

ENTERPRISE RISK MANAGEMENT: THE REASONS BEHIND ITS RECENT DEVELOPMENT¹

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Emergence of Enterprise Risk Management

Risk management as a formal part of the decision-making processes within enterprises is traceable to the late 1940s and early 1950s. There were two earlier, if limited, strands of risk management practice that have more recently been integrated under the broader concept of enterprise risk management. One of these strands relates to the management of insurance risks and financial risks.

For many years, enterprises have been able to transfer certain types of risks to insurance companies. These transferred risks related to natural catastrophes, accidents, human error or fraud, but as the scope of insurance markets expanded, some types of commercial risks could be transferred, such as credit risks. The existence of these insurance markets forced managers to consider alternatives to the purchase of insurance. Some of these insurable risks could be prevented, or their impact reduced, through efficient loss prevention and control systems and some could be retained and financed within the company. This led to a broader approach to the management of insurable risks.

Since the late 1970s companies have been looking more closely at how they managed various financial risks that they face: currency risks, commodity price risks, interest rates, and credit risks. Financial risk management began, as a formal system, at the same time as the development of financial derivative products: financial futures, options and swaps. This was no coincidence, since investment banks had developed these financial instruments and their associated markets in part to allow their corporate customers to hedge these financial risks. Hence, financial risk management emerged in much the same way as insurance risk management had previously. It was stimulated by the existence of these new financial instruments, which caused management to consider how much of the risks should be retained within the company and

¹ The article is a shortened and updated version of a chapter written by the author in the book 'Risk Management and Innovation in Japan, Britain and the United States' edited by Ruth Taplin and published in 2005 by Routledge, London and New York.

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how much should be offset through these external arrangements. The availability of financial derivatives also forced enterprises to consider more carefully the pricing of risks, how risks could be financed internally, and to assess the value of the additional services supplied by investment banks.

Management also recognised that insurable risks and financial risks should be considered together, since the purchase of insurance and the purchase of derivatives to hedge financial risks performed essentially the same role. This recognition led in the 1990's to the development of new integrated risk transfer and risk securitization solutions that combine both types of risk.

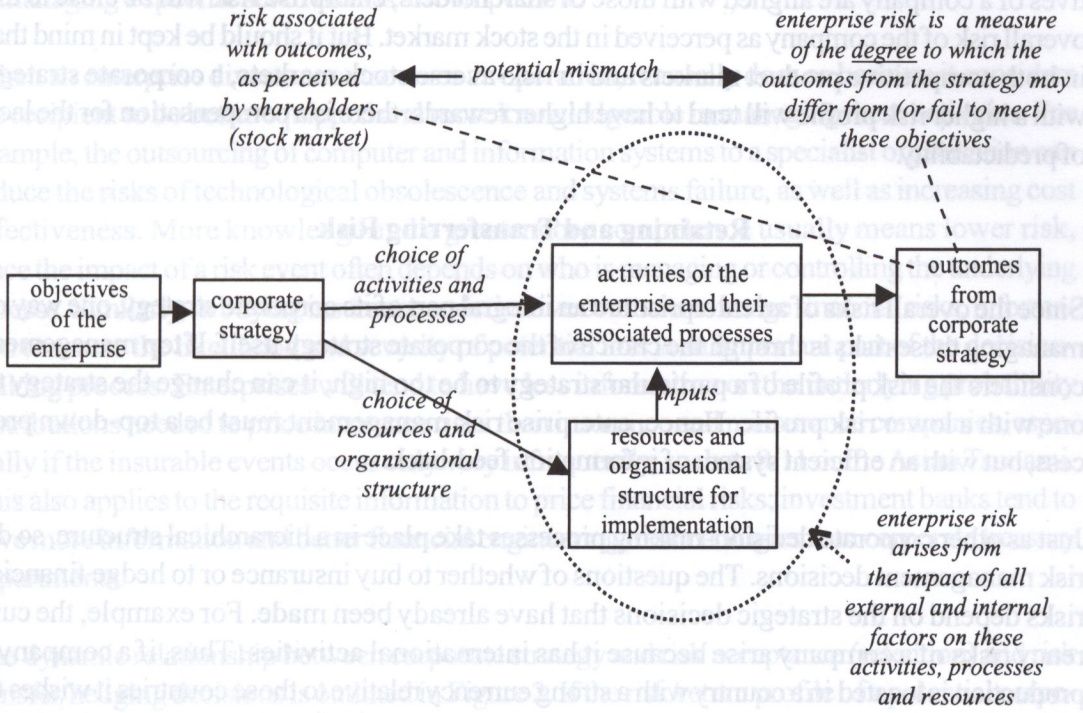
The second strand in the development of a more holistic approach to risk management arose from more general management thinking. Contingency planning had been a part of corporate policy for many years, its purpose being to identify those activities that might be threatened by adverse events and to have systems in place to cope with these events. Business continuation management extended the practice of contingency planning by requiring more comprehensive internal systems. Both contingency planning and business continuation management approaches, however, were limited, since they presupposed that strategic choices had already been made and their role was confined to the effective implementation of these strategies. Enterprise risk management has extended these approaches further so that risk management is now an integral part of corporate strategy formulation as well as implementation.

Defining Enterprise Risk

Enterprise risk is the extent to which the outcomes from the corporate strategy of an enterprise may differ from those specified in its corporate objectives, or the extent to which they fail to meet these objectives (using a 'downside risk' measure). This clearly presupposes that these corporate objectives are realistic targets, and that they are not too ambitious or too easy to achieve. The strategy selected to achieve these corporate objectives embodies a certain risk profile, which derive from the factors that can be expected to impact on the activities, processes and resources chosen to implement the strategy: see Figure 1.

A wide range of external and internal factors can cause the outcomes from a corporate strategy to depart from those set down in its corporate objectives. Some external factors relate to those in the marketplace in which an enterprise operates, such as new entrants into the market, changing consumer tastes or new product developments. Other external factors arise from a wider context, such as changes in the economy, changes in capital and financial market conditions, and changes in the political, legal, technological, demographic and other environments. Most of these are beyond management control, although active risk management requires that there are systems in place to make an enterprise more resilient and adaptable to major changes. Risk management is a dynamic process.

Figure 1 Measuring Enterprise Risk



Another set of factors that can make outcomes differ from those planned arise from within the enterprise itself: human error, fraud, systems failure, the disruption of production and so on. These are increasingly referred to as 'operational risks'. Clearly, management has a greater degree of control over loss producing events that take place within the organisation compared to those that arise outside.

In seeking to assess the impact of a very wide range of external and internal factors on the activities of an enterprise, there must be some simplification to make the task manageable. With the assistance of computer modelling, scenario analysis is increasingly being used to analyze and measure the joint impact of external and internal causes of risk on the enterprise over a planning period. Risk mapping is also being used in order to prioritize the risks that the enterprise faces, so that the risks that could have the greatest impact are given the most management attention.

If one measures enterprise risk in terms of corporate objectives, one has a consistent framework of analysis. But there are also shareholder value models to consider. Shareholder value models specify that the corporate objectives of a company should be coincident with those of shareholders. However, shareholder risk can only be determined indirectly, since it depends on how the stock market perceives and values the riskiness (volatility) of the expected net

cash flows (future earning streams) from a company's activities. When the corporate objectives of a company are aligned with those of shareholders, enterprise risk will be close to the overall risk of the company as perceived in the stock market. But it should be kept in mind that in both competitive product markets and in risk-averse stock markets, a corporate strategy with a higher risk profile will tend to have higher rewards: there is a compensation for the lack of predictability.

Retaining and Transferring Risk

Since the overall risks of an enterprise are an integral part of its corporate strategy, one way of managing these risks is through the choice of the corporate strategy itself. If top management considers the risk profile of a particular strategy to be too high, it can change the strategy to one with a lower risk profile. Hence, enterprise risk management must be a top-down process, but with an efficient system of information feed-back.

Just as other corporate decision-making processes take place in a hierarchical structure, so do risk management decisions. The questions of whether to buy insurance or to hedge financial risks depend on the strategic decisions that have already been made. For example, the currency risks of a company arise because it has international activities. Thus, if a company's production is located in a country with a strong currency relative to those countries it wishes to export to, one way of managing these currency risks is by relocating its production facilities.

Most of the risks that an enterprise faces cannot be insured or hedged, and so they must be retained and financed internally. Other mechanisms also exist for reducing risk, apart from the purchase of insurance and hedging with financial derivatives. Legal mechanisms are one of these, as some risks from commercial activities can be restricted through the use of corporate vehicles by exploiting their limited liability status. Large-scale projects and major real estate developments are often structured this way. Similarly, most risk securitization arrangements exploit the risk reduction benefits of limited liability through the use of special purpose vehicles.

Divestment of corporate activities and the outsourcing of operating functions provide other mechanisms for risk transfer. But unlike insurance, hedging or legal mechanisms, divestment or outsourcing represent a transfer of a commercial activity itself, and not just the risks embedded in these activities.

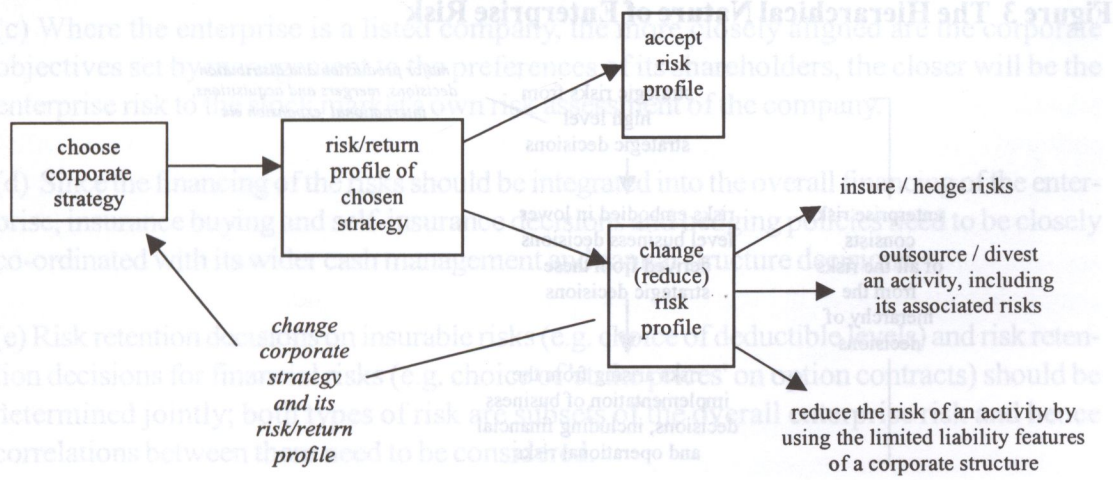
Decisions on how much insurance should be bought, how much of the financial risks that are faced should be hedged, or the degree of divestment and outsourcing that might take place will be largely determined by a few key considerations. The scale of potential loss or, more precisely, the greater the potential adverse impact on the attainment of corporate objectives, the greater will be the management's preference for risk transfer rather than risk retention. Decisions on the balance between risk retention and risk transfer will not just be related to

their scale of impact. The degree of information and competence that the enterprise possesses in managing a specific set of risks is also important.

When an enterprise divests or outsources an operation, it usually does so because it considers the recipient to be better equipped and more knowledgeable in managing these activities. For example, the outsourcing of computer and information systems to a specialist organisation can reduce the risks of technological obsolescence and systems failure, as well as increasing cost effectiveness. More knowledge and a greater core competence usually means lower risk, since the impact of a risk event often depends on who is managing or controlling the underlying process. Similarly, in buying insurance or derivative contracts to hedge financial risks, information to assess the likelihood and severity of potential loss is an important part of the decision-making process. Enterprises will tend to have less information on the underlying probability distributions needed to price insurance risks than insurance and reinsurance companies, especially if the insurable events occur only very infrequently, such as 9/11 or the Asian Tsunami. This also applies to the requisite information to price financial risks; investment banks tend to have more information and better financial engineering methodologies than corporate treasury departments.

The dynamic relationship between corporate strategy and risk acceptance (retention) and risk transfer/hedging decisions is outlined in Figure 2. If the risk/return profile of a potential corporate strategy is not in line with what management considers its shareholders, and other key stakeholders, would prefer, it can follow one of two major courses of action. It can retain its chosen strategy and seek to change its attendant risk/return profile through the purchase of insurance, hedging of financial risks, outsourcing some the activities associated with the implementation of the strategy, and/or the use corporate structures which exploit the risk reduction features of limited liability. Alternatively, management can change the risk/return profile by

Figure 2 Strategy, risk retention and risk transfer



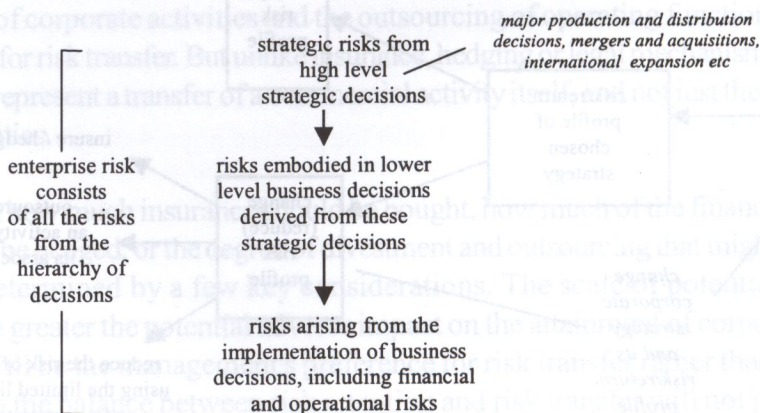
changing the corporate strategy itself. Because managing the risk through a change in corporate strategy is a high level decision, risk management must be a top-down process to be fully effective.

Enterprise Risk and Risk Hierarchies

Much attention has been devoted in the theory and practice of enterprise risk management to analysing risks in terms of: (a) their underlying causes; (b) the likelihood and severity of their impact; and (c) the degree to which risk events are within the control of management or not. But there has been insufficient attention paid to the hierarchical nature of risks within an enterprise. The importance of recognising the risk hierarchies arises from two main factors. First, risks are an integral part of an organisation's decisions and activities. Secondly, corporate decisions and activities are themselves hierarchical in nature. Strategic level decisions give rise to a sequence of lower level planning and implementation decisions. For example, an enterprise may decide to pursue a greater degree of international diversification to meet its corporate objectives. Such a strategic decision will entail choosing a set of activities in a select number of countries. This strategic-level decision will in turn give rise to a sequence of products, production and distribution decisions. How these product, production and distribution processes are to be financed is an even lower level decision in the hierarchy. Within an efficient organisation, the hierarchy of decisions will be considered jointly prior to the final commitment to a given strategy, but in many cases lower level decisions can only be realistically taken at a later stage when a strategy is being implemented.

In general, higher level decisions not only set the agenda for lower level decisions but they also determine their time sequencing. Hence higher level decisions impose a potential constraint or conditionality on lower level decisions. Sound management practice will seek to reduce these constraints by thinking through the details of the implementation of a strategic decision in

Figure 3 The Hierarchical Nature of Enterprise Risk



advance and by putting in place effective information feed-back and reporting mechanisms to reduce any significant costs from these constraints. Thus enterprise risk management should be viewed as managing the whole hierarchy of risks: from higher-level strategic risks through to lower level risks, such as financial and operational risks. Greater emphasis needs to be placed in designing an enterprise risk management policy by mapping risks onto decision hierarchies. This will ensure a greater consistency with strategic management and its implementation, of which enterprise risk management forms an integral part.

Some General Propositions on Enterprise Risk Management

This broader concept of enterprise risk management also gives a clearer positioning on how insurable risks and treasury or financial risks should be viewed within the organisation. Insurable risks and financial risks are both sub-sets of enterprise risk. Hence, if there were no insurance markets and no derivative markets or other hedging mechanisms, all the risks that an organisation faces would be enterprise risks, since they arise as a consequence of the activities that it undertakes.

We can summarise the above and our earlier discussion on enterprise risk into the following propositions:

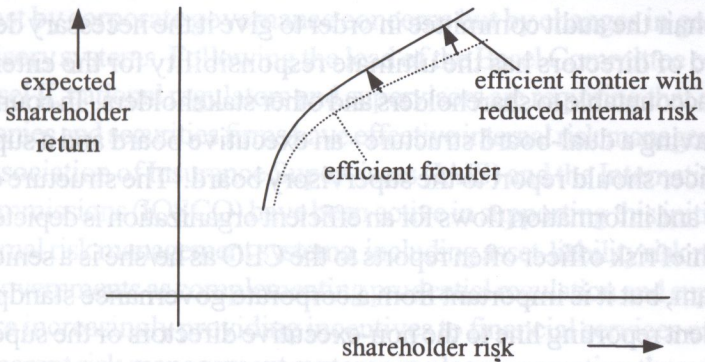
- (a) Enterprise risk is embodied within the corporate strategy of an enterprise (i.e. its choice of corporate activities and its choice of the resources and organisational structure to implement these activities) within the context of the uncertain environments in which it operates.
- (b) Enterprise risk can only be effectively measured in terms of corporate objectives. The degree of risk is the extent to which the actual outcomes from the activities of an enterprise differ from (a variance concept of risk) or fail to meet these corporate objectives (a 'downside' concept of risk).
- (c) Where the enterprise is a listed company, the more closely aligned are the corporate objectives set by management to the preferences of its shareholders, the closer will be the enterprise risk to the stock market's own risk assessment of the company.
- (d) Since the financing of the risks should be integrated into the overall financing of the enterprise, insurance buying and self-insurance decisions and hedging policies need to be closely co-ordinated with its wider cash management and capital structure decisions.
- (e) Risk retention decisions on insurable risks (e.g. choice of deductible levels) and risk retention decisions for financial risks (e.g. choice of 'strike prices' on option contracts) should be determined jointly; both types of risk are subsets of the overall enterprise risk and hence correlations between them need to be considered.

Enterprise Risk Management and Creating Shareholder Value

For companies, especially companies listed on stock markets, a key issue is how to relate enterprise risk to shareholder risk. It was noted above that when the corporate objectives of a company are aligned with those of its shareholders, enterprise risk will be close to the risk that is perceived by its shareholders. This risk will not be exactly the same as that perceived by shareholders, since company management can only know approximately the risk perceptions and risk preferences of its shareholders, or indeed the collective view of all existing and potential shareholders within the wider capital market. But by defining corporate objectives close to what management think the preferences of their shareholders are, this mismatch will be reduced. Hence management is much more likely to reduce this mismatch when its overriding corporate objective is to earn a rate of return on its equity capital which is at least as high as the rate of return that its shareholders could earn on alternative investments for the same level of capital market risk (i.e. the cost of equity capital).

The dynamics of risk management must also be considered. Capital market theories often assume that the corporate strategies of companies can be captured within a risk-return framework, where the overall risk (enterprise risk) is considered to be mainly outside the control of management. A corporate strategy is chosen by a company within a set of environments and it is these environments that determine the risk-return profile of the strategy. In other words, management can choose a strategy from a number of feasible strategies, each having a different risk-return profile, but the expected risk-returns on these different strategies are largely outside the control of management. This is true to a large degree, as management cannot influence changes in the economic, socio-political, technological, commercial or other external environments that will largely determine the degree to which its corporate objectives are fulfilled. In the same way, the captain of a ship cannot control the sea and weather conditions that could occur on a particular journey and hence ensure that the ship arrives at its destination on time. In practice, however, some risks are within the control of management, especially those arising from human actions within the enterprise itself, including operational risks. Management can reduce some of these risks in advance or can reduce their impact if an adverse event should arise. Just as a good ship captain can take action during a journey to avoid hazards that will slow down the journey, and indeed prevent the ship from sinking. This ability of company management to reduce risk is not adequately recognised in capital market theory. Thus a sound enterprise risk management system can reduce shareholder risk without reducing expected shareholder returns, providing the costs associated with risk prevention and containment are not too high. When this occurs, shareholder value is created. This gain to shareholders is depicted in Figure 4 in terms of a shift in the efficient investment frontier that they face.

Figure 4 Improvement in the Efficient Investment Frontier facing Shareholders



Organising the Function of Enterprise Risk Management

How should enterprise risk management fit within an organisational structure? Since enterprise risk management must be a top-down process, the chief executive and the senior executive team should determine the parameters for the policies and the organisational structure for its effective implementation. At the same time, there must be information feed-back from those closest to the sources of risk, so that senior managers are well-informed when formulating their overall risk policy. In addition, management must delegate some responsibility to those closest to where the risks are likely to impact so that early action can be taken to prevent a small problem growing into a larger one.

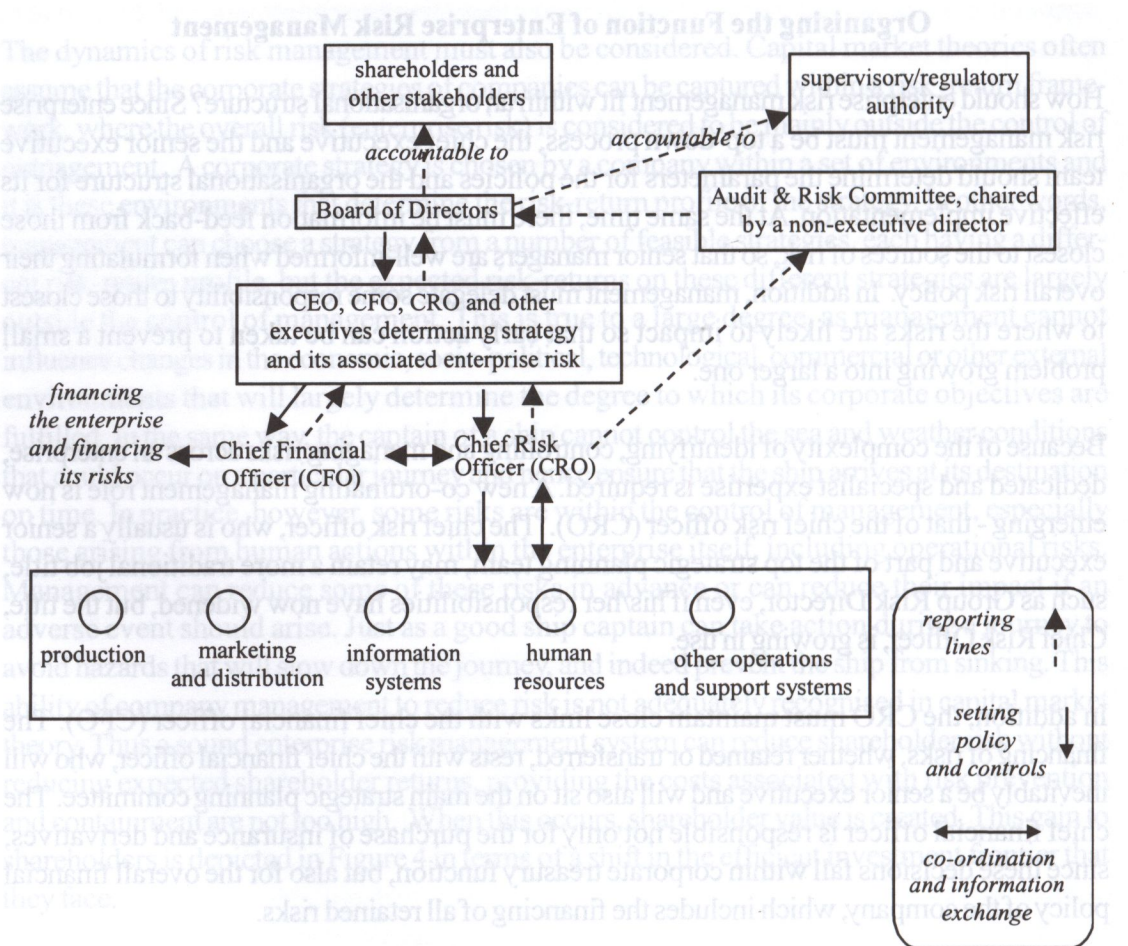
Because of the complexity of identifying, controlling and managing risks across an enterprise, dedicated and specialist expertise is required. A new co-ordinating management role is now emerging - that of the chief risk officer (CRO). The chief risk officer, who is usually a senior executive and part of the top strategic planning team, may retain a more traditional job title, such as Group Risk Director, even if his/her responsibilities have now widened, but the title, Chief Risk Officer, is growing in use.

In addition, the CRO must maintain close links with the chief financial officer (CFO). The financing of risks, whether retained or transferred, rests with the chief financial officer, who will inevitably be a senior executive and will also sit on the main strategic planning committee. The chief financial officer is responsible not only for the purchase of insurance and derivatives, since these decisions fall within corporate treasury function, but also for the overall financial policy of the company, which includes the financing of all retained risks.

Corporate governance standards now require boards of directors to develop more clearly defined risk audit functions, including an overview of their top management teams. This high-

level risk audit function is often an additional responsibility for the audit committee of the board of directors. Since executive directors themselves have to be monitored, a non-executive director should chair the audit committee in order to give it the necessary degree of independence. The board of directors has the ultimate responsibility for the enterprise risk of the company, being accountable to shareholders and other stakeholders. In countries where there is a practice of having a dual-board structure - an executive board and a supervisory board - the chief risk officer should report to the supervisory board. The structure of reporting, risk policy guidelines and information flows for an efficient organization is depicted in the Figure 5. In practice, the chief risk officer often reports to the CEO as he/she is a senior member of the top executive team, but it is important from a corporate governance standpoint that there is also an independent reporting line to the non-executive directors or the supervisory board.

Figure 5 Enterprise Risk Management and its Organizational Setting (for Company with a Unitary Board of Directors)



Recently, there has been a discernible increase in the number of appointments of chief risk officer in banks, insurance companies and other financial services firms. This increase has been prompted not just by corporate governance concerns but by changes in government regulatory and supervisory systems. Following the lead of the Basel Committee on Banking Supervision under Basel II, national regulators and supervisors are requiring that directors of banks, insurance companies and securities firms have effective internal risk management systems. The International Association of Insurance Supervisors (IAIS) and the International Organisation of Securities Commissions (IOSCO) have been active in supporting this initiative by the Basel Committee. Internal risk management systems, including asset-liability risk management models, are seen by governments as complementing prudential regulation and supervision systems. Governments are increasingly providing incentives to financial services enterprises to have sound and transparent risk management systems in place by granting them less stringent solvency and capital adequacy benchmarks. While the ultimate responsibility for the risk management must rest with the board of directors, the CRO is now being given not only the overall functional responsibility for the enterprise risk management system but also some liaison role with the supervisory authorities.

Summary

Enterprise risk management has been strengthening its position within the strategic planning process over the last decade. Following a number of high-profile corporate failures and preventable large losses, the scope of corporate governance has now widened to embrace all the significant risks that an enterprise assumes. Directors are now increasingly required to report on their internal risk control and compliance systems. This is either through voluntary codes, such as the Combined Code of the UK Listing Authority, or by legislation, as in Germany through the 'Control and Transparency in Entities' Law. In the United States, the Sarbanes-Oxley Act (2002) and the new Enterprise Risk Management Framework issued by COSO (the Committee of Sponsoring Organisations of the Treadway Commission) published in 2004 extends the scope of corporate governance even more widely.

In this new corporate governance environment, boards of directors and executive management now have the incentive to ensure that there is top level support and adequate financial resources available to ensure that their overall risk management systems are fully effective. For financial services firms, changes in regulatory and supervisory regimes, arising from the three Pillars structure of Basel II, is giving enterprise risk management a further stimulus; there is a requirement that financial services firms have effective enterprise risk management systems under Pillar 2, and a further requirement under Pillar 3 that they have an adequate disclosure and reporting of risks.

The challenge will be to find the individuals with the right blend of skills to assume these enhanced responsibilities. Individuals will have to possess a good understanding of corporate

strategy, finance, law, and the complex operating processes within the organisation, as well as an ability to communicate well, both inside and outside the enterprise.

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by which every insurer is required to appoint a compliance officer and henceforth to operate a compliance department. According to the Insurance Act (No. 10000, since then the Korean insurance industry has witnessed efforts to improve its ethical behavior. Almost every insurer in Korea has adopted a code of ethics and for the most part, ethics training programs are in operation. Alien or large insurers tend to be ahead in ethics management compared to domestic and small insurers.

Globally speaking, the insurance industry has long experienced an image problem and a lack of trust, which largely results from the complex nature of insurance services (Eastman et al, 1996). The purpose of this paper is to investigate the ethical issues and hindrances to ethical behavior faced by professionals working in the Korean insurance industry. For this purpose, a survey was conducted of actuaries in a variety of positions in insurance companies and insurance related institutions. The findings are then compared to those of American studies. Features/patterns of the key ethical issues tend to be restricted to actuarial aspects such as insufficient legal authority to perform professional services in an ethical manner and failure to receive an adequate ethics training program. But some issues arising in working are considered significant similar to the US. As a whole, key ethical issues and challenges are not significantly different from the view points of actuaries working in the life and non-life insurance business. Regarding key hindrances to ethical behavior, 12 factors are presented such as competitive pressures, performance-based evaluation and unethical demands made by clients. These findings are generally similar to those of the US studies.

In this context, this paper first attempts to investigate the ethical behavior facing the Korea insurance industry. For this purpose, a survey was conducted of actuaries in a variety of positions in insurance companies and insurance related institutions. Further, the authors also attempt to make a comparison with professional conduct of business as an important source of corporate competitiveness. For instance, bankruptcies of Enron, World Comm and Daewoo Group vividly point out the importance of trust in doing business. In Korea, in particular, companies have become aware of the ethical aspect of business since the financial crisis of 1998 and now they tend to see business ethics as a necessary factor for survival and growth. In this context, Korean companies have made various attempts to increase the level of business ethics such as promulgation of a code of ethics training and the issuance of a 'business ethics professional designations corresponding with ChFCs, CLUs, CPCUs. In order to be designated as an actuary or a claim adjuster, candidates must pass a series of examinations. This is a version of an article which appeared in Journal of Insurance Studies, Korea Insurance Development Institute, 2003 March, Vol. 17, No. 1, pp. 17-30.