



Risk management in Indian companies: EWRM concerns and issues

Indian companies:
EWRM

P.K. Gupta

Centre for Management Studies, Jamia Millia Islamia, New Delhi, India

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Abstract

Purpose – The purpose of this paper is to examine the current status of risk management in Indian companies and explore the reasons for the adoption or lack of adoption of integrated approach to risk management. It identifies the imperatives for implementation of comprehensive risk management solutions leading to enterprise-wide risk management (EWRM). The paper shows that effective risk management can improve organizational performance but adequate infrastructure is not available in companies for implementing EWRM.

Design/methodology/approach – Exploratory design using the survey research methodology that includes structured questionnaires and interviews of 130 companies.

Findings – Risk management in Indian companies is currently facing the problem of integration and incentivisation. The risk management function is not suitably blended into the corporate strategy and use of information technology for risk management is minimal. The portfolio approach to risk management titled as integrated risk management or EWRM is ineffective from an implementation perspective and a sea change in risk perception is required which accentuates the need for building up of risk culture across business segments and adequate incentivisation for risk management.

Practical implications – Risk management is an integral part of the decision-making process and effective risk management can proactively help in overcoming the possibilities of the business failures.

Originality/value – The paper highlights the fact that knowledge of risk management in Indian companies is inadequate and sample companies hesitate to respond thinking that it may reflect inefficiencies.

Keywords India, Business policy, Corporate strategy, Risk management

Paper type Research paper

Introduction

In recent decades, the changing environment has posed a threat to the value maximization process in organizations. Catastrophes and systemic shocks altered the way risk was managed in 1970s and 1980s, and risk management has emerged as a separate discipline in the corporate world since the 1990s. The concept of risk management is not so new because risk management techniques like:

- risk reduction through safety, quality control and hazard education;
- alternative risk financing; and
- insurance including self-insurance and captive insurance have been in existence for a long time (Doherty, 2000).

But more recently, the growth of derivative markets has promoted the value of risk management, in handling of market risks. The emerging markets in globally have led the regional managers to diversify their risks in the developed markets (Alexander, 1999).

Every enterprise is subject to several types of risks and the focus varies across organizations. Risk has been defined, classified and interpreted from various perspectives.



The description of risk among practitioners ranges from deviations in the value of financial variable(s) to various types of strategic variables. According to Skipper (1997), risk has no universal definition and one way to express it as the variability of outcomes. Shimpi (2001) has defined risk as the lifeblood of every organization and functional managers do manage risk head-on wherever it appears. Gupta (2004a, b) says "Risk refers to the possibility of deviation from the standard path. These deviations reduce the value and imply unhappy situations". Classification of risk as credit, market and operational is a widely accepted methodology (Lam, 2001; BCBS, 2003).

Risk management tasks have been conventionally confined to corporate treasurers, portfolio managers, insurers and the hedgers. The risk management in organizations has undergone a paradigm shift. It has moved from being "hazard type" to "strategic type". Risks are now not perceived as threats (adverse financial effects) but as potential opportunities. The focus of risk management has changed from all risks to critical risks (KPMG LLC, 2001). Recognition of risk management as a separate managerial function entails many advantages. Inclusion of risk management as a strategy in the general management function helps to enhance the value (Suranarayana, 2003). According to Jorion (2001), the success of organizations depends upon the risk management and manufacturing firms are still in primitive stage to understand properly the firm's sensitiveness to different types of risk. Lam (2001) also supports the view that risk management reduces earning volatility, maximizes value for shareholders and promotes job security and financial security in the organization. Shimpi (2001) establishes that capital management and risk management are closely related but the simultaneous existence of risk managers and financial managers operating in insurance and capital markets would lead to sub-optimally. Li (2009) has also presented the analytical optimal corporate investment allocation strategy by maximizing the probability of beating a pre-determined target. Risk measurement suffers from the problem of consistent yielding capacity of the subjective approaches (Emblemsvag, 2010). Convergence of technology has given impetus to internal controls in the organization and the matters of security (Pathak, 2005). Laviada (2007) highlighting the importance of the operational risk management framework suggested that internal audit should be alert to the whole process of implementation of the systems for managing the operational risk management in entities.

Every enterprise is a portfolio of projects and the failure of these projects depends upon the business assumptions. Effective risk management can align with the business assumptions and proactively help in overcoming the possibilities of the business failures. Though it is seen that project managers tend to deny, avoid and ignore risks and to delay the management and risks are perceived as discomfoting, not agreed upon (Kutsch, 2008).

KPMG (2001) traces the change of risk management approach from an individualistic narrow silo type to portfolio type and the risk management is beginning to be perceived as a new means of strategic business management, linking business strategy to day-to-day risks. Doherty (2000) has described the integrated approach as – diagnostic, designed to support optimal investment, based on transaction cost and inclusive coordinated but discriminating. Shimell (2002) study of risk management practices indicates that risk management focuses to now shifting to a strategic one and risk involvement must be universal and thorough in the organization. Doherty (2000) argues that risk management suffers from the problem of duality in the sense that either the organization can remove the risk or its effect (accommodate). Berinato (2006) argues that

risk management is crucial because balancing risk is becoming the only effective way to manage a corporation in a complex world. Researchers have shown that firms feel an aggregate measure should include all risks facing the enterprise, but acknowledging the fact that some risks like operational risk are difficult to quantify in a consistent way. Risk aggregation faces difficulty of measuring correlation across risk types. This leads to the question of how diversification benefits should be allocated among business units. We, therefore, argue that there is a need to offer incentives to risk managers.

The crux of risk management exercise revolves around value defined as the utility or the importance of the entity to the stakeholders, in an uncertain environment. The uncertainty can be both perceived as risk or opportunity since it can either enhance or diminish value. Value is created, preserved or eroded by management decisions ranging from strategy setting to day-to-day operations of the enterprise. Inherent in decisions is the recognition of risk and opportunity, requiring that management considers information about internal and external environments, deploys precious resources and recalibrates enterprise activities to changing circumstances (www.erm.coso.org). We argue that stakeholders' value is the summation of the discounted value of current business model and value of the future growth options. This valuation depends upon:

- allocative efficiency;
- execution efficiency and effectiveness; and
- innovative capabilities.

Professional risk management can bring these efficiencies and maximize the enterprise value (Gupta, 2009).

EWRM as an emerging discipline

We adopt the committee of sponsoring organizations definition of ERM – enterprise risk management is a process, effected by an entity's board of directors, management and other personnel, applied in strategy setting and across the enterprise, designed to identify potential events that may affect the entity, and manage risk to be within its risk appetite, to provide reasonable assurance regarding the achievement of entity objectives.

The move toward the portfolio approach has led to the development of enterprise-wide risk management (EWRM)[1] as a top management concern in many companies. The companies are now realizing the advantages of the integrated view and started reaping benefits. The breakdown in the regulatory barriers that formerly separated the insurance and capital markets for decades has contributed to the move towards EWRM (Green, 2001). EIU (2001) study shows that enterprises agree that implementation of ERM require various structural measures to align risk management, strategic planning, information system and organizational culture. Regulating agencies all over the world are putting pressure on companies to implement the integrated risk management practices. Developments in the financial markets and the convergence of capital and insurance markets are also facilitating the implementation of integrated approach. Gupta (2004a, b) established that ERM is rapidly emerging as a powerful tool that facilitates better decision making and organizations are now choosing to implement an ERM process to ensure that a uniform approach to risk identification, measurement and treatment is utilized across the organization. Lam (2003) has identified the advantages of adopting EWRM as:

- organizational effectiveness;
- improvement in quality of risks reporting; and
- business performance.

Risk optimization is critical to value creation (Murphy and Davies, 2006) and EWRM enhances organization's capabilities to respond to risk and seize opportunities (Miccolis, 2001).

However, ERM departs from the fragmented and compartmentalized risk management solutions already in place at many companies (Gates, 2006) featured by:

- elevation of risk discussions to strategic level;
- being a top-down initiative, fully supported by the corporate board; and
- offering a holistic view of the enterprise designed to capture a variety of risks throughout the firm.

Tonello (2009) study on risk management in financial institutions shows that the role of chief risk officers (CROs) had expanded dramatically, with more than half of them frequently involved in firm-level strategic decisions. This indicates that though the concept is catching in developed countries, yet it is a long way in India. As a matter of recent development, amendments to the clause 49 of the listing agreement between companies and stock exchanges in India makes it mandatory for companies to establish internal controls and report on the deficiencies. The board of companies is now required to review the company's risk management framework. According to some risk consultants, most of the companies do not have articulated risk management policies, and, even those that do seldom have it linked to their business plans (www.expresscomputers online.com).

We infer that risk management is rapidly gaining the attention of the market participants and slowly the regulation is also moving in that direction. EWRM framework is geared to achieving an entity's objectives, set forth in four categories:

- (1) *Strategic*. High-level goals, aligned with and supporting its mission.
- (2) *Operations*. Effective and efficient use of its resources.
- (3) *Reporting*. Reliability of reporting.
- (4) *Compliance*. Compliance with applicable laws and regulations.

ERM is everybody's responsibility in the organization with key responsibility of CRO, chief executive officer (CEO), internal auditors, etc. (www.erm.coso.org). Researchers consent that most of the companies today belong to the first phase where the experts in respective areas deal the risks in a silo way and a very low number of companies have fully implemented the portfolio approach, the EWRM.

Methodology

We assume that silo approach to risk management is losing ground and a need is continuously felt to integrate the whole gamut of risk management in organizations (EWRM). We hypothesize that risk management function is not yet fully developed in India, which may affect the implementation of EWRM. Research studies on ERM in Indian companies are rare to find. An initial study revealed that out of 74 firms surveyed,

20 have full awareness of various risks faced by them. Out of those 20 firms, six are adopting professional risk management practices. Further, the use of the integrated approach was absent. We find a research gap to find out whether the functional managers are able to conceptualize the EWRM and implement it exclusively.

Our paper examines the risk management philosophy of Indian companies and explores the status of EWRM adoption and implementation. We first evaluate the communication and integration of function-nomenclature risks and then attempt to extract the determinants of EWRM needs within the enterprise. Finally, we provide an insight as to the reasons for the adoption or lack of adoption of integrated approach to risk management and identify the imperatives for implementation of comprehensive risk management solutions leading to EWRM.

Apart from the available literature, we have used survey method for collection of data. A risk assessment questionnaire has been administered on judgmental basis to 130 companies of which 90 valid responses have been received. Data smoothing has been done for four companies and finally 94 companies have been selected for analysis. Multiple responses have been converted into distinct responses and the 313 cases have been processed.

Questionnaire includes both closed-end and open-ended questions framed on a Likert-type scale (3-5 points). It consists of five major building blocks translated into 33 questions:

- (1) risk awareness;
- (2) risk communication;
- (3) risk responsibility;
- (4) risk measurement and analysis; and
- (5) risk implementation and integration.

Questionnaire is based primarily on the style of “risk assessment questionnaire” of Audit Office of New South Wales (www.audit.nsw.gov.au/publications/questionnaires/RiskSurveyInstrument.pdf). It intends to drive the following information:

- company-specific risk profile and organization of risk management function;
- information on the responsibility for risk management;
- organization of risk management within the company;
- current utilization and future outlook of various risk-financing techniques; and
- status of risk integration and adoption of EWRM approach.

Sample companies represent both the sets:

- the companies that have implemented risk management solutions; and
- those are in the process of implementing risk management solutions.

The respondents are the functional heads of the companies under the survey. The sample companies include both large and medium-size companies in the manufacturing and services sector. The insurance and banking companies are excluded because their risk management practices are different from the other companies due to the nature of their business. Sectoral classification of sample companies is given in Table I.

Name of the company	Sector	Name of the company	Sector
A K Capital Ltd	Consultancy	Modern Food Industries Ltd	Diversified
ABB	Diversified	Monnet Industries Ltd	Manufacturing
Adnai Exports Ltd	Exports	Monnet Ispat Ltd	Manufacturing
Airport Authority of India Ltd	Aviation	Monnet Sugar Ltd	Manufacturing
Alstom Projects (India) Ltd	Consultancy	Moser Baer Ltd	Electrial & Elect.
Amrit Bansapati Company Ltd	Manufacturing	Motherson Sumi Info. & Des. Ltd	Manufacturing
Asian Paints Ltd	FMCG	Munjal Showa Ltd	Manufacturing
ASP Sealing Products Ltd	Manufacturing	MX Software Services Ltd	IT
Automax Ltd	Manufacturing	Nafed Ltd	Manufacturing
Bajaj Hindustan Ltd	Sugar	Nagat India Ltd	Construction
Ballarpur Industries Ltd	Manufacturing	Nestle Ltd	Diversified
Bata India Ltd	Diversified	New Delhi Power Ltd	Power
Beck India Ltd	Pharma	NHAI	Construction
Berger Paints India Ltd	Manufacturing	NTPC	Power
Bharat Heavy Electricals Ltd	Power	Omax Autos Ltd	Manufacturing
Bharati Airtel Ltd	Telecom	Onward Technologies Ltd	IT
Birla Soft Ltd	Consultancy	Paras Lubricants Ltd	Manufacturing
Britannia Industries Ltd	Manufacturing	Parle Biscuits Ltd	Manufacturing
Cadila Healthcare Ltd	Pharma	PNB Gilts Ltd	Consulting
Camlin Ltd	Diversified	Power Grid Corporation Ltd	Power
Carrier Aircon Ltd	Refrigeration	REC Ltd	Power
Cement Corporation of India Ltd	Manufacturing	Reliance Industries Ltd	Diversified
Crompton Greaves Ltd	Electrial & Elect.	SAP Labs India Pvt Ltd	IT
DCM Ltd	Manufacturing	Satyam Overseas Ltd	IT
DHL Express (India) Pvt Ltd	Services	Sesa Goa Ltd	Metal
Easy Bill Pvt Ltd	Services	Simplex Concrete Piles (India) Ltd	Construction
Engineer India Ltd	Engineering	Sona Koyo Steering Systems Ltd	Manufacturing
Engineers India Ltd	Consulting	SRF Ltd	Manufacturing
Escorts Ltd	Manufacturing	Steel Authority of India Ltd	Manufacturing
Everest Industries Ltd	Manufacturing	Supreme Industries Ltd	Diversified
Federal Express Corporation Ltd	Services	Syntel (India) Ltd	IT
German Gardens Ltd	Manufacturing	Tata Consultancy Services Ltd	IT
Glaxo Smithkline Ltd	Diversified	Tata Indicom Ltd	Telecom
Godrej Ltd	Diversified	Tata Motors Ltd	Manufacturing
HCL Info systems Ltd	IT	TCIL	Consulting
Hero Honda Motors Ltd	Manufacturing	Television Eighteen India Ltd	Media
Hindalco Ltd	Metal	Tetra Tech India Ltd	Manufacturing
Hindustan Unilever Ltd	Diversified	The Hindustan Times Ltd	Media
India bulls Securities Ltd	Consulting	Thomson Asia Pte. Ltd	Publishing
Integrated Commodity Trades Pvt Ltd	Consulting	Tinna Overseas Ltd	Exporting
Jagran Prakashan Ltd	Media	Triveni Engineering & Ind. Ltd	Manufacturing
JCT Electronics Ltd	Manufacturing	Unitech Ltd	Construction
Jindal Stainless Ltd	Manufacturing	Uttam Steel Ltd	Steel
JSW Ltd	Steel	Valecha Engineering Limited	Construction
Kanha Vansapati Ltd	Manufacturing	Varun Shipping Ltd	Shipping
KC Maritime (India) Ltd	Shipping	Vikram Proteins (P) Ltd	Manufacturing
Mahanagar Telephone Industries Ltd	Telecom	Wockhardt Ltd	Pharma

Table I.
List of companies

The questions have been converted into 79 variables processed on Systat 10.2 for descriptive analysis, *F*-ratios and clusters (Table II).

Findings

Indian companies seem to follow a passive approach to risk management. Our survey of companies in the pilot study indicates that before the subprime crisis the companies claimed that they have the best risk management systems. However, the study during the sample period based on analysis of questionnaire and interviews indicates that risk management is poorly thought, conceived and practiced discipline. We present the findings and conclusions on various aspects of risk management by Indian companies in the following paragraphs.

Risk management and organizational effectiveness

Majority of the respondents (79.48 percent) disagree that the risk management is an automatic managerial process and 97.43 percent consent that effective risk management can improve organizational performance. This implies that companies are convinced about the benefits of risk management. However, the responses to linkage between the organizational mission and risk management are not affirmative (yes – 38.46 percent and no – 61.54 percent). Also, $\chi^2_{0.05}$ value is found to be significant (4.154). This implies that majority of the respondent fail to link organizational mission and risk management though they perceive the risk management to be important.

About 97.43 percent of the respondents who strongly agree/agree that effective risk management can improve organization's performance subscribe to the view that linkage exists between the organizational mission and risk management (Table III). It can be concluded that risk management must be blended with the overall corporate strategy and reflected directly or indirectly in the organization's mission and objectives statement given the fact that corporate managers in organizations are convinced about its importance. Among the risks responded by the companies, the operational risk is the most important category of risk identified by the respondents, according to large chunk of respondents. This is a warning signal because the respondents were from different functional areas and the inability to perceive risks, which are relatively critical to a given organization, indicates sub-optimality thinking on their part.

Risk communication

A large proportion of the respondents (61.54 percent) believe that risk should not be communicated to every employee of the organization. Out of this category, 30.77 percent of the respondents are not satisfied with the risk communication strategy in the organization. Of the 38.64 percent of the respondents who are convinced about the need for risk communication, a large proportion is satisfied with the risk communication their respective organization. So, the satisfaction level for risk communication in the organization depends upon whether the employees perceive it to be important and necessary. This implies that there is a belief among the functional heads that risk management is a function of the top management and the risk management is somewhat a superior activity needs to be practiced confidentially. It indicates a communication barrier between the functional heads and the CEO/board of directors. Hence, the need for co-ordination by someone solely responsible for risk management cannot be ruled out.

Variable	Q. no.	Responses and coding
AUTOMAN	1	Strongly agree – 1, agree – 2, cannot say – 3, disagree – 4 and strongly agree – 5
EFFECTIVE	2	Strongly agree – 1, agree – 2, cannot say – 3, disagree – 4 and strongly agree – 5
LINKAGE\$	3	Yes – y and no – n
IMPRISK\$	4	Open ended, market risk – m, operational risk – o, credit risk – c and other risk – o
COMMU\$	5	Yes – y and no – n
COMMUSATIS\$	6	Satisfied – s, cannot say – c and dissatisfied – d
OVERALLMANA	7	CEO – c, board/executive management team – b, risk manager – rm, director of finance – d, internal auditor – ia, line managers – lm and others – o
RESPONUND	8	Understood; strongly agree – 1, agree – 2, cannot say – 3, disagree – 4 and strongly agree – 5
RESPONDOC	8	Documented; strongly agree – 1, agree – 2, cannot say – 3, disagree – 4 and strongly agree – 5
RESPONCOM	8	Communicated; strongly agree – 1, agree – 2, cannot say – 3, disagree – 4 and strongly agree – 5
PARALIKE\$	9	Parameters – likelihood; value – y
PARACONS\$	9	Parameters – consequence; value – y
PARAFINIMP\$	9	Parameters – financial impact; value – y
PARAREPU\$	9	Parameters – reputational impact; value – y
PARAACH\$	9	Parameters – achievement of objectives; value – y
PARAOTHER\$	9	Parameters – other; value – y
BASISCAUSE	10	Cause of risk; value 1-4
BASISSOURCE	10	Source of risk; value 1-4
BASISIMPACT	10	Impact of risk; value 1-4
BASISFREQ	10	Frequency of risk; value 1-4
BASISOTHER	10	Other; value 1-4
RESPONSIBI	11	CEO – c, board/executive management team – b, risk manager – rm, director of finance – d, internal auditor – ia, line managers – lm and others – o
TOOLSAUDIT	12	Audits or physical inspection; always – 1, sometimes – 2 and never – 3
TOOLBRAIN	12	Brainstorming/judgmental; always – 1, sometimes – 2 and never – 3
TOOLEXAM	12	Examination of local/overseas experience; always – 1, sometimes – 2 and never – 3
TOOLSWOT	12	SWOT analysis; always – 1, sometimes – 2 and never – 3
TOOLINTERVIE	12	Interview/focus group discussion; always – 1, sometimes – 2 and never – 3
TOOLSURVEY	12	Surveys/questionnaires; always – 1, sometimes – 2 and never – 3
TOOLSCENARIO	12	Scenario analysis; always – 1, sometimes – 2 and never – 3
TOOLOPMODEL	12	Operational modelling; always – 1, sometimes – 2 and never – 3
TOOLPASTEXP	12	Past organizational experience; always – 1, sometimes – 2 and never – 3
TOOLPROCESS	12	Process analysis; always – 1, sometimes – 2 and never – 3
TOOLOOTHER	12	Other; always – 1, sometimes – 2 and never – 3

Table II.
Description of variables

(continued)

Variable	Q. no.	Responses and coding
BELIEF\$	13	Risk taking – rt, risk aversion – ra and mid-way approach – m
ALLOCATE\$	14	Yes – y and no – n
BARRIER\$	14	Budgetary – b, cultural – c and other – o
COMPIDENT	15	Risk identification; very important – 1, important – 2 and not important – 3
COMPANALYSIS	15	Risk analysis; very important – 1, important – 2 and not important – 3
COMPRMSTRATE	15	Risk management strategy; very important – 1, important – 2 and not important – 3
COMPRISKCOM	15	Risk communication and education; very important – 1, important – 2 and not important – 3
COMPORGFOCUS	15	Organizational focus and support; very important – 1, important – 2 and not important – 3
COMPOTHER	15	Other; very important – 1, important – 2 and not important – 3
CONTRIREPU	16	Reputation; maximum – 1, average – 2, none – 3 and cannot say – 4
CONTRIEFFCY	16	Efficiency of operations; maximum – 1, average – 2, none – 3 and cannot say – 4
CONTRICONFI	16	Employee confidence; maximum – 1, average – 2, none – 3 and cannot say – 4
CONTRIVALUE	16	Value maximisation; maximum – 1, average – 2, none – 3 and cannot say – 4
EVENT\$	17	Descriptive; event name and action taken
TRAINING\$	18	Yes – y, no – n and cannot say – c
FAILURE\$	19	Yes – y, no – n and cannot say – c
IMPRISKCREDI	20	Credit risk; value 1-5
IMPRISKMAR	20	Market risk; value 1-5
IMPRISKOPER	20	Operational risk; value 1-5
IMPRISKOTH	20	Other risk; value 1-5
METHOD\$	21	Descriptive
MAJORRISK1\$	22	Open ended, market risk – m, operational risk – o, credit risk – c and other risk – o
MAJORRISK2\$	22	Open ended, market risk – m, operational risk – o, credit risk – c and other risk – o
MAJORRISK3\$	22	Open ended, market risk – m, operational risk – o, credit risk – c and other risk – o
MAJORRISK4\$	22	Open ended, market risk – m, operational risk – o, credit risk – c and other risk – o
MAJORRISK5\$	22	Open ended, market risk – m, operational risk – o, credit risk – c and other risk – o
INDIVDEPTT\$	23	Yes – y and no – n
RESPONYOUR\$	24	Functional head – fh, CEO – c, board/executive management team – b, risk manager – rm, director of finance – d, internal auditor – ia and line managers – lm
RESPONOTHDP\$	25	Yes – y and no – n
MATCHING\$	26	Yes – y and no – n
DISAGREE\$	27	Often – o, sometimes – s and never – n
EDUNEEED\$	28	Yes – y and no – n
COMPUTERYOUR	29	Your department; value 1-5
COMPUTEROTH	29	Overall organization; value 1-5

(continued)

Table II.

JRF 12,2	Variable	Q. no.	Responses and coding
	EWRM\$	30	Awareness; yes – y and no – n
	EWRMIMPLE\$	31	Implemented; yes – y and no – n
	EWRMSTATUS\$	31	Status of implementation; fully implemented – f, somewhat implemented – s and cannot say – c
130	SPECKNOW\$	32	Specialised knowledge; yes – y and no – n
	NOKNOW\$	32	Skills; yes – y and no – n
	OUTSOURCE\$	33	Yes – y and no – n
	REASONOUT\$	33	Lack of expertise – la, lack of awareness – la and lack of resources – lr
	SUGGESTION\$	36	Descriptive
	EWRMURG\$	35	Descriptive
	FUNCDEPTT\$	–	Respondent's profile – functional department
	COMPANY\$	–	Name of company

Table II.

Values	1	2	4	Total
N	0.000	35.897	2.564	38.462
Y	46.154	15.385	0.000	61.538
Total	46.154	51.282	2.564	100.000
Test statistic	Value	Degree of freedom		Probability
Pearson χ^2	42.510	2.000		0.000

Table III.
Linkage of organization mission and risk management

Note: LINKAGE\$ (rows) by EFFECTIVE (columns)

Risk responsibility

It is found that the chief finance officer (CFO) (director-finance) is overall responsible for risk management followed by board of directors and line managers. This strengthens the view of some researchers that CFO can be the CRO. The perception of risk management as a top management function translates the overall risk management responsibility to be that of board of directors. Further, the line managers responsible for risk management indicated a firm belief on the “silo” approach to risk management in companies.

Conceptualization of risk management

Majority of the companies agrees that the responsibility of risk management is understood within the organization. However, when it comes to documentation, a significant proportion (41.06 percent) is unclear about it. One possible explanation of this fact could be that corporate executives think logically that risk is everybody's responsibility but a written and structured approach to risk management is missing. Further evidence comes from 46.16 percent respondents disagreeing that responsibility for risk management is communicated in the organization (Table IV). A large proportion thinks that risk must not be communicated to every employee of the organization. This implies that there is a need for formal risk management system in the Indian companies.

Risk analysis

In Indian companies, risk is analyzed in terms of its financial impact followed by consequences. Only 15.38 percent of the respondents indicated the achievement

of objectives as a factor linked to risk analysis. This indicates the failure on the part of corporate executives to link risk management with overall organizational objectives.

Risk identification

Analysis of the scores obtained for various tools and techniques used by companies for identifying risks indicates that line managers were the most prominent people responsible for the risk identification followed by the board of directors/executive management team. Interestingly, the internal auditors for risk identification do not use the audit and physical inspection. Local/overseas experience examination and brainstorming is the two techniques prominently used by the line managers.

Operational modeling is not a popular technique for risk identification. Line managers, CFOs and internal auditors mostly use past experience analysis and process analysis. The sophisticated tools of identifying risks like scenario analysis and strengths, weaknesses, opportunities and threats (SWOT) analysis are not frequently used in case of companies where the risk identification responsibility is that of board of directors/executive management team.

ANOVA is carried out for each tool used for identifying risk vs responsibility for risk identification. $F_{0.05}$ ratio obtained for the variables representing tools of identifying risks except TOOLINTERVIE and TOOLOPMOEL were found to be insignificant (Table V). This shows that the tools for identifying risks do not vary much between the persons responsible for identifying risks. The significance of operational modeling is low because of its limited use by some respondents. Internal auditors or functional heads use the interviewing/focus group techniques. It can be concluded that the risk analysts in companies do not use the modern tools of risk analysis, which may be due to convention or lack of awareness or skills.

Risk task	Strongly agree (%)	Agree (%)	Cannot say (%)	Disagree (%)	Strongly disagree (%)
Understood	25.64	64.10	–	7.69	2.56
Documented	2.56	41.02	41.06	7.69	7.69
Communicated	20.51	38.46	7.69	46.16	5.13

Table IV.
Activation on risks

Dependent variable	Squared multiple R	F-ratio
TOOLSAUDIT	0.083	1.646
TOOLBRAIN	0.063	1.228
TOOLEXAM	0.103	2.100
TOOLSWOT	0.113	2.250
TOOLINTERVIE	0.141	2.985
TOOLSURVEY	0.107	2.192
TOOLSCENARIO	0.044	0.835
TOOLOPMODEL	0.244	5.883
TOOLPASTEXP	0.089	1.782
TOOLPROCESS	0.012	0.215

Table V.
ANOVA for risk
identification
responsibility
(RESPONSIBI)

Risk philosophy

Majorities of the respondents have rated risk identification, analysis, strategies and organizational focus and support as important component(s) of risk management philosophy except risk communication and support. Out of 88 respondents who opined that risk communication and support is unimportant part of the risk management philosophy, 78 are those who think that risk must not be communicated to very employee of the organization. Therefore, biases were observed in the responses. This has important implications for risk implementation. If the risk implementers think that risk communication should not be done to the masses, the whole idea of involvement of every employee in the risk management process would fail.

Failures and risk management

A large proportion of companies (46.15 percent) agrees that there are cases of failure because of poor risk management. About 48.72 percent of the respondents are undecided on the issue. This indicates a failure of the corporate executives to identify the risks proactively and link the adverse happenings (failures) with the risk management practices (Table VI).

Training and risk management

Majority of the respondents (56.41 percent) feels that training on risk management in the organization is inadequate and 35.90 percent are unclear. On further enquiry, it was found that dedicated programs on risk management were never conducted in most of the sample companies. Rather, risk was dealt as an implied or obvious issue. Most of the talks about risk management during training programs in sample companies were confined to discussions that *inter alia* involved reference to financial risk (risk-adjusted returns) and somewhere fire/security/hazard risk were dealt in general. There is also a lack of professionals in the area, companies have responded.

Computerization of risk management

The computerization of the risk management function is relatively low in Indian companies. Significant difference was observed between the levels of computerization in the respective departments of the functional heads vs overall organization (Table VII). A possible reason may be low priorities to risk management or non-availability of infrastructure. However, in present times the companies are investing a lot in

Tools of identification	Always (%)	Sometimes (%)	Never (%)
Examination of local/overseas experience	38	56	5
Brainstorming/judgmental	33	59	8
Past organizational experience	26	69	5
Audits or physical inspection	23	72	5
SWOT analysis	10	69	18
Process analysis	8	74	13
Interview/focus group discussion	5	67	28
Surveys/questionnaires	5	64	31
Scenario analysis	5	77	18
Operational modeling	0	72	28
Other? (Pl. specify)	0	0	0

Table VI.
Tools of risk
identification

computerization because of the operating environment. Therefore, the only tenable reason is the lack of emphasis on risk management.

Risk contribution

The contribution of risk assessment practices to assessment variables was rated maximum in case of efficiency of operations and also the 38.46 percent of the respondents were undecided about the contribution of risk management practices to reputation and value maximization (Table VIII). It implies that the risk perception of corporate managers is polarized towards operational risk and the ability to conceptualize and quantify other risks such as market risk and credit risk is relatively low. Further, the responses to identification of adverse events include more of the operational risks and the post-event actions reflect the use of conventional techniques. Hence, the operational risk appears first in the mind recall of the corporates, though it may not be so critical as others may.

EWRM status

The awareness level of integrated approach to risk management (EWRM) is too low. About 82.05 percent of the respondents were not aware of EWRM. Respondents did not comment on the status of implementation of EWRM. The “somewhat implemented” and “cannot say” category total to 95.2 percent of the respondents. The four respondents who are not aware of EWRM and have responded as EWRM being fully implemented or somewhat implemented belonged to Birlasoft Global and Alstom Projects. On further enquiry, it was found that they confused between risk management as a general concept and EWRM. Hence, it can be concluded that the awareness and implementation level of EWRM is very low in Indian companies. The companies do agree that EWRM requires specialized knowledge and expertise. This accentuates the need for recognizing risk management as an exclusive, strategic discipline, which further implies the need for a CRO who is the risk champion. The respondents were of the opinion that the risk management solution must not be outsourced viz. About 84.21 percent of the

Values	1	2	3	4	5	χ^2
COMPUTERYOUR	5.128	23.077	23.077	41.026	7.692	32.513
COMPUTEROTH	2.857	17.143	31.429	8.571	40.000	33.714
Source	Sum of squares	F-ratio	p			
COMPUTEROTH	53.914	47.541	0.000			
Error	18.429					

Table VII.
Computerisation of risk management

Note: Frequencies and ANOVA – COMPUTEROTH vs COMPUTERYOUR

Contribution assessment variable	Maximum (%)	Average (%)	None (%)	Cannot say (%)
Reputation	30.77	25.64	5.13	38.46
Efficiency of operations	58.97	35.90	5.13	–
Employee confidence	10.26	82.05	7.69	–
Value maximization	18.42	36.84	7.89	36.84

Table VIII.
Contribution of risk assessment practices

respondents who agree that EWRM requires specialized knowledge and expertise opined that risk management solutions must be in-house. This signals a need for extensive training on risk management in companies.

The companies agreeing on outsourcing of risk management have lack of expertise or awareness. This further strengthens the need for training. The major difficulties in implementing the EWRM are the mental blocks among the functional managers either because of resistance to change or their inability to co-ordinate with the other department in the organization. The awareness and use of the various tools of risk identification and analysis is relatively poor.

In response to the question on what is to be done urgently to implement EWRM, majority opined that a strategy must be formulated to implement effective risk management and some person may be exclusively assigned this job who shall reporting to top level in the organization – may be CEO or the board of directors. This implies that the line managers/functional heads that are managing the risk following a silo approach (as established) are ineffective in responding to the overall organizational risk.

The telephonic survey also shows that almost all the respondents were unaware of value at risk (VaR) and VaR has never been calculated in their respective organization. Insurance and banking companies may be exceptions because of the well-established regulatory framework. In developed countries, various research studies on risk management have shown that firms are increasingly taking a systematic and comprehensive approach to risk management and companies are spending heavily on IT. The risk management is functioning both ways – decentralized as well as centralized. Such a tendency was not firmly established for the sample companies.

Implementation concerns

The major concern in EWRM implementation is the support from top management and incentivisation for risk management. The critical issue is also how top management perceives the risk management function and its willingness to adopt it. The EWRM requires adequate awareness among corporate executives and conceptualization of the value derived from it. This is consistent with the Lam (2003) imperatives for EWRM – corporate governance, risk analytics and data and technology sources availability. The ability to efficiently integrate all the components of risk as well as to effectively operate in markets while serving customers as well as satisfying regulatory requirements is a direct function of the quality of the people, the associated culture, as well as incentives and experience. The task of implementing EWRM can be eased if:

- the assessment of risks is rigorous and the tools and techniques are sophisticated enough to deal with the complex risk relationships;
- the approach to risk management must be a blend of approaches rather than simply a recipe for a given entity. The focus should be on customization rather than absolute standardization of the risk management process; and
- the risk quantification may vary across levels and departments, consensus is required to be developed before applying a strategy.

Emerging models for effective implementation

Representative CRO organization as suggested by Wilson (2004) places CFO and CRO at par, both reporting to the CEO. In the vertical chain, the risk philosophy be

communicated to the subunits, namely strategic business unit (SBU) CEO/SBU CFO. KPMG LLC (2001) suggests the ERM model where risk strategy is built around and supports the business strategy. Risk portfolio development, optimization and measuring and monitoring take place in the context of these strategies, based on an established structure for ERM that provides the means of embedding it in organizational culture. The genesis of these models suggests that in order that EWRM be effective, the risk culture must be developed in the core of all the business activities. The EWRM model to work requires the definition and placement of the risk champion (CRO) and the risk strategy must flow in both directions – downward and upward. We also obtained the similar results.

Strategic challenges

The strategic challenge before implementing the portfolio approach to risk management requires the structuring of incentives associated with risk management across business segments. Globally, operating organizations need robust information systems to handle the various types of risks including the sovereign risks.

Some researchers have established that the operating standards should be uniform across business units. We find that, practically it is difficult to have identical operating standards. It may be possible to build up a recipe for risk management in a specific group of organizations. One of the critical tasks is to ensure robust business analysis models at the central level and to ensure strict compliance at the unit level.

The risk communication must be dynamic in obtaining all information on systemic and non-systemic risks. Accountability and responsibility must be ensured while simultaneously deriving advantage of local knowledge and expertise. The potential conflicts between economic/risk reporting and accounting/regulatory standards must be resolved. The CRO oversees both the identification and measurement of all risks faced by the firm, and the efficient use of firm's capital. The CRO should preferably be senior management positions reporting to the CEO. In order that EWRM generates some strategic opportunities, it must be perceived and implemented in strategic way rather than as a routine business function.

Conclusion

Integrated risk philosophy requires an extensive training on risk management. There is a dire need of institutions and experts on the subject. Though some organizations like Institute of Internal Auditors, India have taken some initiative on ERM, but the focus of their programs is more audit and internal controls type rather than using the EWRM as a part of business strategy (www.iiaindia.org). Implementing EWRM solutions require substantial investment in infrastructure of which IT solutions are costlier ones. Companies must be able to link risk management with overall organizational objectives. Corporate governance, which is the buzz world today in companies, is must for successful EWRM.

Risk communication must be improvised in corporations to take advantage of and build confidence in risk management. The communications of organization's risks must be efficient enough to ensure that the risk appetite is built even at the lower management level. Operational risks have been sole focus area of attention in many companies. However, there are other risks which may be relatively more important. Hence, the approach to risk assessment needs a drastic change in companies.

EWRM requires that functional heads that should have sufficient motivation to take up the risk management jobs which is possible by offering incentives. Risk responsibility must be entrusted to a risk champion, which may be designated as CRO. Companies should exclusively conduct comprehensive training programs on various aspects of risk management. EWRM can become a strategic competitive advantage if it is used to identify specific action steps that enhance performance and optimize risk. It can also influence business strategy by identifying potential adjustments related to previously unidentified opportunities and risks.

ERM must be perceived and implemented in a strategic way rather than as a routine business function. Use of IT should be promoted to achieve automation of risk management. Web sites may also reflect some concerns on EWRM, which would signal a positive message to the stakeholders.

Structural limitations

This paper focuses on the external view of risk management practices and the status of risk aggregation and integration in companies. An area, which also needs attention, is the evaluation of the internal risk management practices within the organization as to explore the possibilities of better risk solutions. This would help in building confidence in risk management and may help to achieve the integration and move towards EWRM. A study could also be built on the evaluation linkage of risk management and corporate governance which a prerequisite for effective EWRM. We assumed that the respondents are aware of risk management as such, which may not be true always. Financial head predominantly looks after the risk management in many Indian companies that may be reluctant to respond and agree for recognition of risk management as a separate discipline.

Directions for further research

We find some important research gaps. The first issue is exploring whether the risk management function as a separate distinct discipline would lead to risk aversion or reduction in risk capabilities. Is the cost of risk management a deterrent to implementation of EWRM? How we can blend the existing management information systems in the organizations with the risk solutions? (Gupta, 2009). Another area to explore is whether the risk management should be an important factor in deciding about the business model or risk management style be derived from the given business model, particularly for Indian companies. Though the consultants and researchers may have dealt some of the above issues in an implicit way, yet a lot has to be done, we feel. In some developed countries, the seminars, conferences and other research endeavors on EWRM is now a regular feature, but purely, in an Indian context, risk management has a long way to go. However, some consulting firms in India have taken a lead in this direction.

Note

1. EWRM and ERM used synonymously.

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About the author

P.K. Gupta is a Postgraduate from the Faculty of Commerce and Business Studies, Delhi School of Economics, University of Delhi and has a PhD in Finance. He is a Fellow Member of the Institute of Cost and Works Accountants of India, Fellow Member of the Institute of Company Secretaries of

India, Chartered Member of the Institute of Chartered Financial Analysts of India and Fellow of the Insurance Institute of India, Mumbai. He is presently associated as Senior Associate Professor at the Centre for Management Studies, Jamia Millia Islamia University, New Delhi. He has handled various facets of risk management in companies, especially project, financial and operational risks and has organised seminars, conferences and training programmes in the gamut of risk management. He has to his credit several research papers and articles published in reputed international journals. He has authored six books including *Insurance and Risk Management* (2010, 2nd ed.). He is the Regional Director, Delhi Chapter of PRMIA, USA. His current area of research interest is EWRM. P.K. Gupta can be contacted at: pkg123@eth.net

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