ENTERPRISE WIDE RISK MANAGEMENT - THE NEW FRONTIER

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Abstract

The Study of practices and theories of risk management and the classic definition of risk which defines it as uncertainty of loss, shows that the risk management discipline, as it has grown and now stands, is a Faculty where in phenomenon of risk has to be controlled in the principle of enterprise itself and wherein profit has to be made from the management of uncertainty. At present, many risk management programs attempt to provide a level of assurance that the most significant risks are identified and managed. However, they frequently fall short in aggregating and evaluating those risks across the enterprise from a strategic perspective. The emerging concept of Enterprise risk management provides an effective window where in all perspectives of risks emerging out of various situations and scenarios are integrated and comprehended in totality. Effective enterprise risk management represents a sophisticated, full-fledged management discipline that links risk to shareholder value and correlates with the complexity of the organization and the dynamic environments in which it operates. This paper studies in depth the evolution of Risk management, it's role in the contemporary scenario and how the concept of Enterprise Risk management is revolutionizing the discipline of Risk management.

Keywords: Risk, Risk Management, Basel II & III, ERP, SAP

1. Introduction to Risk & Risk Management

Since time immemorial, human beings have tried to manage risks faced in their day-to-day life. Keeping inflammable material away from fire, saving for possible future needs, creation of a legal will are all examples of attempts at managing risk.

Jorion Philippe (9) says that Risk is the possibility of the actual outcome being different from the expected outcome. It includes both the downside and the upside potential. Downside potential is the possibility of the actual results being adverse compared to the expected results. On the other hand, upside potential is the possibility of the actual results being better than the expected results.

Webster's dictionary defines risk as "the possibility of something unpleasant happening or the chance of encountering a loss or harm". In the context of financial manager, risk basically means the uncertainty of future cash flows.

Reto R Gallati (20) - a renowned academician defines Risk as "A condition in which there exists an exposure to adversity."

Other definitions include the restriction that risk is based on real world events, including a combination of circumstances in the external environment. At the same time experts say that risk should not be defined within this limitation. Potential risks that might occur in the future are excluded. In addition, we do not limit the range of risk to circumstances in the external environment. Many crises in the economy and the financial services industry happen because of problems within organizations. These often have to do with problems in the human resource area, which belong to the realm of the behavioral sciences. Also risk is linked to the possibility of deviation. This means that the possibility of risk can be expressed as a probability, ranging from 0 to 100 percent. Therefore, the probability is neither impossible nor definite. This definition does not require that the probability be quantified, only that it must exist. The degree of risk may not be measurable, for whatever reason, but the probability of the adverse outcome must be between 0 and 100 percent. Another key element of the definition is the "deviation from a desired outcome that is expected or hoped for." The definition does not say how such an undesirable deviation is defined. There are many ways of building expectations. By projecting historical data into the future, we build expectations.

The definition of expectations is the absolute key in the concept of risk, as it is used to define the benchmark. Any misconception of the expectations will distort the measurement of risk substantially. Many definitions of risk include the term adverse deviation to express the negative dimension of the expected or hoped-for outcome. This term, implies that risk exists only with adverse deviations, which must be negative and thus are linked to losses. Such a restriction would implicitly exclude any positive connotations from the concept of risk.

Thus after analyzing we find that risk has two sides, which both have to be included in the definition, and that risk itself has no dimension, negative or

positive. Therefore defining risk appropriately is very important for an organization, because it is this very key step by which the risk which an organization faces can be summed up and hence then only steps for its resolution can be taken- Dowd Kevin (6).

Although the terms risk and uncertainty are often used interchangeably, they are in fact not synonymous. There is a clear distinction between certainty, uncertainty and risk. Certainty is the situation where it is known what will happen and the happening or non-happening of an event carries a 100% probability.

Risk is the situation when there are a number of specific, probable outcomes, but it is not certain as to which one of them will actually happen. Uncertainty is where even the probable outcomes are unknown. It reflects a total lack of knowledge of what may happen.

Risk is not an, abstract concept. It is a variable which can be calibrated, measured and compared. The degree of risk attached to an event is generally linked to the likelihood of the occurrence of that event. The higher the probability of the actual outcome being different from the expected outcome, the higher is the risk attached to the event.

1.1 Risk management - Historical Overview

Brigham and Ehrhardt (3) explain that Risk management: In a broad sense, it is the process of protecting one's person or organization in terms of assets and income. In the narrow sense, it is the managerial function of business, using a scientific approach to dealing with risk. As such, it is based on a distinct philosophy and follows a well-defined sequence of steps.

Dowd Kevin (6) explains that the process of financial risk management can be defined as minimizing exposure of a firm to market risk and credit risk using various financial instruments. Financial risk managers also deal with other risks related to foreign exchange, liquidity, inflation, non-payment of clients and increased rate of interest. Market Risk Management deals with different types of market risks, such as interest rate risk, equity risk, commodity risk, and currency risk. Credit Risk Management Deals with the risk related to the probability of nonpayment from the debtors. Quantitative Risk Management makes an effort to numerically ascertain the possibilities of the different adverse financial circumstances to handle the degree of loss that might occur from those circumstances. Commodity Risk Management handles different types of commodity risks, such as price risk, political risk, quantity risk and cost risk. In the contemporary world the focus is to manage all the risks comprehensively both from micro and macro perspectives and then evaluate the impact on the entire enterprise Vis-a-Vis the industry scenario .This is often coined as Enterprise wide risk Management.

Risk management is an important part of planning for businesses. The process of risk management is designed to reduce or eliminate the risk of certain kinds of events happening or having an impact on the business.

Risk management is a process for identifying, assessing, and prioritizing risks of different kinds. Once the risks are identified, the risk manager will create a plan to minimize or eliminate the impact of negative events. A variety of strategies are available, depending on the type of risk and the type of business. There are a number of risk management standards, including those developed by the Project Management Institute, the International Organization for Standardization (ISO), the National Institute of Science and Technology, and actuarial societies.

Oldfield George S and Santomero Anthony M (17) assert that the idea behind using risk management practices is to protect businesses from being vulnerable. Many business risk management plans may focus on keeping the company viable and reducing financial risks. However, risk management is also designed to protect the employees, customers, and general public from negative events like fires or acts of terrorism that may affect them. Risk management practices are also about preserving the physical facilities, data, records, and physical assets a company owns or uses.

Better use of modern risk measurement methodologies and technology can give your organization the ability to do more business under existing risk limits, if those limits were computed based upon a conservative estimation of risk. They also facilitate the ability to make better business decisions based upon a single picture of risk, and the ability to deal with a quicker risk limit check. Having a risk management plan, is an important part of maintaining a successful and responsible company. Every company should have one. It will help to protect people as well as physical and financial assets. The term risk management is a recent creation, but the actual practice of risk management is as old as civilization itself.

1.2 Evolution of Risk Management

Ralph H Blanchard (19) said in his path breaking paper that "Risk management is an evolving

concept and has been used in the sense defined here since the dawn of human society. As previously mentioned, risk management has its roots in the corporate insurance industry".

The earliest insurance managers were employed at the turn of the twentieth century by the first giant companies, the railroads and steel manufacturers. As capital investment in other industries grew, insurance contracts became an increasingly significant line item in the budgets of firms in those industries, as well. In 1955 Wayne Snider, professor of insurance at Temple University, suggested that since insurance managers were now focusing on risks and ways to control them, rather than merely purchasing insurance, they should be called risk managers. It would be mistaken to say that risk management evolved naturally from the purchase of insurance by corporations.

The emergence of risk management as an independent approach signaled a dramatic, revolutionary shift in philosophy and methodology, occurring when attitudes toward various insurance approaches shifted. One of the earliest references to the risk management concept in literature appeared in 1956 in the Harvard Business Review. In this article, Russell Gallagher (21) proposed a revolutionary idea, for the time, that someone within the organization should be responsible for managing the organization's pure risk: The aim of this article was to outline the most important principles of a workable program for "risk management"-so far so conceived, even to the extent of putting it under one executive, who in a large company might be a full-time "risk manager."

Mark S Dorfman (14) said that within the insurance industry, managers had always considered insurance to be the standard approach to dealing with risk. Even though insurance management included approaches and techniques other than insurance (such as noninsurance, retention, and loss prevention and control), these approaches were considered primarily as alternatives to insurance.

But in the current understanding, risk management began in the early 1950s. The change in attitude and philosophy and the shift to the risk management philosophy had to await management science, with its emphasis on cost-benefit analysis, expected value, and a scientific approach to decision making under uncertainty.

New courses such as operations research and management science emphasize the shift in focus from a descriptive to a normative decision theory. Markowitz (15) was the first financial theorist to explicitly include risk in the portfolio and diversification discussion. He linked terms such as return and utility with the concept of risk. Combining approaches from operations research and mathematics with his new portfolio theory, he built the basis for later developments in finance.

This approach became the modern portfolio theory, and was followed by other developments, such as Fischer Black's option-pricing theory, which is considered the foundation of the derivatives industry. In the early 1970s, Black and Sholes made a breakthrough by deriving a differential equation which must be satisfied by the price of any derivative instrument dependent on a non dividend stock. This approach has been developed further and is one of the driving factors for the actual financial engineering of structured products.

In the 1961 edition of the book "Insurance, Its Theory and Practice in the United States", author Ralph Blanchard , retired professor of insurance at Columbia University, proposed that the field of risk management is that of "pure risks," meaning risks offering the possibility of loss or no loss, as contrasted with "speculative risks," which offer the chance of loss or gain and are the domain of entrepreneurs, boards of directors and CEOs.

Being clear-cut, brief and of respected authorship, the "pure risk" term came into use, particularly when it could be used to explain the risk management discipline to laypersons. The development from insurance management to risk management occurred over a period of time and paralleled the evolution of the academic discipline of risk management.

McNeil and Frey (16) insist that Operations Research seems to have originated during World War II, when scientists were engaged in solving logistical problems, developing methodologies for deciphering unknown codes, and assisting in other aspects of military operations.

Thus the period from the mid-1960s to the present has been one of new challenges. The risks that result from scientific research and engineering inventions, notably the risks of space exploration and of computers have increased. Developments in the law of liability, especially professional liability and that of auditors and corporate directors and officers have gained importance; and matters of more detail, such as the laws, the risk manager ought to know in order to collaborate with defense counsel in the minefield of liability suits have also risen.

Risk managers have responded actively and creatively to these challenges. Captive insurers have multiplied and methods of loss financing alternatives to insurance have been tested. By their response to the challenges during this formative period, risk managers gained direction and form for their job, including line authority over insurance and staff authority in loss prevention, risk avoidance and contractual risk transfer.

They developed the basic discipline of special knowledge and skill that would constitute risk management as a distinct function, and they set up organizations that would sustain and advance the function and help giving it visibility in academic, government and press circles.

Anthony Saunders and Marcia Cornett (1) explain that there have been extensive developments in risk management education - including university courses - and some risk managers have been promoted to division-head level, sometimes with added duties. There is no pre-ordained concept of risk management; no legislation or regulation defines it and thereby fixes its field or its action.

Its protagonists are the people known as risk managers, and they have developed the function through their initiative and creativity. In the process they have occasionally been helped by theory, but never deterred by it. In brief, risk management means what risk managers do.

It appears that in the industry and in the academic discipline the development happened simultaneously, but without question the academic discipline produced valuable approaches, methodologies, and models that supported the further development of risk management in the industry.

1.3 Risk management and the need to maintain Risk at desired level

Corporate risk management refers to the process of a company managing its risks at an acceptable level. It is a scientific approach to deal with various kinds of risks faced by a corporate. According to Mark Dorfman, (14) risk management is "the logical development and execution of a plant to deal with potential losses". It is a dynamic process which changes according to the evolving scenario. The aim of risk management is to maintain overall and specific risks at the desired levels, at the minimum possible cost.

Though it is a fact that risk includes both the upside and the downside potential, generally the upside is acceptable, and even desired. Hence, corporate risk management generally attempts to manage the possibility of profits being lower than expected. In fact, there are tools like options that help in managing the downside risk while retaining the upward potential. However, a part or while of the upward potential may sometimes need to be foregone in order to manage the downward potential in a cost effective manner. There is a misconception that the goal of risk management is the complete elimination of risk. In reality, risk management aims at ensuring that risk remains at a desired and acceptable level, or within an acceptable range.

Complete elimination of risk can take place only when no business activity is undertaken. In fact, the return earned on government securities, which is generally referred to as the risk-free rate of return, is also not free from risks. The only aims at bringing the risk to a level that is in line with the returns expected to be generated by the investment. A s the factor affecting risk change continuously, the risk faced by a firm also changes. Therefore, a company needs to continuously evaluate its risk level and make an attempt to bring it to the targeted level.

For the purpose of risk management, risks need to be classified as primary risks and secondary risks. Primary risks are those that are an essential part of the business undertaken. Secondary risks are those that arise out of the business activities, but are not integrally related to them. For example, the risks arising out of the industry structure are primary in nature, foreign currency exposure arising due to exports are secondary in nature. To a large extent, primary risks have to be borne in order to generate cash flows. They can be covered only partly. Unlike primary risks, secondary risks can be covered to a large extent, and only a part of them are unavoidable. This distinction becomes very important while deciding on the risks to be covered.

Further, it is generally observed that when a firm faces a high degree of primary risk, it can bear less of secondary risk. A firm having a low degree of primary risk may be able to bear higher secondary risk, depending on the management's risk bearing capacity. Traditional theories hold that the possibility of profit is the reward for taking risk. Still, the actual occurrence of the possible loss, which the presence of risk implies is not always welcomed by the party taking on the risk. In addition to the financial loss itself, there are a number of factors that make risk undesirable. The presence of risk induces the investor in the risky venture to demand a higher rate of return on his investment. This ultimately translates into a higher cost of goods and services produced by the

investment. There may be situations where a high expected return may be accompanied by a very high expected variance, thus making an otherwise attractive opportunity unacceptable. The presence of risk may also warrant keeping aside some cash for the bad times. As this cash cannot be invested in any security other than a highly liquid one, it involves opportunity cost. This cost may turn out to be quite high in some cases. These factors give rise to the need to manage risks.

There are two schools of thought regarding the needs to manage unsystematic risk. Traditional financial theory states that the market rewards only the systematic risk faced by firm. As the unsystematic risk can be diversified away, the market does not compensate the investors for bearing it. So, the presence of unsystematic risk does not increase the cost of capital for a firm. Thus, it is argued, a firm is not required to manage its unsystematic risks, as the costs involved reduce the return on investment, without reducing the cost of capital. This argument, however, does not take into consideration the indirect effect of unsystematic risk on the cash flows of a firm. A firm having a high degree of systematic risk, faces reduced confidence of the various stakeholders, i.e., the suppliers, the customers, the employees. As the suppliers feel that their payments are at risk, they either do not extend credit to the firm,, or hike up the price of their supplies to make up for the increased risk. The customers do not show interest in buying the firm's products. This happens due to the perception that a risky firm is likely to cut down on its products' quality. Another reason for lack of consumer interest is that bankruptcy of the firm (which is highly probable for a firm facing a high degree of risk) would result in the lack of spare parts and after sales services for the firm's products. At the same time, the firm's employees also demand a higher compensation because of the higher possibility of them losing their source of earnings. All these factors result in the firm's operating cash flows falling down. - Mark Hirschey et Al (13)

Lower earnings would mean a lower market value for the firm, even if the firm's cost of capital remains unchanged. In practice, the providers of capital may be unwilling to fund highly risky ventures without extra returns. Hence, it can be said that managing unsystematic risks is essential for a firm to stabilize its earnings and to add value to its investors' wealth. Damodaran Aswath (4) says that the presence of risk induces the investor in the risky venture to demand a higher rate of return on his investment. This ultimately translates into a higher cost of goods and services produced by the investment. There may be situations where a high expected return may be accompanied by a very high expected variance, thus making an otherwise attractive opportunity unacceptable. The presence of risk may also warrant keeping aside some cash for the bad times. As this cash cannot be invested in any security other than a highly liquid one, it involves opportunity cost. This cost may turn out to be quite high in some cases. These factors give rise to the need to manage risks.

Fig. 1 Historical Overview of Risk Management (above)

The risks facing an organization and its operations can result from factors both external and internal to the organization. The diagram overleaf summarizes examples of key risks in these areas and shows that some specific risks can have both external and internal drivers and therefore overlap the two areas. They can be categorized further into types of risk such as strategic, financial, operational, hazard, etc.

Fig. 2 Sources /Drivers of Risk

Fig. 3 Risk Management Process

2. Concept of Enterprise Risk management

Total risk management, enterprise wide risk management, corporate risk management, integrated risk management, and other terms are used for approaches that implement firm-wide concepts including measurement and aggregation techniques for market, credit, and operational risks.

Corporate risk management refers to the process of a company managing its risks at an acceptable level. It is a scientific approach to deal with various kinds of risks faced by a corporate.

Integrated Risk Management: Integrated risk management refers to integrating risk data into the strategic decision making of a company and taking decisions, which take into account the set risk tolerance degrees of a department. In other words, it is the supervision of market, credit, and liquidity risk at the same time or on a simultaneous basis.

Total risk management defined by Ernst and Young report(s) (8) on Enterprise Risk Management is given as: "The development and implementation of an enterprise wide risk management system that spans markets, products, and processes and requires the successful integration of analytics, management, and technology".

Enterprise Risk Management, as developed by Ernst and Young and Other Consulting Firms Such

as PWC, emphasizes corporate governance as a key element of a firm- wide risk management solution. Company Boards that implement, latest corporate governance practices which stimulate chief executives to sponsor implementation of risk management programs that align with their businesses. The goal of Enterprise Risk Management is to identify and address all potential risks and their root causes. It allows companies to avoid risks by identifying the business functions, processes, and activities that created them and then developing and implementing strategies to minimize the potential exposure. It also enables companies to monitor external factors or internal processes that can't be changed, and develop strategies to reduce risks that can't be avoided. The underlying premise of ERM is that risk management should be approached in a consistent, balanced, and integrated manner. The advantages to an integrated approach are many. First and foremost is the impact of enterprise-wide risk management on the bottom line. If ERM is effective, it should help in reducing the volatility of the company's earnings, thus enhancing shareholder value. With an organized approach to risk, a firm can better manage its risks and returns to make more informed decisions about capital and investments.The onset of modern technologies and organizational platforms like Enterprise Resource Planning (ERP) and System Application and Products (SAP) have offered bright avenues for application of principles of ERM to the modern-day corporate scenario in an efficient manner. - PWC Report (18) Overview for regulatory and commercial Drivers for Enterprise Risk Management Regulatory Driver: The most significant regulatory driver for an enterprise-class risk system is the Basle II Capital Accord. The new Capital Accord (known as Basle II), from Basle Committee on Banking Supervision of the Bank for International Settlements (BIS), introduces new, more sophisticated requirements for credit and operational risk management from the earlier Accord. Market risk requirements from the prior Accord are still in place and are largely unchanged. This regulation affects banks in more than 100 countries. The objectives of Basle II can be summarized as follows -Basle accord (2):

- Provide a risk management and supervisory framework that enhances risk sensitivity, competitiveness, and works with current market practices.
- Make financial institutions improve their risk management procedures.
- Align economic and regulatory capital. Capital is meant as a second line of defence to systems and controls.
- Increase the robustness and safety of the financial system, ensuring that there is as much, if not more, operating capital within it, as a buffer for unexpected losses.

From an internal control perspective, auditors will require organization to implement good practices for risk management. First, risk policy and control processes should reflect the actual risk and complexity of organization. These processes should include all risks, products, geographies; etc. Organization must also show a documented, clear, and logical method for measuring and reporting risk for each of product types. Finally, risk practices and technology should support validation by the auditors or regulators; risk processing and data flows should be transparent, accessible, and well-documented.

Commercial Driver: Any firm - not just a bank - engaging in finance or investment activities will have a need for fast access to credit and market risk information. That includes, for example, a manufacturing firm that uses letter of credit financing and foreign exchange trading, an energy firm that trades energy or commodity derivatives, or an automobile company that finances leases and purchases of its cars. This is especially the case in "stress" situations, where sudden and significant market, credit, or operational events could materially increase the risk of default for one or more counterparties- Risk Metrics (11). Further, identification of the true unified risk picture across organizational and system boundaries have a bottom-line impact. These drivers raise important requirements for data integrity and accuracy. By deploying an enterprise wide risk management system integrated with the appropriate front office, middle office, and back office systems, company can reduce the risk of errors because manual data input, data rekeying, and data transformation are avoided. If a manager can have an updated view of risk exposures to a certain counterparty, counterparty grouping, industry sector, product type, country, etc., then better investment and portfolio optimization decisions can be made. Also, the risk manager needs to understand which operational risks could arise or worsen as a result of new commercial ventures, mergers, acquisitions, etc. Better use of modern risk measurement methodologies and technology can give the organization the ability to do more business under

existing risk limits, if those limits were computed based upon a conservative estimation of risk. They also facilitate the ability to make better business decisions based upon a single picture of risk, and the ability to do deals quicker with a quicker risk limit check.

Levine Robert (12) says that one of the challenges in implementing a successful enterprise wide risk management system occurs where there is a need for introducing openness into a closed corporate culture. Many employees are reluctant to report risks because this would appear to expose their own (or their department's) weaknesses. Also, consistent risk policies, risk treatment, and visible global limits will expose the activities of business units near and far too central risk monitoring. This could be perceived as a loss of local office independence, and even a threat to local jobs as it becomes easier to manage risks centrally. Considering that ERM is a very new idea, it is not surprising that many risk management systems still do not present a unified view of the different types of risk as discussed. Evolution in this area will be one of the more exciting possibilities for risk managers.

2.1 Structure of Enterprise Risk Management

The Traditional Approach to a Risk Management Organization Vs the Modern Approach - PWC Report - Kaan H Aksel (18)

Before enterprise-wide risk management became the standard, most financial institutions took a fragmented approach to risk, managing each type of risk in a separate organization or department with little or no effort at integrating these areas. Many organizations still follow a traditional model. A chief credit officer, who reports to the President or the Board, sets credit policy and approves exposures. Similarly, the market risk management function independently sets policies and measures and reports on market exposures and limits. Like chief credit officer, the market risk executive is independent of the trading floor and might report to the CFO or the President.

Fig. 4 Traditional model of Risk management; Source PWC Report-2004 (18)

Operational risk management is even more fragmented. Separate and uncoordinated groups such as Legal, Internal Audit, and Insurance are in charge of reviewing controls and risks. Managers of business lines incur risk and manage it as it arises in the day-to-day functioning of the business. Thus, many individuals around the company are responsible for a piece of the company's risk, and eventually, all report to senior management. Some individuals, such as chief credit officers for example, may be responsible for risks across the organization, but only within their specific domains. In the traditional system, all major risks are managed. Enterprise-wide functions are assigned to one or more enterprise-wide committees, which generally consist of representatives of such risk disciplines as finance, compliance, internal audit, and legal, as well as heads of some business units. One or more committees are typically responsible for credit risk, market risk, assets and liabilities, operating risk, and liquidity. Committees make it difficult to achieve uniformity in methodology, measurements, or policy. The question becomes "Who, if anyone ensures that the agenda covers the most substantial risk exposures?" Nor it is clear who is accountable during the intervals between the committee meetings.

PWC Report - Kaan H Aksel (18) - the leading financial consulting auditing and accounting firm did a separate study on the aspect of enterprise wide risk Management. It found out financial institutions organize their risk management efforts in a variety of ways. The specific organization chart depends upon the company's strategic objectives and history, as well as the skills of the individuals involved. As important as objective standards are internal politics and who trusts whom. Accordingly, it was found that the authority and responsibility of the Chief Risk Officer (CRO) vary dramatically from firm to firm. Nevertheless, the organization structure of the risk management function in most of the financial institutions that have designated a CRO can be classified according to one of the following models:

The financial risk model: The essence of this risk management model is the integration of financial risks only and the existence of a CRO to whom the market risk and credit risk functions report. However, the weakness of this approach is that responsibility for operational risks remains fragmented among various organizational units or, perhaps, is addressed by a separate committee. The risk management function typically focuses on risk policy, measurement, and analysis, but does not have the authority to approve exposures. Often there is a separate position for a Chief Credit Officer who approves limits and transactions. The CRO chairs the risk management committee. Other committees include an operating risk committee, a liquidity risk committee, a capital committee, and an investment committee- PWC Report - Kaan H Aksel(18) .

The all-risk model : The distinguishing

characteristic of this model is a CRO who is responsible for the full gamut of the company's risks-including operational risks as well as credit and market risks. Typically, the role is a consultative one. The CRO maintains awareness of risk issues throughout the organization, sets risk policy, measures risk, reports exposures, and proactively thinks about operational risk. He or she does not manage the back office, Information Technology, or other areas in which risks occur. Nor does he or she manages the control functions such as Legal and Internal Audit. All these risk-related areas do, however, have a dotted-line relationship with the CRO. Those who have the authority to take actual risks are in the business units, credit offices, and committees.

The risk governance model: An intriguing alternative to the all-risk approach is one that combines risk measurement with the related control functions under a single CRO. This approach is less consultative and more managerial. The CRO assumes a "watchdog" role and is responsible for Internal Audit and other compliance functions. The credit and market risk officers, who are responsible for approvals, work very closely with the CRO and may either be inside or outside the risk management structure.

2.2 A Proposed Model of Enterprise Wide Risk Management-

PWC Report - Kaan H Aksel (18) proposes a model for ERM. Although there is no single approach that is suitable for all institutions, the below proposed model for enterprise wide risk management serves as a starting point for designing a risk management efficient organization. This model for enterprise wide risk management is an outgrowth of the all-risk model, which is truly enterprise-wide since it integrates all the company's risks under a single CRO who can influence the firm's risk philosophy and strategy. Rather than cast the CRO in a "risk police" role, the all-risk approach is consultative. This model adds to the all-risk model what we call a risk portfolio analysis function. The risk portfolio analysis group provides a staff that can address cross-risk issues such as integration of market and credit risk, allocation of capital, risk-adjusted performance measurement, and analysis of new products and/or acquisitions. The risk portfolio analysis staff gives the CRO the support he or she needs to be effective in coordinating the three major types of risk.

The measurement function is a central one for the portfolio analysis group. In a financial institution, capital is the logical means for quantifying and comparing risks. The portfolio analysis group can develop methodologies that consistently translate risks into dollar terms for all aspects of the company's business. It can proactively think about all the company's risks in an integrated way. It can perform "stress tests" in which extreme scenarios--such as a stock market crash or devaluation of a major currency--are examined, their implications assessed, and their effects mitigated in whatever degree is considered appropriate.

Fig. 5 Proposed model of Enterprise risk management; Source - PWC report 2004

The Enterprise wide risk management model thus establishes a CRO with close reporting ties to the Chief Financial Officer (CFO), the CEO, and the Board-ties that structurally facilitate the risk officer's input into risk-related decisions. The CRO may chair or be a member of various risk governance and approval committees, ranging from the assets and liabilities committee (ALCO) to the market risk, credit risk, and operational risk committees. Those who head the three major risk management disciplines report directly to the CRO. Ultimately, the success of Enterprise wide Risk Management depends heavily on such "soft' factors as people and culture. Much of the responsibility for managing risk falls to the CRO; however, cooperation from the company's business units is also critical. It hinges on the question how much authority and power are given to the CRO and other individuals. The role of a CRO is relatively becoming important in today's scenario as he takes into account the macro view.

2.3 Implementation Principles for Firm-Wide or Enterprise Risk Management

Ernst and Young Report (7) on various aspects of ERM says that implementing firm-wide risk management practice entails a significant commitment of management time and institutional resources. It requires a focus on the central businesses of the organization, bottom-to-top review of lending or origination, trading or market making, and intermediation with a risk management perspective. It leads to the construction of data bases and reporting systems quite different from standard accounting systems.

In this process, several guiding principles must be maintained for successful implementation of firm-level risk management practices.In fulfilling their risk oversight duties, board members request regular updates regarding the key risks across the organization and the processes in place to manage them. Given these new practices, boards are

increasingly turning to the discipline of enterprise risk management as a means of meeting their fiduciary obligations.

- First, risk management must be an integral part of an institution's business plan. Decisions to enter leave, or concentrate on an existing business activity require careful assessment of both risks and potential returns. Risk management practices must be defined for each business activity that is pursued. Finally, business activities not part of the institution's focus must be eliminated so that avoidable risks are not assumed due to lack of management oversight.
- Second, the specific risks of each business activity of an institution must be defined and the means to measure the risks must be developed. Similarly, data bases must be developed to obtain proper and consistent risk measurement across the entire organization. Credit risk evaluation techniques, for example, should be the same in corporate lending, as in correspondent banking. Only then will aggregate credit quality reports have meaning to senior management.
- Third, procedures must be established so that risk management begins at the point nearest to the assumption of risk. This means that trade entry procedures, customer documentation, client engagement methods, trading limits, maximum loan sizes, hedging strategies, and a myriad of other normal business activities must be adapted to maintain management control, generate data in a consistent fashion, and eliminate needless exposure to risk.
- Fourth, data bases and measurement systems must be developed in accord with the way business is conducted. For example, most accounting systems for trading operations record trades on the basis of settlement day. However, to measure trading desk risks, risk management systems must record positions on a trade date basis. This means that the risk management system must access the trade entry system directly. Moreover, for accurate daily reports, trades must be recorded, entered, and checked in a timely fashion. Next day corrections of bad trade information are not timely enough.

Principles for Firm-Wide or Enterprise Risk Management

Finally, none of the procedures or databases mentioned here are effective or meaningful until an overall risk management system is put in place and used by senior management. The system must be used to evaluate businesses, individual performance, and firm-level value added. It must be the focus of management analysis and discussion on an ongoing basis, and over time it will, and must become part of board meeting presentations.

To achieve this, the risk reports must be checked regularly by the business units being monitored; reports must be tailored for their users; and the system must be part of management's oversight, control, and compensation. As a result, pioneering organizations and their boards are initiating enterprise wide risk management programs designed to provide collective risk knowledge for effective decision making and advocating the alignment of management processes with these risks.

As reports by Ernst and Young (7/8) explains that Enterprise wide risk management covers:

- Management takes into account the 'entity's risk appetite' in assessing strategic alternatives, aligning related objectives and mounting mechanisms to administer related risks.
- Enterprise risk management provides the dynamism to locate and select amongst options of 'risk responses and decisions' i.e. risk avoidance, reduction, sharing and acceptance.
- Entities attain enhanced potential to identify potential events and establish responses, reducing surprises and associated costs or losses.
- An enterprise encounters numerous risks affecting divisions of the organization and enterprise risk management makes possible responses to the 'interconnected impacts and integrated responses to multiple risks'.
- Complete range of potential events is considered as the management is located to 'categorize and actively apprehend opportunities'.
- Acquiring robust risk information allows management to successfully review all capital needs and augment capital allocations

PWC Report - Kaan H Aksel (18) elaborates that while traditional risk management is largely associated with safeguarding an organization against unfavourable monetary effects of risk, ERM enables companies to make better risk-adjusted decisions that maximize and optimize shareholder value. Firms that pursue in ERM are able to comprehend the collective risk intrinsic in different business actions. This gives objective stance for resource allocation, as a consequence improving capital efficiency and return on equity. Organizations with a wide range of

investment opportunities are likely to benefit from being able to select investments which rely on a more accurate risk-adjusted rate. While individual risk management activities may reduce earnings volatility by reducing the probability of catastrophic losses, potential interdependencies between risks exist across activities that might go unnoticed in the traditional risk management model. ERM is structured for risk management activities hooked on an incorporated framework that facilitates the detection of such mutuality's. Thus, while individual risk management activities can reduce earnings volatility from a specific source (hazard risk, interest rate risk, etc.), an ERM strategy reduces volatility by preventing the aggregation of risk across different sources.

Thankfully In the evolution of the risk management function there has been a fruitful circular process between action and theory. The advances that have stood the test of survival have been ventures or experiments rooted in experience; and future development and expansion will almost certainly come about in the same way.

These organizations have recognized the advantages of:

- ❖ Achieving strategic objectives and improving financial performance by managing risks that have the largest potential impact
- ❖ Assessing risk in the aggregate to minimize surprises and reduce earnings fluctuations
- ❖ Fostering better decision making by establishing a common understanding of accepted risk levels and consistent monitoring of risks across business units
- ❖ Improving corporate governance with better risk management and reporting processes, thereby fulfilling stakeholder responsibilities and ensuring compliance with regulatory requirements

Conclusion

It is widely anticipated that Implementation of ERM across organizations will lead to business being much stronger and more resilient, and stakeholders and other people in the business will have greater confidence that it is being well managed, with the opportunity for everyone to play a part. Experts emphasize that ERM demands constructive and imaginative forward thinking, and firmly believe that a business to which such thinking has been applied will have a much greater chance of ultimate success than one where the risks are not fully understood and the quality of thinking about the future is relatively poor. It can be widely anticipated that, the transition from the present risk-management processes may not be an easy one, but in few years time, many of today's businesses which have fallen by the wayside will not have made the effort - while many of the survivors will have a full and active ERM Framework in place, functioning effectively and embracing the cultural changes necessary for it to thrive as it should.

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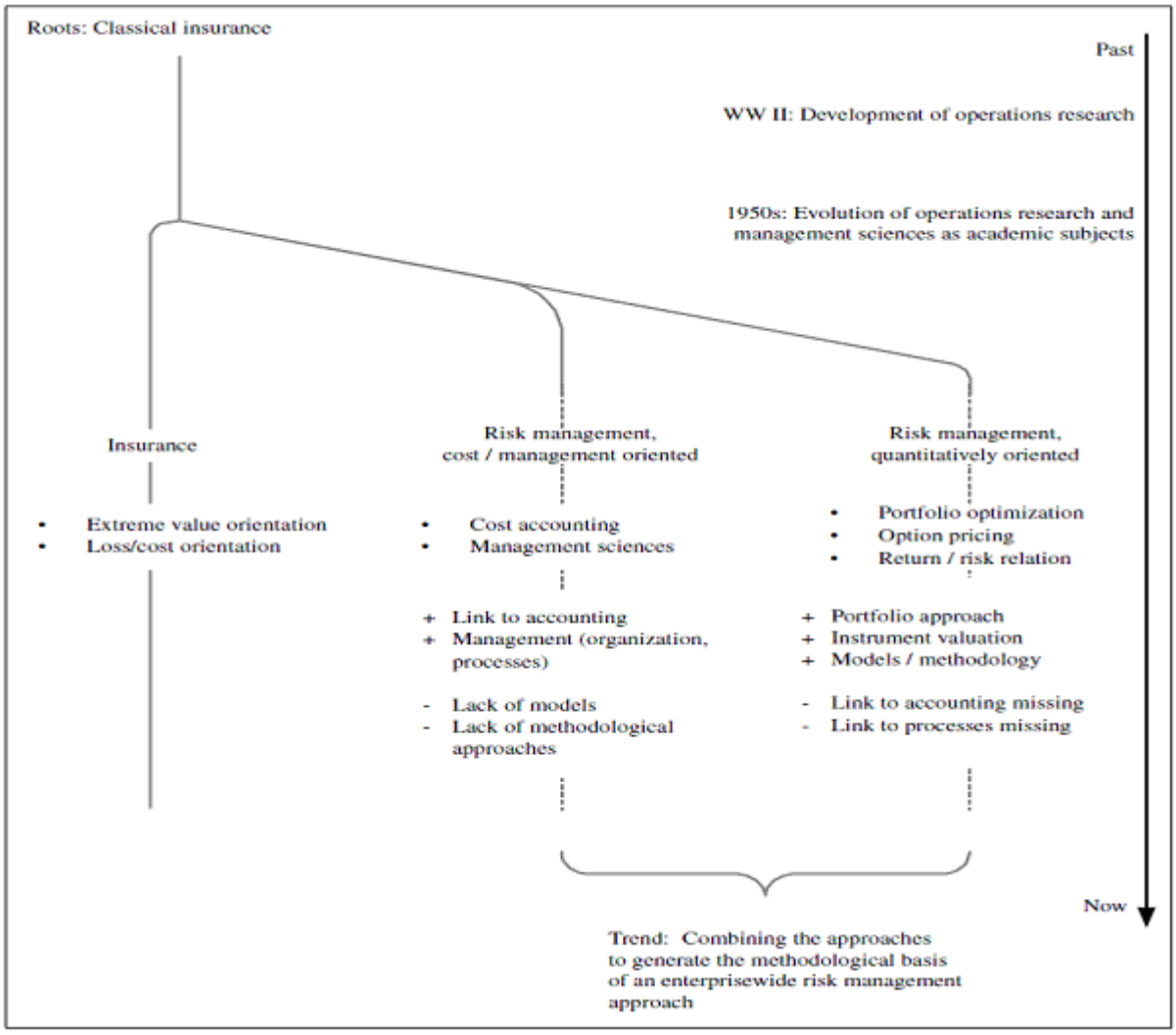

1. Fig. 1 Historical Overview of Risk Management (above)
2. Source (20): Reto R Gallati, (2003), Risk Management and Capital Adequacy, McGraw-Hill.

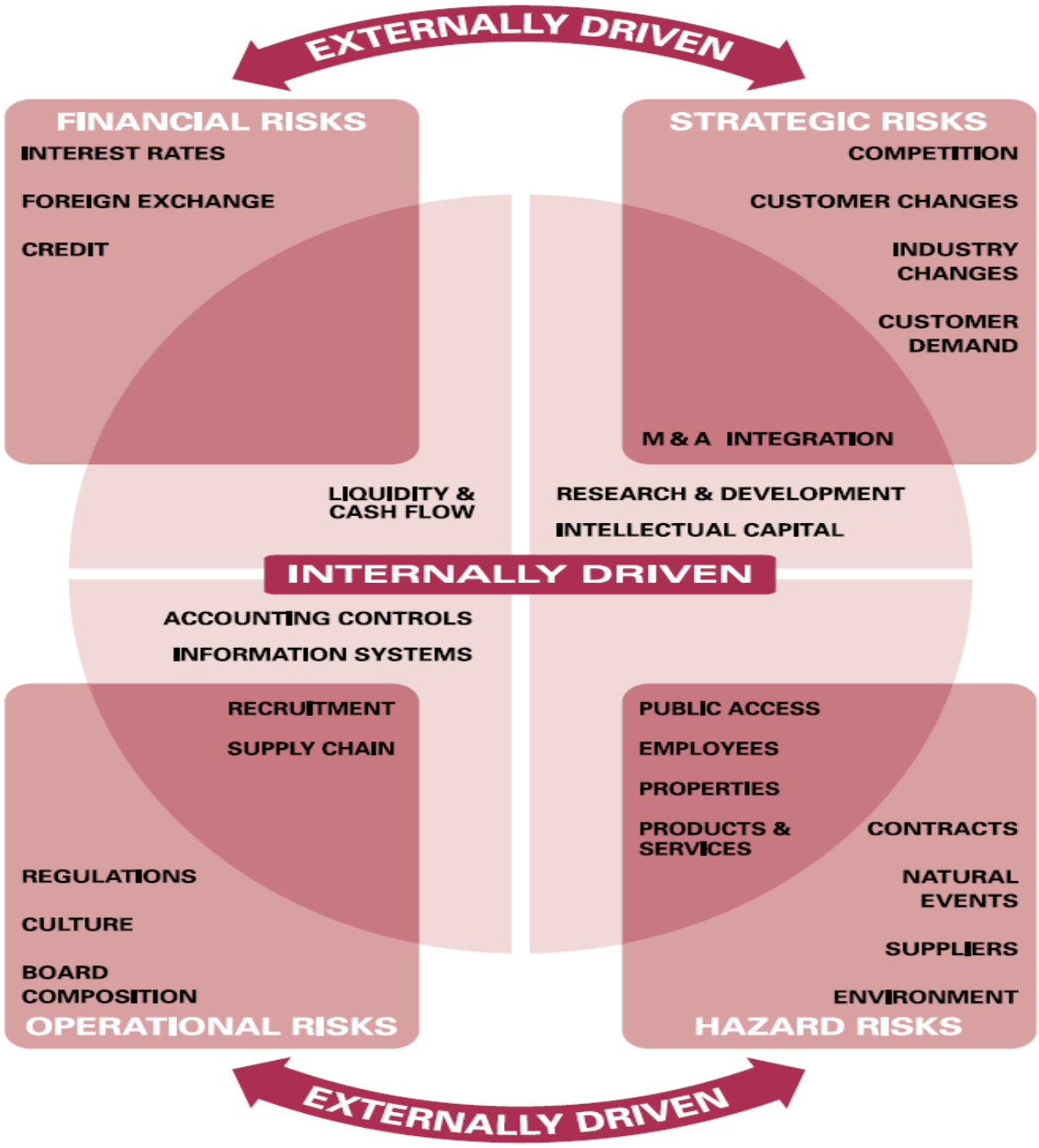

Fig. 2 Sources /Drivers of Risk

4. **Source (20): Reto R Gallati, (2003), Risk Management and Capital Adequacy, McGraw-Hill.**

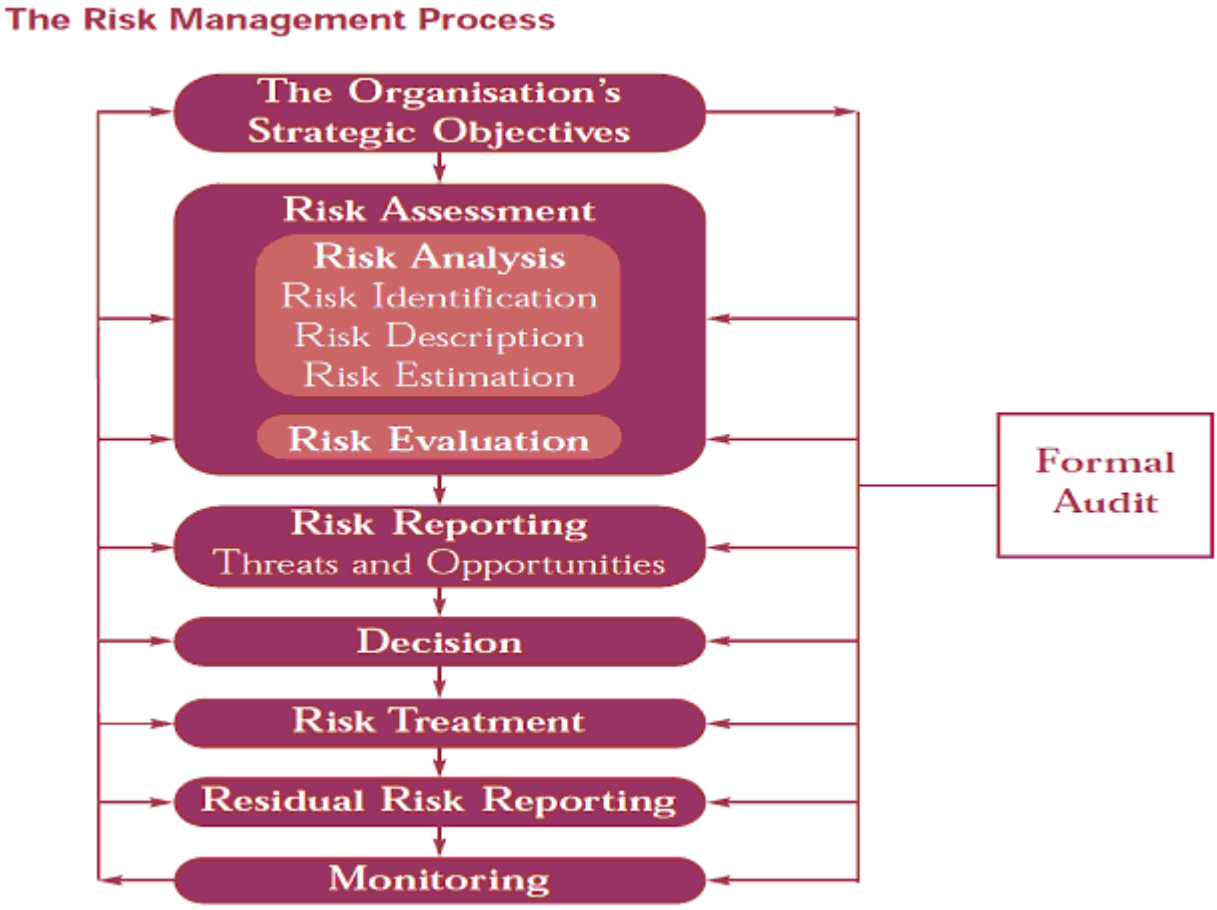

Fig. 3 Risk Management Process
Source: (10) Jorion Philippe, (2009), Financial risk management handbook, (5th ed.). Wiley finance

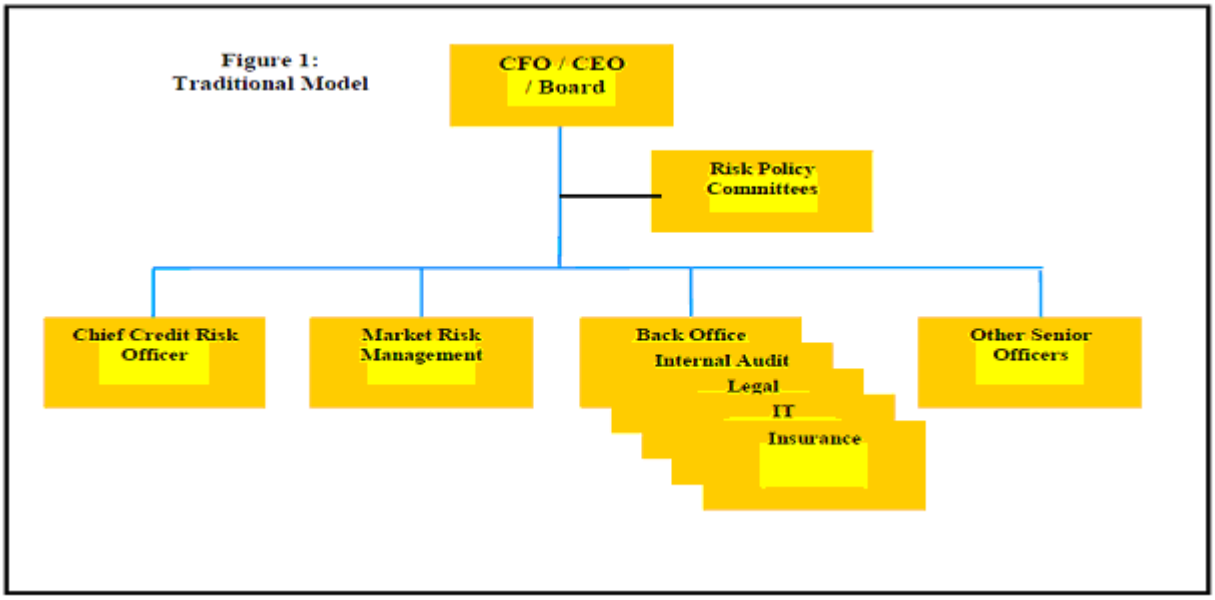

Fig. 4 Traditional model of Risk management; Source PWC Report-2004 (18)

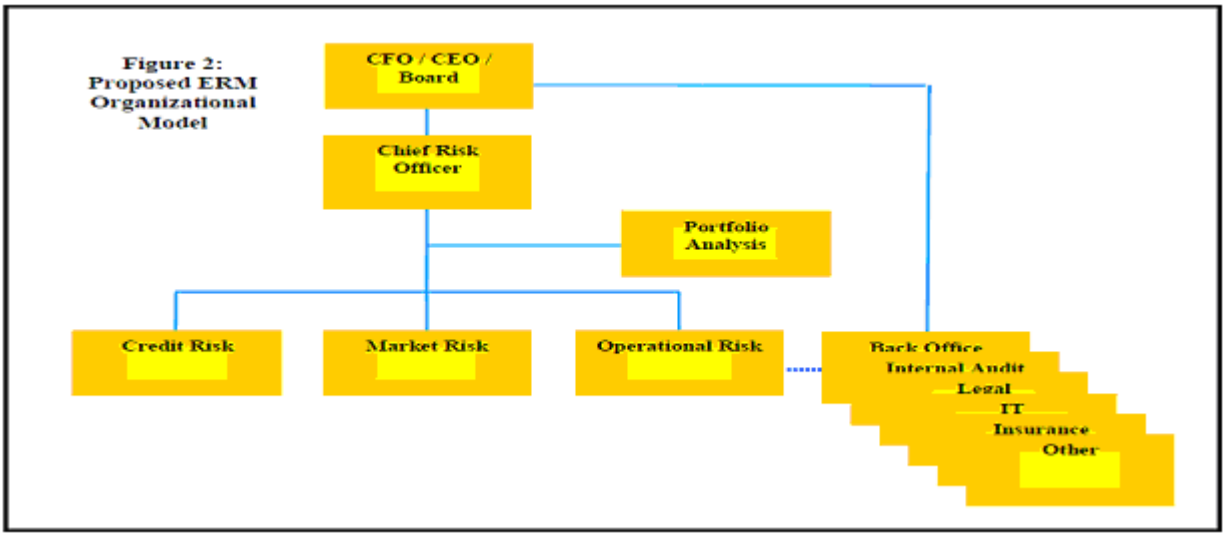

Fig. 5 Proposed model of Enterprise risk management; Source – PWC report 2004