

ALIGNING ENTERPRISE RISK MANAGEMENT WITH BUSINESS STRATEGY AND INFORMATION SYSTEMS

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Abstract

Business leaders recognise effective risk management as one of the main success drivers for enterprises. Even though the Enterprise Risk Management (ERM) concept has evolved significantly in the past years, in the aftermath of recent economic crises it became evident some of its critical challenges still need to be addressed. The review of subject literature led to a conclusion that current ERM approaches failed to protect enterprise value in turbulent and risky market conditions. Therefore, this paper aims to provide a conceptual analysis of the most common ERM practices and frameworks, in order to identify their shortcomings and areas requiring development. It is further aimed to provide guidance to business practitioners in implementing more integrated and effective Enterprise Risk Management (ERM) solutions. This research recognises the importance of aligning ERM programmes with business strategies, and with consolidated Information Systems. A “New Approach ERM Model” is developed as guidance for a successful alignment of ERM with enterprise business strategy, and for an effective adaptation of Information Systems to requirements of ERM programmes. The “New Approach ERM Model” steers risk management initiatives and strategies in the same direction, and consequently allows enterprises to improve organisational effectiveness, increase shareholders value, and gain competitive advantage in the market.

Keywords: Enterprise Risk Management (ERM), Business Strategy, Competitive Advantage, Organisation Performance, Information Systems (IS).

1. Introduction

The context for business operations is becoming ever more complex, posing an increasing number of new risks on market players. The economic environment changes rapidly, while it is affected by a multitude of external factors driven by changes in global politics, competition, or technological developments. Internal organisational risks also contribute to the complexity of the risk management problem in enterprises, with operational risks, management conflicts, or staffing issues swaying the effectiveness of businesses' performance. Therefore, risk forms an integral part of the business reality

and it is determinantal for enterprises' success to effectively manage the increasing number of external and internal variables affecting their operations.

The concept of risk has been frequently associated with negative impacts and anxiety of unknown future events (Irwin, 2007). A new paradigm of risk points to a two-fold nature of this phenomenon, downside and upside factors associated with risk. Downside risk is comprised of all the consequences of an event that may have negative effect on organisation's ability to achieve its strategic goals. The upside risk is represented by all the potential benefits or the business opportunities that an organisation may draw from the same event (Business Credit, 2007). Creating a system allowing for managing both downside and upside risks becomes an important determinant for organisational success (Frigo, 2008). Subsequently, the goal of an effective approach to risk management becomes not to eliminate the risks, and therefore the reward opportunities associated with them, but to choose where to place or avoid bets altogether (Stewart, 2000).

There has been an increasing consciousness in risk literature that a more holistic approach to managing risks would enrich the effectiveness of risk management practices across industries. The ultimate development in the risk management area became known as an enterprise-wide risk management approach. Enterprise Risk Management (ERM) emerged as a structured approach combining strategies, resources, technology, and knowledge to assess and manage the uncertainties that various enterprises face as value is being generated (Hoffman, 2009). ERM facilitates effective management of risks that organisations face, and the management of potential opportunities embedded in those risks. The major objectives of the Enterprise Risk Management approach can be summarised in the following three steps. Firstly, measurable organisational objectives need to be specified. Secondly, an organisation needs to identify the risks that may hinder accomplishment of the objectives. Thirdly, controls need to be identified that would mitigate the identified risks (Francis and Richards, 2007 in Burnaby and Hass, 2009).

Attitudes towards ERM, and the state of advancement of risk management practices implemented in enterprises, have evolved over time. The importance of implementing a comprehensive approach to ERM became evident in the wakes of the economic crises over the last decades, when the existing risk management programmes failed and abnormalities took serious tolls on enterprises performance. Among others, it was the case of some financial organisations which had implemented programmes for managing risks in order to protect their assets (Fraser, 2010). Nonetheless, fast changes in business environment gave rise to unanticipated risks which organisations could not handle properly.

The recent multiple examples of failures of the existing risk management programmes, and the cases of enterprises which successfully managed risks in the dynamic contexts of economic downturns, constituted the basis for conducting this research. The aim of this research was therefore to determine the factors contributing to failures and successes of risk management programmes in enterprises. Consequently, in order to identify shortcomings of the current ERM approaches and propose a model to overcome shortcomings, Various ERM programmes were examined, in parallel with a study of conceptual inputs from the most prominent risk management frameworks,

The literature review led authors to a conclusion that those market players that have dealt more successfully with the recent market turmoil, would have adapted a more proactive approach and would have implemented more comprehensive views of the risks they were facing. Information

developed enterprise-wide would be considered for adjusting risk management programmes to business strategies. Those enterprise-wide risk management practices allowed for generating prompt and more accurate responses to changing market conditions (Fraser, 2010). Therefore, findings from the research emphasise the importance of aligning enterprise-wide risk management programmes with organisations' business strategies. Such alignment enables an optimised management of the hierarchy of key risks embedded in different strategic options, improving organisational ability to meet the objectives of business strategies. Additionally, this research highlights the importance of an effective data management in ERM programmes, and so the need to develop effective Information Systems architectures facilitating the consolidation of risk management requirements and data integration from various business units.

Incorporating the findings of this research, the authors developed a model demonstrating a new, integrated approach to managing enterprise risks, where the objectives and execution of both business strategies and enterprise risk management programmes are aligned. The "New Approach ERM Model" illustrates the relationship between ERM and business strategy, in the context of an integrated Information Systems architecture, operating in a dynamically changing market. The importance of enterprise-wide information management in risk management programmes is recognised in the model.

2. Alignment of Enterprise Risk Management (ERM) with Business Strategy and Information Systems

Killackey (2009) compares some organisations to the "Titanic" where due to builders' overconfidence and ignorance of poor design and lack of preparation of contingency plans for a possible disaster, they head toward the bottom of Atlantic (Killackey, 2009). Organisations need to have ERM programmes properly aligned with their strategies at various levels, including business strategy level; only then risks can be effectively managed through a comprehensive approach (Killackey, 2009).

Business strategy defines organisation's approach to competing for customers, generating value from resources, and creating competitive advantages of those resources over competitors. Business strategy is derived from specific goals and objectives defined within an organisation. Therefore, ERM should be understood as a process that guides the achievement of organisation's goals and objectives (Simkins & Ramirez, 2008), especially at the business strategy level. When risk management frameworks fail to properly align operational risks with business strategies, organisations may engage in activities associated with excessive risks which are not justified in an analysis of possible long-term prospects.

Organisations are exposed to a variety of risks at the operational level; hence their ERM programmes need to be aligned with business strategies to cover the complete hierarchy of operational risks. Before developing a risk strategy, management needs to assess the business strategy vs. organisation's risk appetite, and apply the necessary re-evaluation based on evolving and changing market conditions. A critical aspect of management's responsibility is to understand and determine which risks should be taken on, and what magnitude of business consequences (in case of a failure) can be managed away. Different risk categories and their impact on business levels should be included in strategy setting (KPMG, 2010). Identification of the portfolio of key risks facing organisations and their evaluation are crucial steps in the process of designing an effective ERM framework.

In order to build enterprise risk awareness and ingrain it deeply into the organisational culture and processes, it becomes essential to encourage open communication between all employees and inspire interest in ERM best practices (McKinsey, 2008). Understanding ERM in the context of enterprise-wide communication, creating risk culture, and integration of risk management practices with business strategies can be summed up by an ERM Best Practice Model (see Figure 1).



Figure 1: ERM – Best Practice; McKinsey (2010).

According to McKinsey (2010), ERM process is most effective when presented in five interrelated dimensions: risk transparency and insight, risk appetite and strategy, risk processes and decisions, risk governance, and risk culture. The Best Practice Model aims at creating a comprehensive view of the alignment of ERM and business risks. Starting from (1) risk transparency and insight, key risks need to be identified and assessed by using risk heat maps, risk reports customised for all employees (i.e. presented with diverse levels of granularity), and lessons learnt stories. Subsequently, the probable impact and magnitude of multiple, interconnected risks must be considered. The most critical part of the process is to identify all key risks, and understand their strategic context regarding delivery of perceptive information to management. Once key risks are identified, performing the high level risk analysis alone is not sufficient; also the risk examination needs to be extended to potential impact on dynamics of the entire market. The next step (2) displayed in the Best Practice Model is defining risk appetite and strategy. The appetite for risk should be assessed only after risk capacity was established to avoid “negative surprise effects” such as reputational damage, rating downgrades, insolvency, or eventual bankruptcy as a result of an erroneous risk evaluation. Once risk profile has been outlined, an enterprise concentrates on expanding or contracting it depending on market circumstances. The third part (3) of the Best Practice Model’s focal point is looking at risk and business processes, and how can management take advantage of embedding risk context on various operational processes in the most optimal way. The last two elements (4 and 5) are concentrated respectively on allocating sufficient risk management resources and ensuring the exiting risk culture gaps are addressed and understood clearly by all individuals. In conclusion, the alignment of risk strategy, organisational culture, and business strategy is the key to this Model. Management should foster commitment of all team members, clearly define risk ownership and accountability, support robust ERM mechanism, develop enterprise-wide risk oversight functions aligned with risk appetite and business strategy, and finally ensure risk and business units work together on all existing and potential issues (McKinsey, 2010).

One of the most referenced ERM frameworks, the COSO framework published in 2004 by the Committee of Sponsoring Organisations of the Treadway Commission, supports the approach of aligning risk management processes with business strategy among other core strategies.

COSO (2004) defines ERM as: “a process affected by an entity's board of directors, management, and other personnel, applied in a strategic setting across the enterprise, designed to identify potential events that may affect the entity and manage risk within its risk appetite to provide reasonable assurance regarding the achievement of entity objectives” (COSO, 2004).

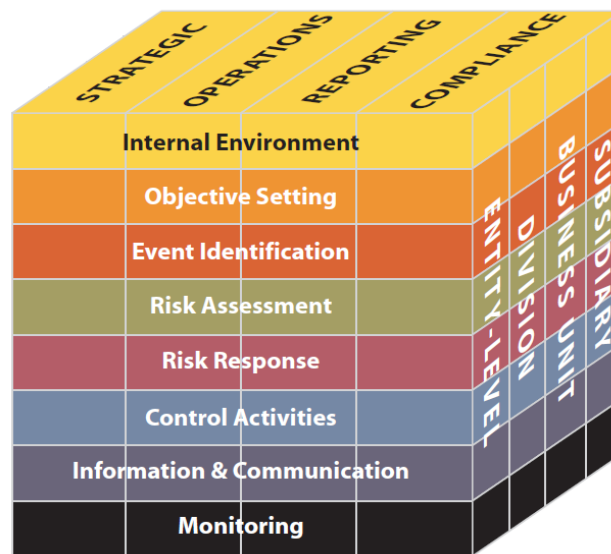


Figure 2: COSO framework for ERM; COSO (2004).

In COSO’s ERM integrated framework (Figure 2) the relationship between organisational objectives and risk management components is depicted in a three-dimensional matrix, in a form of a cube. The vertical columns represent four categories of organisational objectives - strategic, operations, reporting, and compliance. The horizontal rows present the flow of ERM processes, and the third dimension - organisations’ units.

Beasley, (2010) emphasises that embedding risk management into the development of business and other strategies, and the process of their execution becomes crucial for organisations (Beasley, 2010). ERM helps enterprises achieve the objectives stated in their business strategies through management of risks in line with risk appetite, while protecting and creating shareholders value. The ultimate goal is therefore to reinvigorate the ERM programme, and re-establish the “risk – strategy accountability” by aligning ERM with, among others, a business strategy. In current business practices, risk management and strategy setting often operate in parallel sequences but with little connection. Consequently, when strategists don’t take into account all risks in the strategy development stage, risks may be unintentionally omitted or misinterpreted, and thereby affect business performance (Frigio, 2010). The strategic planning process should, subsequently, be aligned with the ERM risk identification stage, and strategic choices should be coherent with risk appetite (Buehler, 2010). One method to create a winning ERM alignment with the business strategy is to integrate specific ERM

capabilities within various phases of the business strategy setting process. Starting with the strategy assessment stage, ERM components such as an analysis of internal environment or risk evaluation, become factors contributing to the creation of a holistic risk assessment that aligns both ERM and business strategy constituents (Towers Perrin, 2000). Throughout the strategic development stage enterprise-wide risk response becomes crucial. The significance of the phase is further validated as it involves the following factors: 1) recognising strategy's alternatives, 2) selection of specific strategic activities, 3) identification of future strategic enhancements, 4) measurement of key strategic risks, and 5) evaluation of probable magnified impact of all interconnected risks. Finally, formulating the plan as the culminating stage of strategy setting entails all control activities, communication, and risk monitoring. Ultimately, all three elements of strategy-setting process relate to providing a summary of risk metrics that set the direction for future actions to bridge the existing gaps, and accomplish organisational objectives (Protiviti, 2007).

Another significant matter to consider is to decide what to do with the information once key strategic risks are identified (i.e. how to translate risk assessment into real response action steps and drive value for an enterprise at the same time) (Chapman, 2006). Risks correlation should be considered, while their interdependence can be managed more effectively once they have been categorised. By understanding how risks interconnect, business leaders can assign risk classes that will then influence how these risks are optimised, and ultimately managed (Simkins, 2010). In order to understand risks' interconnectivity, business units need to communicate continuously. Throughout all the steps of communication between operational strategies, risk champions become essential (Frigo, 2008). Appointing ERM champions in each business unit and creating risk experts' network can then be a proactive part of the aligning initiatives, facilitating updates to senior management, and keeping the process alive.

Senior management are under constant pressure to thoroughly understand what risks organisations face and how risks affect strategies on a business level. There is a tendency to concentrate more on forming a risk awareness culture binding the spider web of scattered business units into a visible structure (KPMG, 2010). Business practitioners focus more on the ongoing analysis of the alignment of ERM with the ensuing strategies as the most effective way to achieve the enterprise-wide "risk-strategy mindset" (Kroszner, 2008). A risk awareness culture can facilitate incorporating operational business objectives within the risk assessment process. This approach envisions ERM as a process for overseeing and accomplishing business objectives (Nocco, 2006). Finally, the significance associated with an ERM programme is to prove it protects and increases the shareholders values while concurrently creating an organisational risk awareness culture (Protiviti, 2007). According to Simkins (2008) ERM can be adopted as a strategic tool that leadership can utilise for more effective risk management and alignment of business objectives in a holistic dimension (Simkins, 2008).

The increasingly complex nature of organisations requires the consolidation of risk management practices, core strategies and 'top-to-bottom' data and information systems (IS) integration. Production of information in a timely, relevant, replicable and cost-effective manner facilitates risk management processes. Therefore, there is a growing need for ubiquity of Information Systems which capture, store, manipulate and present data, in support of ERM processes (Wilkin and Chenhall, 2010). Risks associated with IS must be managed in order to protect potentially enhanced value across all enterprise levels, and to optimise the holistic dimension of risk management practices.

Organisations must engage risk management division to effectively identify key IT risk factors that can potentially exert negative impacts on business performance.

The capabilities of Information Systems have evolved from restricted data processing and automation architectures, to less structured, Internet-linked systems. The previously siloed systems have now been redesigned to better serve information dissemination and as a result can significantly reduce costs otherwise incurred by mitigating IS risks (e.g. eliminating duplicate systems, and redundant IS resources as well as creating stronger IS inventory control). Organisations may choose to outsource major IS functions as a part of enterprise resources planning (ERP); this aspect will not be discussed in this paper.

Risks that organisations face are affected by dynamically fluctuating market cycle. Thus, ERM cannot be a one-time effort, but rather an ongoing process designed to be re-modified congruently with business strategy to achieve maximum effect (Towers Perrin, 2000). Additionally, the alignment of ERM and business strategy and Information Systems is dynamic since strategies continually change; any changes to one element trigger the automatic re-alignment throughout all dimensions. As ERM and business strategy change, IS strategy should change in parallel. Organisations should constantly monitor for any necessary adjustments to manage the probable impact of the changes more effectively.

3. Importance of Aligning ERM with Business Strategy and Information Systems

Enterprise Risk Management has rightfully become a top priority for senior management, with catastrophic results of the present economic crisis emphasising what happens when strategies and risks are not aligned but rather existing as separate silos (Beasley, 2010). With recent colossal shareholders losses of the last few years fresh on their minds, corporate shareholders are left wondering what 'real' exposures their own organisations may face, and consequently, which of the frequent dictum they may be concerned by: "*There are knowns, known unknowns, and unknown unknowns*" (Shenkir, 2003). Emerging from the crisis has eminently proved that aligning the enterprises' risk oversight and strategies - especially the business strategy - is one of the major challenges (Frigo, 2010). To achieve the risk and strategies equilibrium, many organisations re-evaluate their business strategies using various tools like key performance indicators (KPI), benchmarking, balanced scorecard, and most recently, key risk indicators (KRI). These tools when used appropriately can provide insight to track business strategies and therefore drive through the benefits of change (Kaplan, 1992). The challenge, however, is to ensure that ERM programmes incorporated into business plans can steer organisations through the minefield of black swans and common pitfalls, leading it successfully towards the same goal, thereby adding to shareholders value (i.e. value can be driven from the ERM interfacing the strategies). The increasing importances of Information Systems to business activates, and a growing demand for effective risk management practices, are essential factors in strengthening the impetus for an alignment between these three factors in organisations.

The research of Bowling (2005) confirms that ERM should form an interconnected part of business strategy, and this interconnection needs to be clearly defined and understood. Given the importance of aligning of ERM programmes with strategic planning and execution processes, these need to be

individualised in order to reflect the nature, magnitude and likelihood of the risks faced by organisations. ERM is a valuable tool which protects an organisation from potential unforeseeable risks. Taking it forward through aligning with the business strategy and providing an adequate Information Systems infrastructure, ERM improves the enterprise-wide effectiveness. Based on organisational risk profile reflecting how much risk can be embraced, senior management should decide which risks can be managed effectively and which can be taken advantage of. The result of the risk appetite debates should conclude with a definite risk strategy, providing specific guidelines on what the next stage of the ERM journey should be (Chapman, 2006). Both ERM and the business strategy focus on reducing the risk of erosion of sources of enterprise's values, tangible and intangible assets. Hence, their alignment can be deemed beneficial with enterprise-wide results like improving the consistency of organisational performance, reducing earnings volatility, building stakeholders confidence, managing potential risk of underperformance, and finally, advancing the methods of achieving strategic business goals. (Moody, 2009)

According to Protiviti (2006) by revolving around the three key objectives of improvement of business performance, establishing competitive advantage, and cost optimisation (see Figure 3), ERM becomes the main contributor to protecting and enhancing shareholders' value (Protiviti, 2006).

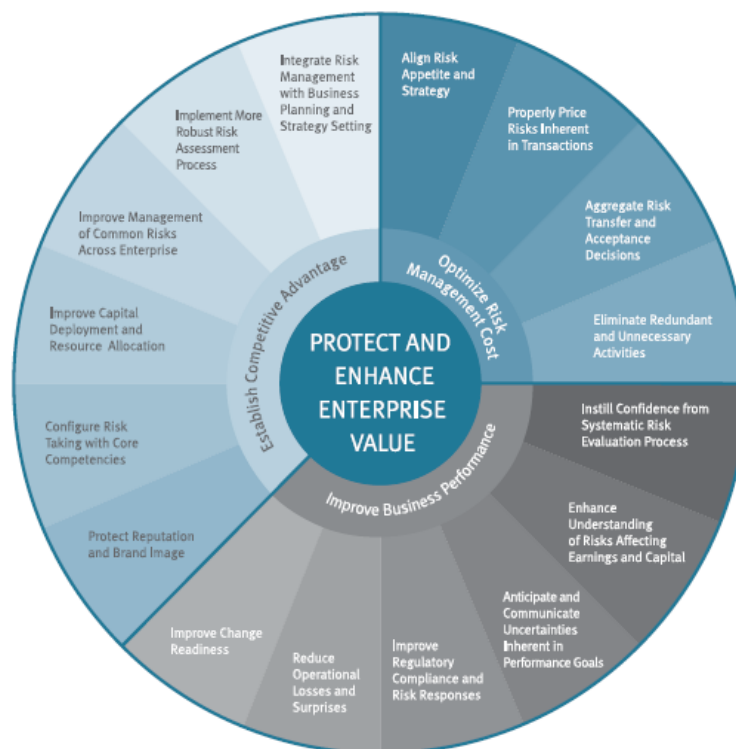


Figure 3: Protect and Enhance Enterprise Value; Protiviti (2006).

The outlined values are built into the core of alignments of the ERM process with business strategy (Protiviti, 2006). All three main objective groups are divided into subcategories that can define methods for ERM and business strategy alignment to consistently steer an enterprise in a uniform direction. The Protect and Enhance Enterprise Value Model (Figure 3) is introduced to present how the shareholders value can be built up through continuous alignment of the enterprise risk appetite, risk strategy and the business model. The Protiviti's (2006) model focuses primarily on systematic

and cost effective analysis of risks and opportunities heightening the relevance of establishing the granularity within each of its three value groups to support senior management decisions. The model's main objective types are therefore broken down into specific values to achieve the following outcomes: 1) integration of risk and business units, 2) creating robust risk processes, 3) eliminating ineffective activities, 4) understanding risks and 5) planning risk responses as a part of a change culture. In summary, the model's constituents act as competitive differentiators, and stimulate behaviours coherent with business strategies and performance aims. All integral elements of the model become keys to building the enterprise-wide business image and reputation respected in the market.

ERM has the potential to provide organisations with competitive advantages. (Fraser, 2010) Searching for competitive advantage through ERM was identified as a main motivational driver of the programme as it can create a significant strategic advantage over organisations in the market (Samuels, 2005). There are few organisations capable of managing their risks as a source of a potential competitive advantage, especially when operating in an uncertain and increasingly dynamic environment (Noy, 2003). To convert risk management capabilities into competitive advantage, an integrated ERM approach is adopted where all risk opportunities are identified and analysed as an element of strategic alignment. Porter (1985) identified three strategies creating competitive advantage: cost advantage, differentiation and focus. Depending on risk categories, four ways of achieving the advantage can be recognised: business continuity, undertaking strategies riskier than competitors, excellence at daily business performance, and lastly, building a resilient market image (Porter, 1985). Business continuity planning can be a way to become a market winner; it allows an organisation to stay in business while competitors are affected adversely by the crisis. Achieving superior level of business performance helps zoom in on developing unique qualities that enable staying ahead of the competition during volatile times. These attributes extend to maintaining business flexibility, responsiveness, building internal, and external relationships, and lastly, empowered the leadership. Creating "fortress" reputation in the market can be both very challenging and rewarding, notably so if it results in establishing trust in the marketplace and becomes a key to sustaining business effectiveness (Samuels, 2005).

Many organisations struggle to integrate and link fragmented risk systems across multiple business units. Creating a comprehensive data platform that enables re-alignment of key risk aspects should be adapted by innovative enterprises. Lack of unified risk and information infrastructure may consequently lead to 1) communication failure between risk, strategy and performance groups, 2) increasing inconsistency and data quality issues caused by disintegrated systems, 3) disrupted information flow, and 4) decreased business efficiency and productivity of the business as a whole organism (Bansal, 2003).

Maintaining enterprise-wide resilience can result in providing access to better financing, lowering transaction costs, improving business confidence, creating a positive reflection in the stock price, and attracting more customers. In volatile times, however, with fast pace market changes and with little time to respond, business complexity grows systematically in line with the demanding global competition, and complicated risks correlation. These factors can directly affect business performance, and thus, organisation's pursuit of the alignment of ERM with business strategy and Information Systems becomes most vital, and if implemented successfully, allows for the transformation of operational risk opportunities into a competitive advantage.

Conclusively, the alignment of ERM with business strategy and Information Systems can be perceived an important factor differentiating an organisation from the competition that can improve reputational and financial market position during the downturn. An effective alignment between an organization's ERM, business, and IS strategies implies that the information systems are targeted on areas that are critical to successful business performance. An alignment optimizes the process of knowledge management, improving management of events that could impact organizational ability to meet objectives of business and risk management strategies.

Methodology approach used for the purpose of this research was based mainly on normative sources. Due to the conceptual nature of the research, Data was obtained from various ERM approaches established in current business practices. Research method relevant for this study was identified as solely qualitative. The significance of the results obtained from literature review was deemed sufficient to establish the research rationale, and answer the research problem.

4. Proposing the New Approach Model – Aligning of ERM with Business Strategy and Information Systems

After almost four decades of business theory development, academics such as Henry Mintzberg and Michael Porter have established rich literature on strategy. Gradually, in business world, most large enterprises have created strategy units (Roxburgh, 2003). Most literature focuses on creating the right strategy, its development (Porter, 1979), planning and execution (Frigo, 2010), and aligning ERM and the strategy (Hala, 2006) and (Killackey, 2009).

This section will concentrate on a critical review of the most relevant ERM models and present a New Approach Model that aligns ERM with the business strategy. The model also highlights the alignment becomes a driving force for improved organisational efficiency, and steers both ERM and the strategy in the same direction in a dynamically changing environment. In addition, an important assumption considered for the New Approach Model to perform effectively, is to adapt consolidated information systems (IS) across the enterprise. Without a streamlined IS architecture aligning ERM with the business strategy becomes an initiative that cannot be effective.

The development of the new model was based on an evaluation of current ERM frameworks. Deemed a critical organisational force that streamlines the business efforts, the alignment can be an effective mechanism to facilitate the ultimate goal of maintaining and enhancing shareholders value (Frigo, 2010). Aligning risk with the business strategy help answer many questions that organisations ask themselves: 'Where are we now?', 'Where would we like to go?', and finally 'How do we get there?'

Enterprise wide risk systems are indispensable to accommodate many future implications such as market fluctuations or changes in regulatory requirements. However, implementation of effective IS infrastructure at all levels of the organisation alone may not be sufficient; all personnel across the enterprise must be aware of key consequences of the changes, understand them, and be able to create a rapport between relevant IS transformations, and the alignment of ERM with the business strategy.

System changes need to be transitioned and aligned with the risk model (ERM), business strategy, and culture transformation. Creating unified IS architecture can be a source of an increased organisational value and competitive advantage. Convolutional nature of fragmented IS infrastructure has become 'under regulatory microscope' (especially in finance sector), and core systems are being redesigned and consolidated by most proactive organisations (Bansal, 2003). Finally, streamlined IS infrastructure has been identified as a prerequisite for the New Approach Model to operate successfully.

Campbell (1997) highlights that before developing a strategy, senior management need to first understand: "*the benefits of having a well-articulated, stable purpose and the importance of discovering understanding, documenting, and exploiting insights about how to create more value more than competitors*" (Campbell, 1997). In practice, becoming competitor intelligent is as critical as learning the following: Who the key competitors are? How do they perform? What are their strengths and weaknesses? What could be their strategy? And most importantly, how does all this impact the organisation's business strategies in the light of ERM practice? Given the initial outline of the long term business vision, mission that includes also business strategy, corporate culture, and the stakeholders' analysis; it becomes essential to develop and implement strategically aligned ERM mechanism allowing generating competitive advantage in the market (Porter, 1987). Developing an internal model of this dimensional alignment creates an internal compass for business behaviours, and initiates the process of shaping up the organisational character that makes an enterprise competitive (Porter, 1985). According to Porter (1996) creating a competitive advantage is not only about being different; it means deliberately choosing a different set of activities to deliver a unique mix of value (Porter, 1996). The identification of what key success drivers are becomes particularly crucial to perform superiorly in the competitive market (Chapman, 2006).

Since ERM framework (along with a successful strategy setting) has become a top priority for senior management, the overriding question remains: what key actions create a risk structure within an organisation that effectively aligns ERM with the strategic development and execution from a business perspective? Nonetheless, there are commonalities between risk and strategies that need to be mentioned as these set the course to which an enterprise sails. According to Beasley (2010) both display a strong correlation to time and value, are sensitive to rapid changes by external market factors, require a high level of strategic planning, and finally, cannot be managed successfully in isolation (Beasley, 2010). Furthermore, ERM can be a valuable performance enhancer, when used for identifying prospective fine-tunings related to previously undiscovered opportunities and risks (Frigo, 2010). Such an approach can help organisations shift focus from crisis response and compliance to proactive risk assessment. Finally, dynamic IS infrastructure becomes a strategic success factor for creating a balanced alignment of ERM and business strategy.

Before turning the attention to the New Approach Model, the existing business models were reviewed. Firstly, Cokin's (2008) model describes the importance of alignment of enterprise performance management (EPM) and enterprise risk management (ERM) (see Figure 4). Secondly, Killackey's (2009) paradigm presents the link between ERM and organisational strategy in the context of balanced scorecard. Lastly, Norton's and Kaplan's (1996) developed the model where KPIs are enhanced with risk element and become KRIs (Figure 5 a, b). None of the presented models discuss the importance of IS in the organisational alignment of risk and strategy.

Model (2008) illustrated a four step process based model: from direction setting through executive leadership to achieve the common goal i.e. value creation (Figure 4).

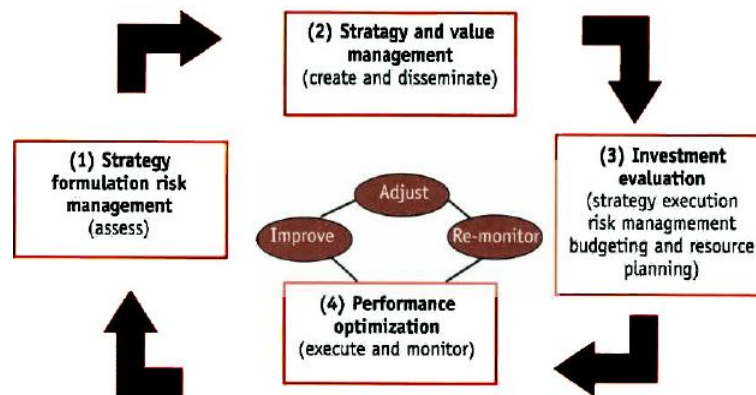


Figure 4: Enterprise Risk Management and Performance Management; Cokins (2008).

Figure 4 presents EPM as an integral part of how an organisation develops the strategies to maximise shareholders values added (SVA), and ERM concentrating on achieving strategic objectives (Cokins, 2010).

According to Enterprise Risk Management and Performance Management model (Figure 4), step (1) entails the assessment of key value drivers i.e. key risk indicators (KRIs); these become essential to understand key risk causes, and enable the timely reaction to future events. Step (2) continues with the formulation of vision, mission and strategy map; where fundamental processes that will help accomplish manifold strategic objectives are identified. Step (3) determines the resources to be used in the execution process, while finally step (4) enables the entire mechanism to manoeuvre the organisation in the right direction. The four steps are a constant cycle where risk and strategy are dynamically reassessed and readjusted (Cokins, 2010).

Another interesting approach to managing risk in the context of strategy alignment is presented by Killackey (2009) and focuses on ERM being an integral part of strategy. Therefore, it can be incorporated into performance management systems that convert strategy into actionable term such as the balanced scorecard (BSC). Based on Kaplan and Norton's (1996), BSC is a strategic linkage to four perspectives: financial, customer orientation, internal business processes, and learning and growth.

To ensure enterprise-wide impact and optimising business effectiveness, strategic objectives related to ERM should be in alignment with all four perspectives (Killackey, 2009). Alignment of ERM with the balanced scorecard (BSC) is possible because both are enterprise-wide processes, and so to be most effective they must provide a well-composed perspective across the organisation. Using BSC to align ERM with the business strategy can be performed through setting transparent strategic objectives as a part of a strategy map. This promotes understanding of how ERM – strategies alignment applies to individuals' specific jobs, and encourages the appreciation of what risk management actually means. Consequently, strategy maps and BSC can help risk managers identify existing risks, and ultimately,

align ERM to organisational strategy and drive people to understand their role in holistic risk management process (Killackey, 2009). While most organisations monitor top exposures with KPI, these measures risk events that already impacted the enterprise’s performance. Therefore, Killackey’s (2009) model is considered incomprehensive as it fails to elaborate on more strategic metrics like KRI which can better monitor probable future enterprise-wide portfolio of risks (COSO, 2010). For this purpose, Figure 5a illustrates the classic BSC and Figure 5b adds risk-enhancement to the traditional BSC. KRIs are designed to highlight emerging risks like beacons; their aim is to steer organisations in the desired direction, ensuring robustness of aggregated information, and increasing efficacy of decision making process.

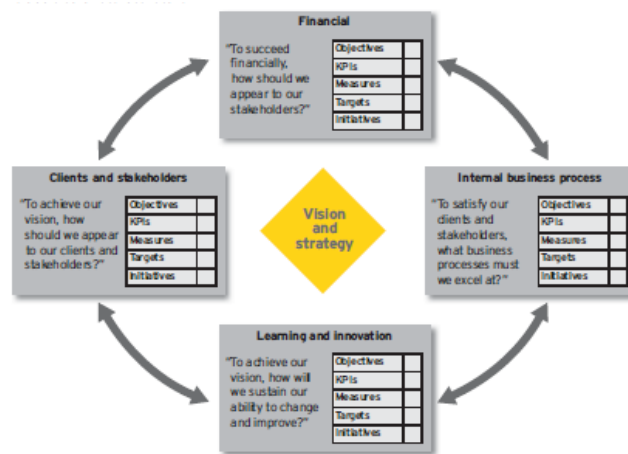


Figure 5a: Classic Balanced Scorecard; Kaplan, Norton (1996).

Figure 5b below shows the rebalanced BSC enhanced with the KRIs. Integrating the risk element into “risk-enhanced” BSC allows intrinsic alignment of risk and performance management (Killackey, 2008). While the key performance indicators (KPIs) on the BSC offer tools to plan, measure and monitor the performance, KRIs allow extending these functions to risk management across the enterprise. KPIs provide insight about events that already affected the enterprise, while KRIs allows senior management take more strategic stance towards uncertainties of the future. Dynamic information flow between the KPI and KRI facilitates an informed decision-making process, especially when senior management needs to re-adjust their strategies (Fraser, 2010). Selection and design of effective KRIs starts with understanding of how risk-related events affect organisational objectives and ultimately, creating linkage of top risks to core strategies to heighten details serving as indicator of emerging risks and potential opportunities (COSO, 2010).

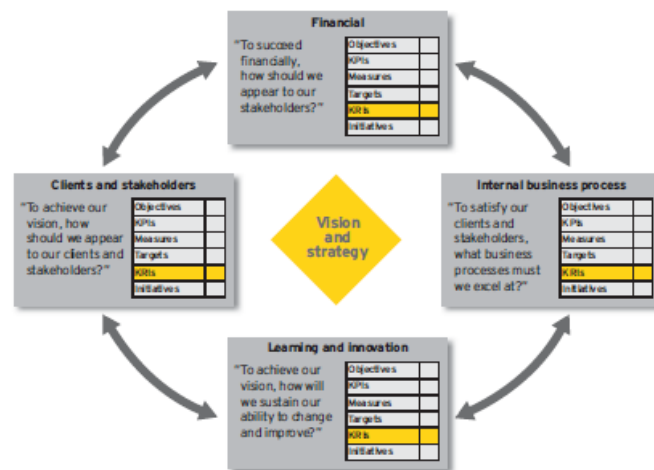


Figure 5b: Balanced Scorecard Enhanced with KRIs; Kaplan, Norton (1996).

Fundamental decisions should not be made in performance context only – the risk element should remain an integral element of the process. A strategy based on performance alone can be compared to a vessel setting out with a compass but without other relevant equipment that can seriously impede reaching the right destination on time. Therefore, the selection of KRIs and the existing KPIs will always be interconnected; evident description of risks and related KRIs in all four BSC perspectives will unify risk culture and reinforce understanding of what risk strategy and appetite were defined and adopted for (Lam, 2006).

The major limitation of all models presented in this paper is the lack of definition of which strategy is considered to be a part of the alignment with ERM, little guidance how it can be implemented successfully at the enterprise level, and no reference to the role of the streamlined IS infrastructure and its integration into strategic ERM practices.

Hence, Kroszner (2008) argues that in this interconnected world it has become essential for business survival that all enterprises progress the alignment between the strategy and risk management. This can be achieved through the development of distinct strategic risk management frameworks (Kroszner, 2008). Additionally, none of the paradigms identified in this paper focused enough on forecasting what can be the potential influence of the external factors, leaving themselves vulnerable to markets' perils. Wack, 1085 explained: *"forecasts are typically wrong when you need them most"* (Wack, 1985). Wack also disputes that uncertainty should not be simply measured but also planned for.

The New Approach Model developed and presented in this paper aims at highlighting the importance of the business strategy in alignment with ERM. The alignment is represented in establishing organisation's vision, mission, and objectives; it should also embrace enterprise-wide culture, policies and initiatives for growth and development, as well as the consolidated IS infrastructure that allows transparent communication flow across key organisational units. IS architecture was illustrated on the New Approach Model as a layer of "crust" allowing key business and risk units to work together and maintain visible communication. Figure 6 illustrates the New Approach Model where ERM as a core mechanism becomes the organisational spiral and links each business unit across the enterprise.

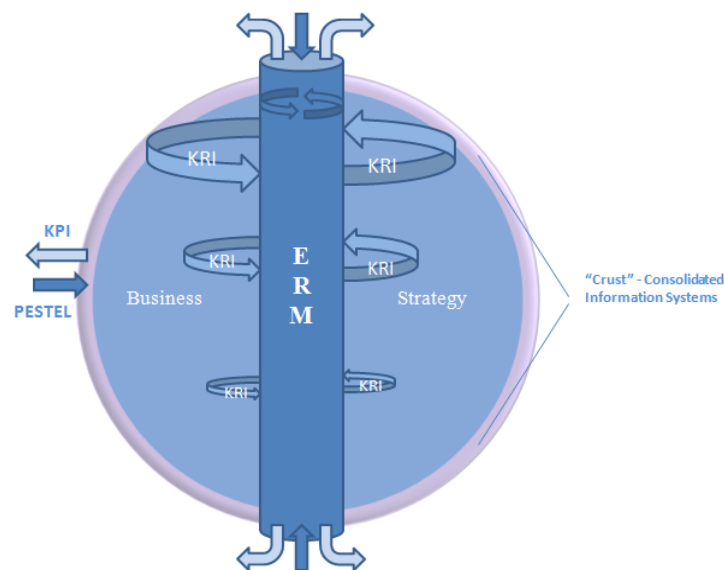


Figure 6: Alignment of ERM with the Business Strategy; Originated by the authors.

There are many factors in the macro-environment that may directly influence senior management's decisions (Gillespie, 2007). Therefore, the New Approach Model recommends that senior management should identify the key factors that can potentially impact the alignment of ERM with the business strategy through an ongoing PESTEL analysis (i.e. both the development and implementation stages are in scope of PESTEL analysis). Business leaders should understand fully that the change is an environment's constant; hence, all the underlying assumptions of ERM and strategy have to be challenged regularly.

The New Approach Model was developed to allow certain degree of flexibility, and ensure that senior management are able to determine the dynamics of the organisational structure based on the most effective strategic alignment. Flexibility offers the management the freedom to decide which of the alignment's dimension will be defined first. There are several techniques the management can use to implement the New Approach Model. The recommended method presents a three step approach, where the sequence of each action can be aligned according to specific organisational requirements. Starting with (1) PESTEL analysis assesses the impact and magnitude of external forces affecting the development and alignment of ERM and the strategy, (2) developing business strategy, and followed by (3) formulating ERM programme based on steps (1 to 3). Alternatively, senior management may decide on which dimension within the alignment will be developed first, and create a unique enterprise-wide approach. In order to maintain a balanced alignment, especially in the environment underlined with constant changes, incessant management's oversight becomes critical.

In parallel to the above steps, KRIs are formulated as critical elements of the strategic risk management alignment. While KPIs provide information regarding past events, crucial KRIs are identified in tandem (e.g. KPI indicates customer's historic delinquencies, KRI informs of potential future customer credit profile that can be addressed in advance). Most importantly, the alignment should utilise KRIs enterprise-wide and simultaneously improve shareholders values by improving business effectiveness.

When the alignment is developed and implemented, establishing common enterprise-wide risk culture becomes critical to avoid any business misinterpretations; simple risk and strategy terminology should be used in communications with all employees (i.e. such misinterpretations may have a direct impact on the implementation). For example, risk misconceptions can prevent management from considering an investment that would have been otherwise accepted as a potential for growth and profit. The alignment should form a corporate mindset, be integrated into personal goals and included into responsibilities on job descriptions. Therefore, the New Approach Model (Figure 6) highlights the prerequisite for developing corporate risk ownership culture, where individuals in each business, regardless of their role, understand the strategic purpose of the organisation, and are included in the ERM education and risk training programmes. Risk activities should be embedded into continuous real time control processes related to identified risks and the strategic breath. Subsequently, risk knowledge sharing systems in the strategic context should become prevalent to cultivate the importance of risk awareness, and promoting the risk mindset.

Henisz (2008) suggests looking at risk through four different lenses: starting from the global perspective and market system, through an industry-specific analysis, and enterprise-specific characteristics. Cross-functional teams of senior management are familiar with the character of industry - , enterprise - , and project level activities, and communicate with other experts to answer fundamental questions:

- 1) What are the risks and opportunities affecting enterprise's profitability?
- 2) How can key decision-makers be inspired to develop cost and profit effective policies?
- 3) How can risk and uncertainties be managed to achieve competitive advantage and establish a winning position in the market?

According to Henisz (2008) answering these questions should be considered a responsibility of all levels of management (Henisz, 2008). Management at all levels should be involved in creating a high-level risk strategy and aligning it with strategic business objectives while organisational structure remains risk oriented and with clearly assigned risk management responsibilities.

Most important contribution of the New Approach Model is to improve business effectiveness, confidence and reputation, help build effective strategic risk management, strengthen processes forecasting the market uncertainties, and preparing for timely risk response with the use of KPIs and KRI. Ultimately, it helps organisational leaders manage the enterprise towards protecting and enhancing shareholders' value. Furthermore, the authors aspire to achieve potential benefits from adapting the New Approach Model that extends to creating best practices by consolidating the fragmented risk procedures, reinforcing transparency and information availability required for effective decision making processes, and results in guiding business strategies and ERM's efforts in the same direction. Aligning ERM resources and processes with business strategy is essential to capitalise on organisation effectiveness, and to focus on what the enterprise wants to achieve in the future rather than where is it today. This quality becomes a critical differentiator in an environment where many organisations re-evaluate their business models and strategies to adapt to recent market dynamics and uncertainties.

5. Conclusions

Over the last decade Enterprise Risk Management (ERM) initiative became one of the core strategic efforts for achieving business objectives and improving overall organisational performance. With increasing complexity of global markets, the implementation of efficient ERM programme is perceived by the authors essential to strengthen organisational effectiveness. However, only through aligning ERM programme with a core business strategy in an environment of the consolidated and well integrated IS, organisations can better respond to market uncertainties and manage the opportunities embedded in challenging events. Introducing a successful ERM approach is a challenge and many organisations struggle to achieve it, mostly due to the lack of comprehensive tools that would facilitate the ERM process. In addition, senior management recognise the value the alignment of ERM and business strategy with the integrated IS architecture can have on an organisation, but practical understanding on how to implement the ERM process comprehensively becomes a difficulty that cannot be easily overcome. Based on literature review, the lack of comprehensive ERM approaches is an underlying assumption for the research problem formulated by the authors. Finally, literature that offers prescriptive guidelines on how to prevail over the potential setbacks around developing an efficient ERM programme is scarce and generic.

The authors followed the research rationale based on the significance of the holistic alignment of ERM and the business strategy with the integrated element of the IS. Motivation behind the research is supported by the lack of comprehensive ERM approaches and the alignments of ERM and business strategy (and integrated IS architecture) in reviewed literature.

Literature review revealed considerable shortcomings of the existing business and risk approaches and exposed gaps that formed a foundation for development of the New Approach ERM Model. The Model emerged from a critical review of some ERM practices, and their alignment (or lack of alignment) with the strategy. It illustrates the mechanism of the holistic alignment of ERM and business strategy and its interconnected nature. The authors attempt to start with a conceptual New Approach ERM Model becoming a unified instrument that facilitates building on a missing link between risk approaches, business strategy, and maintaining transparent IS architecture. With the application of empirical data the New Approach ERM Model could be eventually transformed into a practical Model (i.e. the authors have commenced work on the empirical research complete the conceptual state of the model).

Through the alignment of ERM with the business strategy and IS architecture, the New Approach ERM Model aims to achieve a holistic integration of the risk and strategy, improving organisational effectiveness as well as procedural robustness, and ultimately, enhance shareholders value. Comprehensive strategic alignment also assumes the change of organisational culture and better intra-departmental communication.

In contrast to conventional approaches, the New Approach ERM provides unique flexibility for senior management to determine priority in which the elements of the alignment will be developed i.e. flexibility is considered a unique quality of the New Approach ERM Model not common in observed in other ERM approaches. The new model proposes the architecture of an integrated framework that brings together the previously “siloed” risk activities in an alignment with business strategy and

Information Systems; the model drives a competitive advantage creating opportunities to enhance the shareholder's value by steering business strategy and ERM's efforts in the same direction, in the context of an integrated IS structure. It also allows for a development of the future state of all dimensions of the enterprise-wide alignment, and provides a milieu for setting organisation's risk appetite and risk measures in the long term. The authors intend to source empirical data and pilot the model in a business environment for the purpose of further research.

The model has provided a fundamental baseline for additional research on the alignment of ERM with some broader aspect of strategic management. The implication of corporate strategy in enterprise-wide risk management has been taken into consideration in subsequent studies on the subject. The authors started the research on the consequences and benefits of applying the corporate dimension to the New Approach ERM.

References

- Bansal, P. (2003) 'Enterprise-wide risk management', *The Banker*, February, pp.107-108.
- Beasley, M., Branson, B. and Hancock, B. (2010) 'Are You Identifying Your Most Significant Risks?' *Strategic Finance*, [Online] 92 (5), pp. 29.
- Beasley, M.S. (2010) 'ERM and its Role in Strategic Planning and Strategy Execution', *Enterprise Risk Management: Today's leading research and best practices for tomorrow's executives*. The Robert, W. Kolb Series in Finance, pp.31.
- Bowling, D. and Rieger, L. (2005) 'Success Factors for Implementing Enterprise Risk Management', *Bank Accounting and Finance*, 18(3), pp. 21-26.
- Brodeur, A., Buehler, K., Patsalos-Fox, M. and Pergler, M. (2010) 'A Board Perspective on Enterprise Risk Management, McKinsey Working Papers on Risk, [Online], 18 (2) , pp. 1-22. Available at: http://www.mckinsey.com/~media/mckinsey/dotcom/client_service/Risk/Working%20papers/18_A_Board_perspective_on_enterprise_risk_management.aspx
- Buehler, K., Freeman, A. and Hulme, R. (2008) 'The Risk Revolution - McKinsey Working Papers on Risk', [Online], 1, September ed., McKinsey & Company.
- Burnaby, P. and Hass, S., (2009) 'Ten steps to enterprise-wide risk management', *Corporate Governance*, [Online] 9 (5), p. 539.
- Business Credit, (2007) 'The Conference Board Identifies Emerging Corporate Governance Practices in ERM', *Business Credit*, [Online] 109 (4), pp. 57.
- Campbell, A. and Alexander, M. (1997) 'What's Wrong with Strategy?' *Harvard Business Review*, [Online] 75 (6), pp.42.
- Campbell, A. and Luchs, K.S. (1997) *Core Competency-Based Strategy*. London: International Thomson Business Press.
- Chapman, R. (2006) *Simple Tools and Techniques for Enterprise Risk Management*. Chichester: John Wiley & Sons, Ltd.
- Cokins, G. (2010) 'The Future: Enterprise risk-based performance management', *CMA Management*, 84 (3) pp.24-29.
- COSO, (2009) 'Strengthening Enterprise Risk Management for Strategic Advantage', Available at: http://www.coso.org/documents/COSO_09_board_position_final102309PRINTandWEBFINAL.pdf [Accessed 11th December 2010].
- COSO, (2010) 'Developing Key Risk Indicators to Strengthen Enterprise Risk Management', Available at: <http://www.coso.org/documents/COSOKRIPaperFull-FINALforWebPostingDec110.pdf> pp.1-11, [Accessed 11th December 2010].
- Davis, N., Goerner, S. and Greenberg, E. (2008) 'Shaping strategy in a highly uncertain macro-economic environment', *McKinsey Working Papers on Risk*, 8, December, Available at: http://www.mckinsey.com/client/service/risk/pdf/risk_working_papers/8_Shaping_strategy_in_an_uncertain_macro-economic_environment.pdf [Accessed 15th November 2010].

Francis, S. and Richards, T. (2007) 'Why ERM Matters ... and How to Accelerate Progress', *Risk Management*, 10, pp.28.

Fraser, J. and Simkns, B. (2010) *Enterprise Risk Management*. Hoboken, New Jersey: John Wiley & Sons, Inc.

Friego, M. L. (2008) 'When Strategy and ERM Meet', *Strategic Finance*, January 2008, pp. 45-49.

Gillespie, A. (2007) *Foundations of Economics*. Oxford: Oxford University Press.

Hala, N. (2006) 'Integrating ERM with strategy at Tomkins', *Knowledge Leader*, April 2006, <http://www.knowledgeleader.com/KnowledgeLeader/content.nsf/Web+Content/PerformerProfilesERMPProfileTomkins!OpenDocument>

Henisz, W. (2008) 'Corporate Risk Assessment and Business Strategy: A Prime Task for Senior Management in: Wharton Business School', *Global Issues Corporate Governance, Risk and International Investment*. New York: Oxford University Press.

Hoffman, M. (2009) 'Interest in enterprise risk management is growing', *Business Insurance*, (18), pp. 14.

Killackey, H. (2008) 'The Balanced Approach to Managing Risk', *BI Review Online*, February 2008, [Online] <http://www.information-management.com/bnews/10000828-1.html> pp. 1-2.

Killackey, H. (2009) 'Integrating Enterprise Risk Management with Organizational Strategy', *The RMA Journal*, [Online] 91 (8), pp. 228, http://findarticles.com/p/articles/mi_m0ITW/is_8_91/ai_n45539260/

Kaplan, R. S. and Norton, D. P. (1992) 'The Balanced Scorecard: Measures That Drive Performance', *Harvard Business Review*, [Online] 70 (1), pp. 71.

Kaplan, R. S. and Norton, D. P. (1996) 'Using the Balanced Scorecard as a Strategic Management System', *Harvard Business Review*, 74 (1), pp. 75.

KPMG UK (2008) Audit committees put risk management at the top of their agendas. Available at: <http://www.kpmg.co.uk/news/detail.cfm?pr=3120> [Accessed 12th of February, 2010].

KPMG (2010) Strategic performance management: Driving value from strategy. Available at: <http://www.kpmg.com/NZ/en/IssuesAndInsights/ArticlesPublications/Documents/POV-strategic-PM.pdf> [Accessed 13th of November, 2010] pp. 1-4.

Kroszner, R. (2008) 'Strategic Risk Management in an Interconnected World', *The RMA Journal*, 91, (4), pp. 36
Moody, M. (2009) 'ERM: The Big Picture', *Rough Notes*, [Online] 152 (1), pp. 74. Available at: <http://www.roughnotes.com/rnmagazine/2009/january09/01p074.htm>

Lam, J. (2006) *Emerging Best Practices in Developing Key Risk Indicators and ERM Reporting*. James Lam & Associates, Inc.

Lynch, R. (2003) *Corporate Strategy*. 3rd ed. London: Prentice Hall, Financial Times.

McKinsey (2010) 'Strategic decisions: When can you trust your gut?', *McKinsey Quarterly*, [Online] March, pp. 1-10, Available at: http://www.mckinseyquarterly.com/Strategic_decisions_When_can_you_trust_your_gut_2557 [Accessed February 2011].

- Moody, M. (2009) 'ERM: The Big Picture', Rough Notes, [Online] 152 (1), pp. 74.
- Nocco, B. and Stulz, R. (2006) 'Enterprise risk management: Theory and practice', *Journal of Applied Corporate Finance*, [Online] 18 (4), pp. 1-1.
- Noy, E. and Ellis, S. (200) 'Risk: a neglected component of strategy formulation', *Journal of Managerial Psychology*, [Online] 18 (7), pp. 691 – 707.
- Porter, M.E. (1980) *Competitive Strategy*. New York: Free Press.
- Porter, M.E. (1979) 'How Competitive Forces Shape Strategy', *Harvard Business Review*, [Online], 57 (2), pp. 137.
- Porter, M.E. (1987) 'From Competitive Advantage to Corporate Strategy', *Harvard Business Review*, [Online], 65 (3), pp.43.
- Porter, M.E. 1996. 'What is Strategy', *Harvard Business Review*, [Online], 74 (6) pp. 61.
- Protiviti, (2007) *Enterprise Risk Management in Practice – Profiles of Companies Building Effective ERM Programs*. Available at: http://www.ucop.edu/riskmgmt/erm/documents/protiviti_prctce.pdf [Accessed 17th November 2010].
- Protiviti, (2006) *Guide to Enterprise Risk Management: FAQ*. Available at: <http://www.protiviti.com/layouts/1033/Custom404.html> [Accessed 25th October 2010].
- Roxburgh, C. (2003) 'Hidden flaws in strategy', *McKinsey Quarterly*, [Online] (2), Available at: http://www.mckinseyquarterly.com/Hidden_flaws_in_strategy_1288 [Accessed January, 2011].
- Samuels, D. (2005) 'Using ERM to Competitive Advantage', *The RMA Journal*, October, pp. 48-53.
- Shenkir, W., Walker, P. and Barton, T. (2003) 'ERM in Practice', *The Internal Auditor*, [Online] Aug 2003; 60 (4), pp. 51-56.
- Shenkir, W.G. and Walker, P.L. (2006) 'Enterprise Risk Management and the strategy-risk focused organization', *Cost Management*, [Online] 20 (3).
- Simkins, B. (2008) 'Enterprise Risk Management: Current Initiatives and Issues Journal of Applied Finance Roundtable', *Journal of Applied Finance*, [Online] 18 (1), pp. 115.
- Simkins, B. and Ramirez, S.A. (2008) 'Enterprise-wide Risk Management and Corporate Governance', *Loyola University Chicago Law Journal*, [Online] 39.
- Towers Perrin (2000) 'Enterprise Risk Management - An Analytic Approach'. Available at: http://www.towersperrin.com/tillinghast/publications/reports/Enterprise_Risk_Management_An_Analytic_Approach/erm2000.pdf [Accessed 25th October 2010].
- Wack, P. (1985) 'Scenarios: Uncharted Waters Ahead', *Harvard Business Review*, [Online], 63 (5), pp.72.
- Wilkin, C. and Chenhall, R. (2010) 'A Review of IT Governance: A Taxonomy to Inform Accounting Information Systems', *Journal of Information Systems*, 24(2) pp. 107.