverage this study's findings in their fight against barriers to effective risk

management. First, the notion of controls and procedures are important points to include as part of any RMS, but its focus should not be at the expense of the RMS's intended purpose of mitigating risks. This may drive the perception that RMS is simply a part of a "tools culture" driven by concerns for audit and control thus undermining its ability to improve risk management (Huber et al., 2013a). Hence, we can see the evolved accounting or internal controls based RMS serving as organizational compliance mechanisms or "rationalization machines" which have been implicated as the reason for some company's failure, as risk management was relegated to a compliance function (Ghoshal, 1987; Beasley et al., 2010; Mikes et al., 2014; Burchell et al., 1980; Kaplan et al., 2012).

One way to achieve a more sound foundation of RMS to transcend these perceptions and truly drive a "risk focus" versus "controls focus" is to ground RMS in Risk principles. The concept of risk management and governance pertains to the various ways in which many actors, individuals, and institutions, public and private, deal with risks surrounded by uncertainty, complexity, and/or ambiguity (van Asselt et al., 2011). Risk principles may serve as guidance for practitioners as they need to understand how different individuals and groups within organizations define risk, potential biases in risk assessment, and challenges in implementing risk management initiatives as many risks cannot be calculated on the basis of probability and effects alone (Bromiley et al., 2014; van Asselt et al., 2011).

Second in our mission is normative research on barriers to effective risk management. Our review of risk management literature generally did not find articles focusing explicitly on barriers to effective RMS. Our study provides practical perspectives that may be explored to provide realistic benefit and value in understanding risk management both practically and academically. From our selected barriers to effective risk management question, lack of

accountability and weaknesses in risk management personnel resonated most with both our respondent groups (see Table 7). Risk culture was prevalent through our respondents' responses and was the top category identified of barriers leading up to the financial crisis of 2007-2009 (see Table 18). The top three suggestions to improve the effectiveness of RMS are improving the risk function, risk culture, and preemptive techniques (see Table 21).

Normative implications may be beneficial and such studies could investigate, for example, are there particular risk categories (e.g., operational, credit risk) that preemptive techniques may be better suited for, or what prevents organizations from incorporating more forwarding looking risk management tools and techniques. Similarly, we can seek perspective of our study's identified "mixture" category when we sought respondent's perspectives on whether the current RMS's are more quantitatively or qualitatively driven. Rather than seeking perspectives of "calculative risk cultures" (Mikes, 2011) and whether organizations are "quantitative enthusiast or skeptics," perhaps perform studies on organizations to identify "RMS enthusiast" and the type of "risk culture" that is present that shapes their success or failure. Studies of factors impeding "accountability" as cited by both our respondent groups as the top barrier of effective RMS from the selected barriers question would seem warranted and perhaps timely with recent negative events including the London Whale and from past issues such as underwriting issues stemming in part from the notion of "robo signing." Research on inconsistent "risk focus" could ask how organizations may improve it such that it is consistently maintained in both up and down financial cycles; is it due to management biases or some other theoretical concept that may be root cause drivers of, for example, complacency during up cycles. This may in turn provide organizations practical perspectives to consider correcting such impediments to consistent execution of "risk focus."

Continued leveraging of the RGF is the third mission perspective. Schiller et al., (2014) suggests that organizations risk management is limited due to a lack of the concept of risk and risk knowledge generation with current ERM frameworks. Further, some suggest that the current ERM model is too strongly influenced by accounting and auditing standards of control, with an emphasis on detailed controls supported with robust documentation evidencing effectiveness of the controls (Power, 2009; Talwar, 2011; Jordan et al., 2013). Our RGF seems warranted as it foundationally rest on Risk principles versus emphasizing standards of internal controls which may enhance the understanding of risks and the ways in which actors and institutions, public and private, deal with risks surrounded by uncertainty, complexity, and/or ambiguity (van Asselt et al., 2011) that appear to be lacking with current organizational risk management (Schiller et al., 2014).

On-going investigation of RMS at financial institutions through the RGF may continue to refine and further enrich the practical insights gained from our study. Table 17 lists the previously discussed category of barriers by phase as determined by our content analysis for the questions pertaining to compensation practices, the banking environment providing a type of "insurance," and the state of financial/economic environment. Further research into these barriers may enhance views and perspectives into current RMS to identify more practical solutions by phase to mitigate these barriers. Similarly, scrutiny from academia may identify factors correlating to organization learning, adaptive leadership, or decision making theories that provide additional insights into these theories and/or other paradigms.

Finally, we would probably all agree that RMS will continue to be a focus area for practitioners for the foreseeable future. With that said we believe our study identifies practical focus areas for practitioners to consider breaking down barriers to effective risk management and

improving RMS. We suggest that while the study's major findings and implications are not necessarily definitive answers to the challenges of RMS, we are confident in suggesting that the perspectives obtained from these RMs and REGs should be strongly considered and leveraged where appropriate regardless of industry.

V.2.1 Major Suggestions/Implications

The major suggestions and implications to improving RMS are reflected in Table 25. This table reflects the top overall categories from the questions: nine selected barriers to effective risk management, compensation practices, barriers leading up to the financial crisis of 2007-2009, suggestions to improve risk management, and state of the financial/economic environment.

Table 25 Major Suggestions to Improve the Effectiveness of Risk Management Systems/Practices

Category *	Suggestions/Implications	Study Question
Accountability	• Organizations should be more aggressive enforcing accountability. • More explicit processes, procedures and governing policies.	Nine selected barriers to effective risk management (Table 7).
Misalignment to Strategy	• Should apply to all areas of the organization. • Should include control and assurance functions, i.e., Risk Management Function and Internal Audit.	Compensation practices (Table 9).
Risk Culture	• Risk Management Function should perform periodic assessment of risk culture at Enterprise and business unit level. • Internal Audit should perform periodic assessment of the Risk Management Function relative to risk culture and at the business unit level relative to risk culture. • These assessments should be fundamentally and deliberately enhanced to first align with van Asselt et al.'s (2011) Risk principles focus of understanding how the enterprise and/or business units tackle risks that they may not be certain with, are complex or ambiguous, before jumping straight to the notion of, "what are the controls and processes we have in	Barriers leading up to the financial crisis of 2007-2009 (Table 18).

	place?"	
Improve Risk Function	• Implement more dynamic, forward looking, and preemptive risk management tools and techniques that blend quantitative and qualitative methods. • Risk Management Function and personnel should be of high stature in the organization and very knowledgeable of business area. • Risk Management Function needs to be respected (e.g., due to high knowledge of the business area) and perhaps, on certain levels, feared.	Suggestions to improve effectiveness of RMS (Table 21).
Risk Focus	• Require continuous monitoring of Enterprise and business area risk focus by first, second, and third lines of defense. • These assessments should be fundamentally and deliberately enhanced to first align with van Asselt et al.'s (2011) Risk principles focus of understanding how the enterprise and/or business units tackle risks that they may not be certain with, are complex or ambiguous, before jumping straight to the notion of, "what are the controls and processes we have in place?" • Board/senior management and risk culture must explicitly stress the importance of RMS in both up and down cycles; this should be supported by many of the aforementioned suggestions/implications.	State of the financial/economic environment (Table 16).

***** *Top overall categories from the questions of nine selected barriers to effective risk management, compensation practices, barriers leading up to the financial crisis of 2007-2009, suggestions to improve risk management, and state of the financial/economic environment.*

Accountability – was the top category from the nine selected barriers to effective risk management question (Table 7). Organizations, simply put, need to be more aggressive on this point. As one REG indicated, "You can have all the systems and/or processes in the world…but it matters not when the body creating risk is not held accountable." It must be hardwired at the board and senior management team level and the notion of a "lack of accountability" should be

eliminated. Incorporating the use of explicit procedures, controls and governing policies and standards can drive the importance of and enforcement of accountability and it should be done so at all levels and areas of an organization.

Misalignment to strategy – was the top category from the compensation practices question (Table 9). However, this perspective is critical on many levels as our respondents' responses suggest, thus it should not be limited to the notion of compensation alone. Many financial institutions have a strategy and may have elements such as a risk appetite statement to serve as guidance for the entire organization. Ensuring that all organizations actions and activities are not in contravention of these types of guiding statements needs to be critically assessed. While areas such as compensation practices in revenue generating areas may be an obvious area of focus to ensuring alignment to strategy and should not be ignored, critical assessment should include ensuring proper alignment of the Risk Management Function program and the scope and activities of the Internal Audit function to such guiding statements, thus ensuring the rigor and direction of these control/assurance functions.

Risk culture – was the top category for the barriers leading up to the financial crisis of 2007-2009 question (Table 18), but was also a prevalent category in other questions. A strong risk culture, including risk management, cannot be viewed, as noted by one RM, "as an impediment by the business or an expensive overhead cost." Much the same with Accountability, and really any of these categories, it must start from the top of the organization and be driven throughout the organization to all levels. As the notion of risk "culture" denotes a conceptual/intangible perspective, one way to put some substance to risk culture may be to formalize explicit assessments of risk culture by second and third lines of defense in the form of the Risk Management Function creating "risk culture" requirements that businesses must adhere

to and are periodically assessed against by the Risk Management Function. This could be further supported by periodic assessments by Internal Audit's review of the Risk Management Function, i.e., how well they drive adherence to risk culture at the business unit, and enterprise levels. These assessments should be fundamentally and deliberately enhanced to first align with van Asselt et al.'s (2011) Risk principles focus of understanding how the enterprise and/or business units tackle risks that they may not be certain with, are complex, or ambiguous. The Risk Management Function should have a critical eye toward business units or enterprise functions that tend to jump straight to the notion of, "what are the controls and processes we have in place," i.e., a "controls focus" versus ensuring their understanding of the risk presented, i.e., a desired "risk focus."

Improve risk function – was the top category for the suggestions to improve the effectiveness of RMS question (Table 21). Several of the respondents indicated the need to have risk management processes and techniques emanating from the enterprise level consistently down to the business unit level. Also, one REG suggested that the Risk Management Function, "Should be qualified and empowered to do their jobs effectively. They should also see themselves in senior management - both in terms of promotion opportunities and in terms of support from senior management." While we did not disagree with the importance of the stature of the Risk Management Function, we suggest, and view the following as equally if not more important than stature, that the Risk Management Function needs to be respected for its knowledgeable personnel; perhaps on a certain level, even feared, due to their practical knowledge of the businesses they support in a second line capacity.

Risk focus – was the top category for the question of the state of the financial/economic environment (Table 16). Organizations need to focus on putting a priority on RMS in both up

and down cycles. This is important as one RM indicated, "All the attention is placed on bad times because there is proof of poor risk taking. In good times, when too much risk is being taken, there is no proof and therefore less ability to challenge that behavior. It's about sustaining reasonable behavior during both parts of the cycle." One suggestion is to deploy similar tactics noted for risk culture whereby periodic mandatory risk assessments are performed relative to maintaining risk focus by the first, second, and third lines of defense. As one REG indicated, "The systems were not in fact good when the economy was favorable but the shape of the economy played a big part in everyone believing that risk management was good because there was a *lack of testing* of the adequacy of systems." However, as noted for risk culture, these assessments should be fundamentally and deliberately enhanced to first align with van Asselt et al.'s (2011) Risk principles focus of understanding how the enterprise and/or business units tackle risks that they may not be certain with, are complex, or ambiguous. The Risk Management Function should have a critical eye toward business units or enterprise functions that tend to jump straight to the notion of, "what are the controls and processes we have in place," i.e., a "controls focus" versus ensuring their understanding of the risk presented, i.e., a desired "risk focus."

This study provides many more practical consideration points for practitioners to consider towards breaking down barriers to effective risk management. History of the financial crisis' experienced over the years paints a dire picture of the supposed positives of RMS; however, we view our study as one that provides rich perspectives of barriers to effective risk management that is not readily apparent in extant literature, that we believe will have positive implications for both academia and practitioners alike.

V.3 Limitations

Risk management as a technical discipline has been in existence for over 50 years and it seems the role and its profile will continue to have strong bearing in practice and in academia. Though this study has proposed a RGF, it is an exploratory initial effort. As with all research, there are limitations associated with this study. This study builds from Cho et al.'s (2014) study on perceptions of the effectiveness of RPs. Hence, first, the study targeted only the 130 financial institutions subject to the Section 165 (d) RP formation requirements and only two groups, Risk Managers and Regulators. Therefore, it is not unreasonable to assume that expanding the targeted population and the respondent groups to non-financial industries and non regulated groups may build upon this study's data and further enrich perspectives on barriers to effective risk management. Second, this analysis required coding of responses, and identification of categories and themes, and required professional judgment, still however, the intercoder reliability seems to evidence sound analysis. Lastly, the RGF has been developed from existing literature and the researcher's perspectives as a regulator.

V.4 Future Research

Future research leveraging this RGF may identify opportunities for enhancement based on feedback from industry practitioners and academia. A study focusing more explicitly on facets of the RGF may identify opportunities for enhancement and provide additional insights into the practical applications, for example, of the three risk principles. A second area of research is continued exploration of the insights obtained from this study. Risk culture was such a prevalent theme and perhaps it should not be a surprise, but one obvious question is what are barriers to effective risk culture? The notion of adaptive leadership and the possible benefits toward driving an organization to embrace risk culture may provide insights to risk management

challenges as well. Third, research into the impacts of modeling and their use to an organizations risk management processes may be insightful with the growing regulatory requirements calling for the use of models; does this change the dynamics of the risk functions? The necessary make-up of resources in the risk function? One respondent indicated that he/she has yet to go into a bank and see a "quant" sitting in the CEO's desk, but what about CRO? Or COO? Fourth, continuing exploration using the RGF in other regulated industries such as healthcare may provide further rich context on barriers to effective risk management.

V.5 DISCLAIMER

This study does not represent the views of any particular financial institution, the Board of Governors of the Federal Reserve System, the Federal Deposit Insurance Corporation, The Office of the Comptroller of the Currency, or the 12 Federal Reserve District Banks.

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APPENDICES

Appendix A: Tables

Table 26. Critical Success Factors and Definitions, adapted from Yaraghi et al. (2011), and Mikes et al. (2014)*.	
Variable name	**Definition and properties**
Business type	Type of the business that the organization is involved in, including its final product or service, and the relative level of technology that is implemented in the organization.
Communication	Communication of risk issues, communication systems which are used in the organization, and its hardware infrastructure and software capabilities design. It also includes data analysis systems and non-official and emotional communications within the organization.
Consultants	Utilization of management consultancy services in organization.
Documentation	Documentation system which is used in the organization and its hardware infrastructure and software capabilities design. It also includes the data accuracy level in the organization.
Education	Competence, awareness, training, and education of the organization's personnel, including risk management staff about RMS, its processes, tools, and applications.
Environment	External environment in which the organization is performing. It encompasses the effects of market, suppliers, competitors, socio-political systems and also the organization's partnership and joint venture strategies. (2) External risks.
General management skills	General management skills including problem-solving, negotiating, communication, and influencing the organization.
Leadership	Leadership characteristics of risk and top managers. This factor is excluded from general management skills due to its importance and attention that it has gained from risk management researchers and practitioners.
Organizational culture	Staff morale and commitment. Flexibility, adaption to change, and respect to external management consultants.
Organizational structure	Organization's design, allocation of authorities, and responsibilities.
Performance reporting	Risk performance measurement, monitoring, and feedback for both short- and long-term performance measurements.
Process design	Detailed and clear process design for identifying, assessing, and prioritizing risks; frequency of risk meetings; and risk tools design and availability of documented process ownerships for the organization's internal processes. (1) Processes for identifying, assessing, and prioritizing risks; Frequency of risk meetings; Risk tools. (2) Preventable risks; Strategy execution risks; External risks.
Project management skills	Maturity of the organization's project management capabilities.
Resources	Availability of all kinds of resources and infrastructure including human resources, organizational validity, and technical validity. Cost and time are also included in this category.
Accountability	Job roles/responsibilities and also level of employee involvement in RMS clearly defined.
Reward and recognition system	Availability of reward and recognition system schemes in organizations.

Strategy	Well-defined and clearly understood vision, mission, and long-term strategy toward risk management in the organization. (2) Strategy execution risks.
Team-building	Existence of developed teams and teamwork spirit within the organization.
Top management	Level of top management support of RMS practices.
* Denotes Design parameters (1), and Contingency variables (2).	

Table 27. Critical Success Factors (CSF) - Readiness, adapted from Yaraghi et al. (2011), and Mikes et al. (2014)*.

Readiness CSF*	**Defined as: Factors that have influence on the inclination and readiness of a corporation for implementing RMS.**
Environment	External environment in which the organization is performing. It encompasses the effects of market, suppliers, competitors, socio-political systems and also the organization's partnership and joint venture strategies.
Organizational culture	Staff morale and commitment. Flexibility, adaption to change, and respect to external management consultants.
Resources	Availability of all kinds of resources and infrastructure including human resources, organizational validity, and technical validity. Cost and time are also included in this category.
Strategy	Well-defined and clearly understood vision, mission, and long-term strategy toward risk management in the organization. (2) Strategy execution risks.
*For this study we mainly selected those CSFs that were graded as more significant. We also selected "Strategy" for all three phases as it was graded more significant in all three. Denotes Design parameters (1), and Contingency variables (2).	

Table 28. Critical Success Factors (CSF) - Execution, adapted from Yaraghi et al. (2011), and Mikes et al. (2014)*.

Execution CSF*	**Defined as: Factors that are important during the design and implementation of RMS in a corporation and can significantly affect the success of RMS design and implementation.**
Performance reporting	Risk performance measurement, monitoring, and feedback for both short- and long-term performance measurements.
Process design	Detailed and clear process design for identifying, assessing, and prioritizing risks; frequency of risk meetings; and risk tools design and availability of documented process ownerships for the organization's internal processes. (1) Processes for identifying, assessing, and prioritizing risks; Frequency of risk meetings; Risk tools. (2) Preventable risks; Strategy execution risks; External risks.
Accountability	Job roles/responsibilities and also level of employee involvement in RMS clearly defined.
Strategy	Well-defined and clearly understood vision, mission, and long-term strategy toward risk management in the organization. (2) Strategy execution risks.
*For this study we mainly selected those CSFs that were graded as more significant. We also selected "Strategy" for all three phases as it was graded more significant in all three. Denotes Design parameters (1), and Contingency variables (2).	

Table 29. Critical Success Factors (CSF) - Administration, adapted from Yaraghi et al. (2011), and Mikes et al. (2014)*.	
Administration CSF*	**Defined as: Factors that are crucially important to successfully run, maintain, update, and administrate RMS after design and implementation.**
Communication	Communication of risk issues, communication systems which are used in the organization, and its hardware infrastructure and software capabilities design. It also includes data analysis systems and nonofficial and emotional communications within the organization.
Organizational structure	Organization's design, allocation of authorities, and responsibilities.
Strategy	Well-defined and clearly understood vision, mission, and long-term strategy toward risk management in the organization. (2) Strategy execution risks.
Top management	Level of top management support of RMS practices.
*For this study we mainly selected those CSFs that were graded as more significant. We also selected "Strategy" for all three phases as it was graded more significant in all three. Denotes Design parameters (1), and Contingency variables (2).	

Table 30. RMS design parameters and contingent variables, adapted from Mikes et al. (2014).	
Design Parameters	
Processes for identifying, assessing, and prioritizing risks	- Risk identification can take place face-to-face or through self-assessments. - Risk discussions can be confined to senior line managers and staff or can be decentralized by engaging front-line, support, and administrative staff as well.
Frequency of risk meetings	Frequency of risk identification and assessment processes must match the velocity of risk evolution.
Risk tools	- Use multidimensional visualizations, such as risk maps, to quantify risks along likelihood, impact, and controllability dimensions. - Choice of risk tools, ranging from qualitative descriptions and scenarios to the measurement of expected and unexpected loss, will be conditioned by (1) the availability of data and knowledge about a particular risk (loss) and (2) how relevant and reliable the available risk tools are in the eyes of risk experts and everyone else using the tools.
Contingency variables, classifying risk types	
Preventable risks	Arise from routine operational breakdowns or from employees' unauthorized, illegal, unethical, incorrect, or inappropriate actions. Companies gain nothing by tolerating such risks; they are inherently undesirable. Depending on the firm's tolerance for failure and on the existence of cost-effective controls, management should strive to reduce the incidence of preventable risks to zero.
Strategy execution risks	Organizations may take on risks to generate superior returns; while mitigation efforts may occur, some residual strategy risks will always remain.
External risks	Arise from events that the company cannot influence. Some of these risks are closely entwined with the firm's strategic choices and are therefore related to strategy execution risk. For example, mergers and acquisitions and geographical and market expansion entail the partly controllable risks of strategy execution, but they also introduce external uncontrollable uncertainties—new political, regulatory, and competitive environments.

Table 31. Four Pillars of RMS Implementation, adapted from Lundqvist (2014).	
General internal environment and objective setting	The first two components are not directly associated with risk management; These can be viewed as ‘‘prerequisites’’ of ERM implementation. These components are necessary to have well-functioning and well implemented ERM but are neither connected directly to risk management activities nor specific to ERM. Therefore, firms with no effort toward holistic risk management, or risk management at all for that matter, can have implemented these two prerequisite factors robustly.
General control activities and information and communication	
Holistic organization of risk management	The third component distinguishes between firms that are actively managing different risks of the firm and those that are not, but this component provides no information on the organization of these risk management activities.
Specific risk identification and risk assessment activities	The fourth component contains the dimensions that are characteristic of an enterprise-wide risk management implementation, for example, formal written statement of risk appetite, correlating and determining portfolio effects of combined risks, having a senior manager assigned the responsibility of overseeing risk.

Table 32 Guiding Risk Principles of the Proposed Risk Governance Framework, adapted from van Asselt et al. (2011).	
Principle*	**Defining details**
Communication and Inclusion (CI)	- CI is used in the two-way sense of the term. Effective mutual CI is one of the key challenges in risk governance. - Positively framed, CI is at the core of any successful risk management activity. Negatively framed, a lack of CI destructs risk management. - CI in the context of RMS refers to exchanges between policy-makers, experts, stakeholders and the general public, and among themselves. - Aim of CI is to provide a better basis, also in terms of trust and social support, for responsible governing of uncertain, complex, and/or ambiguous risks. - CI may serve the sharing of information about the risks and possible ways of handling them. - CI may support building and sustaining trust among various actors through which particular arrangements or risk management measures become acceptable. - CI may result in actually involving people in risk-related decisions, through which they gain ownership. - CI does not mean that everyone is communicating with everyone during the whole process. Social learning is required also to figure out which type of CI with whom is important in which phase or stage of the RMS. - Critical issues for CI include: Who is included? What is included? What are the scope and mandate of the process? - CI can take different forms: roundtables, open forums, negotiated rule making exercises, mediation, or mixed advisory committees, including scientists and stakeholder. - CI is needed to explore various sources of information and to identify various perspectives. - CI is a means to agree on principles and rules that should be respected in the processes and structures of collective decision-making. - CI supports the co-production of risk knowledge, the coordination of risk evaluation, and the design of risk management.

Integration	- Refers to the need to collect and synthesize all relevant knowledge and experience from various disciplines and various sources including uncertainty information and articulations of risk perceptions and values. - Emphasizes that also values and issues such as reversibility, persistence, ubiquity, tolerability, equity, catastrophic potential, controllability, and voluntariness should be integrated in risk assessment and evaluation. - Reflects the importance of such multi-dimensional evaluations. Risk management is not usually about a single risk; it requires risk(s)-benefit(s) evaluations and risk-risk trade-offs. - Refers to the process itself. Risk management advances a holistic approach to framing, appraising, characterizing, evaluating, and managing risks. This implies that a strict separation between risk assessment and risk management is counterproductive. - Calls attention to the need to consider the interconnections, both content-wise and in terms of process, between the various risk-related activities.
	- Risk governance cannot be routinized. It is important that the actors and institutions involved reflect on what they are doing to manage risk and continue to emphasize that the risks considered are uncertain, complex, and/or ambiguous, as the temptation to treat them as simple and to apply familiar routines remains huge. - A collective reflection about balancing pros and cons is needed. - Emphasizes that there are important difficult issues (uncertainty, complexity, ambiguity, and balancing act) that need repeated consideration of all actors throughout the process. Otherwise, the process risks to (re)introduce the familiar frames and routines developed for simple risks.
*These three principles should not be considered as separate steps or stages, but as principles that should be considered at every step or phase in the risk management system.	

Table 33. Proposed Risk Governance Framework, adapted from Yaraghi et al. (2011), Lundqvist (2014), Mikes et al. (2014), and van Asselt et al. (2011).

Risk Management System		
Readiness	Execution	Administration
General internal environment and objective setting		
← General control activities and information and communication →		
← Holistic organization of risk management →		
← Specific risk identification and risk assessment activities →		
Guiding Risk Principles		
Communication and Inclusion		
Integration		
Reflection		

Appendix B: Survey questionnaire

SAMPLING PLAN

We will sample from a Federal Reserve email distribution list which will produce a list of regulators and bankers, and LinkedIn members. We will also leverage/apply snow ball effect technique generated from the above sources. We also plan to reissue the link to the web-based questionnaire 3 additional times (total of 4 distributions) to provide ample opportunities for the respondents to participate.

For the lists obtained from the Federal Reserve email distribution, this will include personnel with the title of "Examiner" and "Analyst" from all twelve Federal Reserve District Banks, which are as follows:

- Richmond
- New York
- Boston
- Atlanta
- Kansas City
- St Louis
- Minneapolis
- San Francisco
- Dallas
- Chicago
- Philadelphia
- Cleveland

The list obtained from the Federal Reserve email distribution will also include those Federal Deposit Insurance Corporation (FDIC) regulators, the Office of the Comptroller of the Currency (OCC) regulators, and Federal Reserve System (Board) personnel with responsibility for the supervision and regulation of the 130 financial institutions. The list obtained from LinkedIn will be comprised of only individuals from the 130 institutions with job responsibilities generally associated with risk management responsibilities. Each respondent will be also be invited to forward the invitation to their known colleagues who are bankers or regulators with responsibilities related to risk management oversight. A systematic random sample will be selected from the developed e-mail lists. We believe the sample population and sample size will be approximately 600. We anticipate we will have responses in the range of 100 to 200 respondents. The respondents will be offered a summary of the study results as an incentive for completing the survey.

EMAIL INVITATION

Hello:

You are invited to complete our survey about how professionals like yourself feel about general risk management practices and its impact on organizations and NOT just what has happened in the last 5-10 years, e.g., factors leading to the passing of the Dodd-Frank Act.

The questions pertain to your PERSONAL views and beliefs and do NOT ask any questions about your employer.

The survey has 20 questions and should take you approximately 30 minutes to complete. Your participation in this study is completely voluntary. Your responses and all data from this survey will be reported only in the aggregate and no personal information will be shared. All information will be coded and will be, and remain CONFIDENTIAL. If you have questions at any time about the survey or its procedures, you may contact Edward Cho at the email address specified below.

If you are interested in a summary of the study's results we would be happy to send them to you as a token of our appreciation. At the end of the survey you'll have an opportunity to identify this interest.

Thank you very much for your time and candidness. Please start with the survey now by clicking on the "Take the Survey" text below.

Sincerely,
Ed Cho
Doctoral Candidate, Georgia State University.
echo14@student.gsu.edu

SURVEY INSTRUMENT

Q1. For which type of organization are you currently employed?

1. Financial institution including bank or insurance company (GO TO Q2)
2. Government regulatory agency (GO TO Q2)
3. Other (TERMINATE)

Q2. Please review the statements below related to "Readiness" factors relative to risk management systems/practices and select the answer that best reflects your personal views. "Readiness" factors are defined as factors that have influence on the inclination and readiness of an organization for implementing risk management systems/practices.

		Strongly Disagree						Strongly Agree
Q2.1	Poorly defined strategy hinders firms' risk management systems/practices. (Strategy is defined as the organizations vision, mission, and long-term objectives.)							
Q2.2	Poor organization culture hinders firms' risk management systems/practices. (Organization culture is defined to include staff morale and commitment, and flexibility to change.)							
Q2.3	Lack of appropriate resources hinder firms' risk management systems/practices. (Resources is defined to include infrastructure including human resources, and technical resources (cost and time are included in this category).)							
Q2.4	External environment in which the organization is operating hinder firms' risk management systems/practices. (Environment is defined to include the effects of market, suppliers, competitors, socio-political systems, and the organization's partnership and joint venture strategies.)							

Q3. Please review the statements below related to "Execution" factors relative to risk management systems/practices and select the answer that best reflects your personal views. "Execution" factors are defined as factors that are important during the design and implementation of risk management systems/practices in an organization and can significantly affect the success of risk management systems/practices.

		Strongly Disagree						Strongly Agree
Q3.1	Poorly understood strategy hinder firms' risk management systems/practices.							

	(Strategy is defined as the organizations vision, mission, and long-term objectives.)							
Q3.2	Poor process design hinder firms' risk management systems/practices. (Process design is defined to include processes for identifying, assessing, and prioritizing risks; frequency of risk meetings; and risk tools design; and availability of documented process ownerships for the organization's internal processes.)							
Q3.3	Lack of accountability hinder firms' risk management systems/practices. (Accountability is defined to include defined job roles/responsibilities, and the level of employee involvement in risk management systems/practices.)							
Q3.4	Inadequate risk performance reporting hinder firms' risk management systems/practices. (Performance reporting is defined to include risk measurement, monitoring, and feedback reporting.)							

Q4. Please review the statements below related to "Administration" factors relative to risk management systems/practices and select the answer that best reflects your personal views. "Administration" factors are defined as factors that are important to successfully run, maintain, update, and administrate risk management systems/practices after design and implementation.

		Strongly Disagree						Strongly Agree
Q4.1	Poorly communicated strategy hinders firms' risk management systems/practices. (Strategy is defined as the organizations vision, mission, and long-term objectives.)							
Q4.2	Inadequate organization structure hinders firms' risk management systems/practices. (Organization structure includes the design, allocation of authorities, and responsibilities.)							
Q4.3	Inadequate levels of top management support of risk management systems/practices hinder firms' risk management systems/practices. (Support is defined to include driving accountability and ownership of risk							

	management systems/practices.)							
Q4.4	Inadequate communication of risk issues hinder firms' risk management systems/practices. (Communication is defined to include processes to identify, assess and prioritize risks, including software/data analysis tools used to facilitate the communication.)							

Q5. Please indicate the extent to which you agree with the following statements about Risk Governance and Risk Management.

		Strongly Disagree						Strongly Agree
Q5.1	Communication is key to effective risk governance and risk management. (I.e., communication exchanges between policy makers, stakeholders, and experts.)							
Q5.2	Inclusion is key to effective risk governance and risk management. (E.g. involving people in risk-related decisions through which they gain ownership.)							
Q5.3	Integration is key to effective risk governance and risk management. (I.e., synthesis of risk perceptions and values; risk management is not usually about a single risk, it requires risks-benefits evaluations and risk-risk trade-offs.)							
Q5.4	Reflection is key to effective risk governance and risk management. (I.e., risk governance cannot be routinized. Actors must reflect on what they are doing to manage risk and continue to emphasize that the risks are uncertain, complex, and ambiguous, as the temptation to treat them as simple and to apply familiar routines remains huge.)							

Q6. Please indicate the extent to which you agree with the following statement about risk management systems/practices.

		Strongly Disagree						Strongly Agree
Q6.1	In general, if you want to manage risk, you have to quantify it.							
Q6.2	In general, current risk management systems/practices support the integration of learned or acquired risk knowledge.							
Q6.3	Organization compensation practices that are misaligned with risk management impact risk taking.							
Q6.4	The current unique banking environment promotes more risk taking by institutions due to the concept of "too big to fail." I.e., taking risks is made easier with the understanding that the institution will be "bailed out."							
Q6.5	Risk management systems/practices are important to overall institution performance.							

Q7. For each of the following statements, please indicate the degree to which you feel each is a barrier to effective risk management. The scale is 1 to 7 where 1 means "Very Low Significance as a Barrier" and 7 means "Very High Significance as a Barrier."

		Very Low Significance as a Barrier 1	2	3	4	5	6	Very High Significance as a Barrier 7
Q7.1	Risk management systems/practices are more focused on auditability and documentation evidence.							
Q7.2	Lack of a well-defined and clearly understood vision, mission, and long-term strategy toward risk management in the organization.							
Q7.3	Lack of accountability, poorly defined job roles/responsibilities, and the level of employee involvement in risk management systems/practices.							
Q7.4	Lack of qualified personnel to execute risk management practices.							
Q7.5	Disparity of local risk management processes and enterprise level risk management processes.							
Q7.6	Lack of lower levels of management involvement in risk assessments.							
Q7.7	Inadequate level of documentation, i.e., lack of clearly documented risk issues or concerns.							
Q7.8	Inadequate oversight by the board and senior leadership.							
Q7.9	Organization challenges in accommodating socio-political							

	factors/pressures.							

Q8. Do you believe that an organization's compensation practices may manifest barriers to effective risk management? If so, relative to the previously discussed phases of "Readiness," "Execution," and "Administration," does it manifest barriers to effective risk management more in one of these phase versus another? Please be as specific as possible.

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_____
_____
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Q9. Do you believe that the current unique banking environment provides a type of "insurance" for some organizations with the concept that "too big to fail" may indicate the organization would be "bailed out?" If so, relative to the previously discussed phases of "Readiness," "Execution," and "Administration," does this notion of "insurance" manifest barriers to effective risk management more in one of these phases versus another? Please be as specific as possible.

_____
_____
_____
_____
_____

Q10. Relative to the previously discussed phases of "Readiness," "Execution," and "Administration" factors, for risk management systems/practices to be considered "effective," please select the answer that best reflects your personal views:

1. All phases of Readiness, Execution, and Administration factors must be complete and in place for risk management systems/practices to be "effective."
2. All phases of Readiness, Execution, and Administration factors must be in place, but do not have to be 100% complete, for risk management systems/practices to be "effective."

Q11. Please provide any additional perspectives to your choice for the percentage complete question above. Please be as specific as possible.

_____
_____
_____
_____

Q12. How important is the state of the financial/economic environment in shaping general perceptions of the effectiveness of risk management? (i.e., if we are coming out of a financial crisis then general perceptions of risk management may be different than if there is a long period of stability.). Please be as specific as possible.

_____
_____
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Q13. Relative to the previously discussed phases of "Readiness," "Execution," and "Administration," do you believe that the state of the financial/economic environment may manifest barriers to effective risk management? (E.g., in periods of long stability, management may begin to focus less on Execution factors thus creating potential barriers to effective risk management.) Please be as specific as possible.

_____
_____

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Q14. Benefits cited by bankers and regulators that were preparing Resolution Plans included improved understanding of the bank and improved risk management. However, risk management practices were in place prior to the requirement for Resolution Plans. What do you believe were barriers to effective risk management at firms leading up to the financial crisis of 2007-2009? Please be as specific as possible.

_____
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Q15. Would you describe current risk management systems/practices as more "quantitatively driven" (i.e., increasing availability of data and the rising sophistication of risk modeling renders more and more risk types as manageable by numbers), or "qualitatively driven" (i.e., risk modeling and managing risks by numbers is turned to with caution; risk measurements are trend indicators which may complement or be overwritten by senior managerial discretion, experience and judgment)? Please be as specific as possible.

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Q16. What changes would you suggest to improve the effectiveness of risk management systems/practices? Please be as specific as possible.

_____
_____
_____
_____
_____

Q17. Please indicate your age:

1. Less than 25 years old
2. 25-34
3. 35-44
4. 45-54
5. 55 or older

Q18. What is the highest level of school you have completed or the highest degree you have received?

1. Less than high school (Grades 1-8 or no formal schooling)
2. High school incomplete (Grades 9-11 or Grade 12 with NO diploma)
3. High school graduate (Grade 12 with diploma or GED certificate)
4. Some college, no degree (includes community college)
5. Two year associate degree from a college or university
6. Four year college or university degree/Bachelor's degree (e.g., BS, BA, AB)
7. Some postgraduate or professional schooling, no postgraduate degree
8. Postgraduate or professional degree, including master's, doctorate, medical or law degree (e.g., MA, MS, PhD, MD, JD)

Q19. What is your gender?

1. Male
2. Female

Q20. If you'd like to receive a summary of this study's findings, please enter your email address.

_____

This concludes our survey. We thank you for your time and opinions.