

Original Article

# Operational risk management in Swedish industry: Emergence of a new risk paradigm?

Kristian Kallenberg

Stockholm School of Economics, Stockholm, Sweden.

**Abstract** In recent years, a vast number of regulators and normative guidelines have suggested new approaches to managing risk in corporate settings. Emphasis has been on strategies for managing operational risk and the benefits of a more integrated approach to the overall risks affecting a company. However, it is unclear whether these 'new' approaches to risk management have been accepted and implemented by the industry. Based on interviews with 20 experienced chief risk officers working in Swedish industry, this explorative study aims at investigating and analyzing current opinions and considerations on the implementation of operational risk management (ORM). The development toward more integrated risk management approaches as proposed in the enterprise risk management (ERM) is also in focus. The results of the interviews indicate that the Swedish industry approach to ORM is today rarely a strictly formalized, straightforward activity. Instead informal, decentralized, pragmatic, bottom-up approaches to ORM are preferred over an ERM approach to overall risk exposures. The respondents stressed that their companies' activities with ORM had been guided by the Swedish regulatory (precautionary) approach, notably regarding environmental and occupational risks. Stakeholders such as the financial markets and insurers, as well as various guidelines and policy documents relating to corporate responsibility and corporate governance had further directed the development. However, as a result of stricter international regulation relating to ORM and ERM, it is likely that incentives for more formalized risk management approaches will emerge also in Sweden.

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## Introduction

All organizations are subject to various risks. The ability to properly assess and manage these risks is crucial for the survival and success of the organization. In the corporate sphere, risk analysis

is hardly a novel undertaking, and of course the management of risk has always been an inherent part of business life. However, recently, there has been growing recognition of the need for more formal, systematic approaches to overall corporate risk exposures. Stakeholders, such as regulators, the insurance and accounting industry, shareholders and the financial markets, have put pressure on corporations to manage their risks with more care. Since the early 2000s, there has been an increased focus on what has been defined as operational risk (Smallman, 2000a, b; King, 2001; Ward, 2001; EIU, 2007a, b). Such risks relate to negative deviations of performance due to how the company is operated, rather than the way it finances its business (King, 2001; Jorion, 2006). Noteworthy examples of sources for operational risks are interruption in business processes, fire, chemicals or other environmental hazards, poor workplace safety, inadequate maintenance of equipment and production facilities, employee incompetence, employee health problems and corruption. These risks are of increasing importance for the overall risk exposures, and consequently, risk management of many companies. If mismanaged, the firm may suffer significant commercial damage or even bankruptcy (Hussain, 2000; Smallman, 2000a, b; Frost *et al*, 2001; Ward, 2001; Jorion, 2006; EIU, 2007a, b; Jallow *et al*, 2007).

It has been argued that there is a great need for improvement in the quality (as regards tools and formal processes to manage operational risk) and scope (such as identification of what risks to focus on) of ORM. Companies frequently deal with operational risk issues as they occur, and often following a crisis or catastrophic event (King, 2001). In practice, in real industry settings, the formal and systematic approaches to ORM are new phenomena, and it has been argued that there is a need for improvement of these activities (Elliott *et al*, 2000; Ward, 2001; CAS, 2003; Beaumont, 2007). Despite broad recognition of the benefits of ORM, there is limited empirical evidence of whether ORM as a formalized activity has been implemented in reality, at least in a Swedish industrial setting. Admittedly, research on the management of various operational risks in Sweden, have been carried out in the past regarding factors, such as environmental risks, financial risks, occupational risks, IT risks, business continuity planning, operational safety management, physical risks, technical or process risks and more. However, searches in various literature databases showed that research on the formal organization of ORM activities in a broader Swedish industry setting is rare.<sup>1</sup>

In light of these circumstances, a question arises: How is ORM implemented and organized in practice? This broad research question motivates this study. The aim of which is to investigate and analyze current opinions and considerations of ORM among chief risk officers in Swedish industry. Hence, the main scope of this explorative study is to discuss the organization of ORM, as well as general development towards, drivers of, challenges with, and current industry trends regarding ORM.

## Literature Review

### Development of operational risk management (ORM)

It has been argued that the predominant view of risk management as a financial activity is too narrow. It does not acknowledge all the possible risks that companies may be facing. As risks often concern failures of processes and techniques or flawed employee' risk assessment, the financial approach to risk management is not enough, or even, it is not an appropriate one (Elliott *et al*, 2000; Smallman, 2000a,b; Frost, *et al*, 2001; Ward, 2001). Thus, there is a need for risk management approaches that move beyond the financial, quantitative, and clear-cut conceptualization of risk as a prerequisite for gain and reward.

The management of operational risks is by no means a recent task for managers or companies. They have previously been monitored and managed in business activities relating to for example internal audit, environmental, insurance, or human resources departments (Ward, 2001). However, lately the idea has emerged that operational risks should be managed by a separate function, with its own risk strategies, tools, and processes (Smallman, 2000a,b; Ward, 2001; Davis, 2005).

It has been argued that specific industry characteristics are likely to influence the types of risk that an organization is exposed to, and consequently tends to focus on (McCrae and Balthazor, 2000; Ward, 2001; ISO, 2007). However, in a general sense, ORM helps companies avoid unexpected losses, improve their operational efficiency, promote more efficient use of capital, satisfy stakeholders and to comply with regulations (King, 2001). Largely, on the basis of the ideas from risk research with focus on society relating to elements, such as nuclear power safety regulations or environmental health and safety (for example, US National Research Council, 1983),<sup>2</sup> the objectives and methods of ORM have been elaborated upon in a wide variety of guidelines relating to corporate governance, accounting, insurance and others. In brief, the objectives of ORM are to identify risks, classify risks as controllable or uncontrollable, identify causes, provide measured feedback on risks and relate them to management actions (King, 2001, p. 48).

The development toward more formal approaches to ORM has at large been directed by three interrelated circumstances. Firstly, a broad set of 'new' risks has emerged recently. These risks are due to factors, such as increased dependence on IT, the accelerating pace of business, globalization, terrorism, deregulation as well as regulation of industries, increasing public exposure in the media and attention from various non-governmental organizations (Anderson, 1999; Ward, 2001; CAS, 2003; Jüttner, 2005; ISO, 2007). For the companies, risks relating to these factors are crucial to manage, and have boosted more formal approaches. For example, the fears of the Y2K bug stimulated companies to improve the security and control of their IT systems.

The events of 9/11 in 2001 introduced previously unconsidered risks with impact for companies' risk management strategies (Davis, 2005; Gates and Hexter, 2005; Sjöberg, 2005; EIU, 2007a,b).

Secondly, the evolving interest in and demands for improved risk management and control systems have emerged as a result of numerous publicly exposed business failures and calamities (Gapper and Denton, 1996; Holton, 1998; Hussain, 2000; Kallenberg, 2007). The problematic consequences of asbestos litigation for power and electronic company Asea Brown Boveri (ABB) serves as an illustrative example. As a result of lack of control, poor ORM and risk communication strategies, ABB was faced with a 90 per cent downturn in share value between 2001 and 2002 and was virtually on the verge of bankruptcy (Kallenberg, 2007). Other illustrative examples where companies and their stakeholders have suffered from risk management shortcomings are the Brent Spar/Shell controversies in the 1990s, the energy company Enron's collapse in 2001, and to some extent, the financial crisis in 2008.

Thirdly, the importance of ORM is believed to have increased due to increased environmental concerns, as well as an increased focus on various corporate responsibilities. Environmental risk management and risk management related to various social and economic factors are increasingly seen as a corporate responsibility (Accorsi *et al*, 1999; Anderson, 1999, 2006; Sullivan and Sylvester, 2006; Ljungdahl, 2008; Öhrlings PricewaterhouseCoopers, 2008). As will be discussed further on, these three circumstances have motivated a broad set of stakeholders (notably regulators) to promote a greater awareness and control of companies' various operational risks.

### **Enterprise risk management (ERM)**

As a consequence of the many new risks that organizations are facing, the need for a wider approach to risk management has emerged. As the overall risk management has become more demanding and complex, the need for broader and more integrative risk management approaches has been suggested (Smallman, 2000a,b; Ward, 2001; Doherty, 2002; Beaumont, 2007; EIU, 2007a,b). Generally, this approach is called ERM, but is also sometimes referred to as enterprise-wide risk management, integrated risk management or firmwide risk management (Gates and Hexter, 2005; Jorion, 2006). The concept has mainly been developed in the United States, and notably with an insurance or accounting perspective. The Committee of Sponsoring Organizations of the Treadway Commission (COSO) provides a definition of ERM that has gained considerable acceptance.

A process, effected by an entity's board of directors, management, and other personnel, applied in strategy setting and across the enterprise, designed to identify potential events that may affect the entity, and manage risk to be

within its risk appetite, to provide reasonable assurance regarding the achievement of entity objectives. (COSO, 2004, p. 2).

In comparison to earlier risk management approaches, ERM is more holistic and stresses all the risks that an organization may be facing. It promotes a 'portfolio approach' to risk management. It provides a structure that links various risks together. It promotes risk management that does not merely focus on the sum of various risk elements. It should also consider risk interactions (Holton, 1998; CAS, 2003; COSO, 2004; Jorion, 2006; Beaumont, 2007). A successful ERM function should incorporate financial, reputational, business, political, strategic and other risks (Holton, 1998; CAS, 2003; COSO, 2004; Jorion, 2006; Beaumont, 2007).

### **Contextual and stakeholder effects on risk management**

To understand how companies manage operational risks and how a proper and successful risk management should be organized, a number of factors have to be considered. Firstly, there is a need to understand the business context and the environment of the organization. Various political, regulatory, cultural, economic and competitiveness factors must be considered. Moreover, various key drivers and trends in the surrounding society have to be taken into account (ISO, 2007). Secondly, various internal and external stakeholders have to be identified and analyzed. It has been argued that an adequate understanding and consideration of contextual factors and stakeholders contributes greatly to the success of the risk management design (Accorsi *et al*, 1999; Elliott *et al*, 2000; Hodges, 2000; Ward, 2001; ISO, 2007).

As regards the development of ORM and ERM, many stakeholders have promoted increased awareness and better-structured, more formal approaches to manage risks. For the financial industry, risk management frameworks, such as the COSO in the United States (COSO, 1992) and the Bank for International Settlement regulatory documents regarding ORM (BIS, 1998, 1999) have been implemented widely. In line with the norms outlined by BIS, the European Union (EU) has adopted the EU Capital Requirements Directive that applies to all financial actors in the EU. In a broader sense (relating to all public companies), the UK Combined Code ('Turnbull Report', ICAEW, 1999), the COSO II on ERM (COSO, 2004), and the German KonTraG (1998) are examples of guidelines/regulative documents that promote a greater control of all risks that a company is facing. In Sweden, the government has presented the Swedish Code of Corporate Governance, which encourages transparency and risk control (SOU 2004:130). Non-financial risk exposure (relating to, for instance, environmental and occupational risk exposure) is directed in the Annual Accounts Act (1995:1554:6). Apart from regulators, various business/standardization organizations, the United Nations and academia have

provided voluntary guidelines with implications for ORM and ERM. For example, the International Standardization Organization (ISO) is due to issue a risk management framework/guideline in mid-2009 (ISO, 2007). The UN launched the Global Compact (GC) and Global Reporting Initiative (GRI) in 2000 (UN, 2008).<sup>3</sup>

The stakeholders above have promoted the development of ORM and ERM. The formal regulations on ORM and ERM have been mostly applied in the United States, but also in some European countries (Germany, the United Kingdom), in Canada and elsewhere (King, 2001; EIU, 2007a,b). This has stimulated academic research on ORM and ERM, but to a greater extent, a vast practitioner interest (for example, Ward, 2001; PwC, 2004; Gates and Hexter, 2005; EIU, 2007a,b).

Surveys of risk managers' views on ORM and ERM activities are partially motivated by the recent changes to rules and regulations in many countries (Gates and Hexter, 2005). As a possible consequence, regulators and corporate governance requirements are commonly rated as among the most important incentives for implementation of various ORM and ERM frameworks. Auditors' and insurance companies' demands as well as an urge to avoid reputational risk are also highly rated (for example, PwC, 2004; Gates and Hexter, 2005; EIU, 2007a,b).

### Research questions

The aim of this study is to investigate and analyze current opinions on ORM among chief risk officers in Swedish industry. Motivated by the lack of earlier academic research on how ORM as a more formalized activity is implemented in practice by the Swedish industry, the study addresses the following research questions:

- How is ORM organized in Swedish industry?
- To what extent is ORM implemented in Swedish industry?
- What stakeholders and contextual factors have directed the development of ORM?
- What are the perceived challenges with ORM?
- How do Swedish risk managers perceive ERM?

### Method

The study is based on in-depth interviews with 20 experienced chief risk officers (hereafter denoted respondents). Although the respondents' titles differed slightly, they were all in charge of their companies' ORM (for example, chief risk officer, group risk manager, security and risk manager and chief operational risk officer). The mean respondent was in the age range of 50–60 years

and had about 10–20 years of experience working with risk management. All respondents were men.

Respondents came from 20 industrial companies in Sweden (henceforth referred to as firms): ABB, Alfa Laval, Assa Abloy, Atlas Copco, Autoliv, Electrolux, E.ON, Ericsson, Getinge, Holmen, Sandvik, SCA, Scania, Seco Tools, Skanska, SKF, SSAB, Stora Enso, Swedish Match and Vattenfall. The firms were selected on two criteria. Firstly, they were identified as being exposed to a set of operational risks (for example, significant environmental, occupational, technical and process risks). Secondly, they were identified as being committed to work with sustainable development and/or issues relating to corporate responsibility. These were established in a somewhat simplistic way by screening annual reports and web pages. Because of the business-sensitive character of the study, specific company opinions, as expressed by the respondents, will not be revealed. Quotes from the interviews will be anonymous.

The respondents were interviewed with regard to the following research questions:

- How does your company define operational risk? What are the most crucial operational risks for the company?
- Is ORM important for your company? Is it a prioritized issue for top management and board? Increasingly so?
- How are activities relating to ORM organized within the company?
- What are the most important stakeholders and factors for promoting awareness and management of operational risk?
- What are the greatest challenges with ORM?
- Has your company implemented ERM?

The interviews were conducted using a semistructured method. All interviews but one were made in Swedish and were recorded. The recordings were transcribed immediately after the interviews. The transcribed interviews were structured following the initial question formulary. On account of long travel distances, seven of the interviews were conducted over the telephone. Those remaining were carried out at respondents' offices.

## Results

### The central risk management function

The interviews showed that the firms had no single coherent or formal definition of what operational risk is. Overall, however, the respondents stressed that their ORM concerned losses and business interruptions relating to production and to facilities and were related to environmental risks and

occupational health and safety issues, as well as to more hard-to-foresee external events. Two of the respondents stressed their view on operational risk as:

Operational risks are everything that hinders the normal pace of activities. Broadly, it is about loss analysis and business interruption.

Specific industry characteristics have been argued to influence what operational risks an organization is exposed to, and consequently tends to focus on (McCrae and Balthazor, 2000; Ward, 2001; ISO, 2007). This was true for the sampled companies. As shown in Table 1, if companies were grouped on the basis of the *type of industry*, such as engineering, project or processing industry, the interviews indicated that the most important operational risks, and consequently the *risk maps* were rather similar.

With regard to the identification of risk, it is essential to mention that mismanagement of first-hand risks (as above) is likely to spur the occurrence of second-hand risks (new risks emerging as a consequence of first-hand risks). The challenges with second-hand risks, and notably reputational risk, were informally stressed by all of the respondents. Reputational risk was perceived as likely to affect factors, such as brand value, consumer/investor trust, and consequently profits.

**Table 1:** Most important operational risks, on the basis of the industry characteristics, to manage

<i>Type of industry</i>	<i>Characteristics</i>	<i>Most important risks</i>
Engineering industry	Assembly factories Several production units Numerous suppliers	Business interruption due to machine breakdowns/technical risks and fire Environmental risks Occupational risks Subcontractors' and subsidiaries' failures to deliver supplies
Project industry (for example, construction and building companies)	Many ongoing projects Few or no production facilities/factories	Business interruption due to technical problems Occupational risks Legal/contractual risk Political risk
Processing industry (for example, paper and pulp industry)	Few production facilities/factories of key importance Large storage capacities	Business interruption due to machine breakdowns/technical risks, and fire Environmental risks (leakages, emissions and hazardous chemicals) Transportation failures Occupational risks



**Table 2:** Affiliation of the ORM function by industry characteristics

<i>Organizational affiliation of the ORM function</i>	<i>Engineering industry</i>	<i>Project industry</i>	<i>Processing industry</i>
Internal audit	1	—	1
Legal department	2	—	1
Financial department/treasury	1	—	2
Environmental/sustainability department	2	—	—
Insurance department	—	1	—
Independent department (reporting directly to top management)	2	1	—
No formal department (ORM: pure line management responsibility)	4	1	1

There were significant organizational differences regarding the central function dealing with operational risks. As displayed in Table 2, these functions were affiliated/subordinated/reported to different corporate functions within the firms.

Fourteen firms had formal functions for the management of their operational risks. However, as shown in Table 2, the firms differed in the ways in which their ORM was organized. The diversity in organizational affiliation of the ORM function was partially stressed as a challenge for finding coherent ways of working with ORM. One of the respondents stressed this in the following terms:

The operational risk management function ... no matter how it works ... has no natural home ... either in the financial or in the legal department ... and definitely not in accounting ... but, where it is hosted ... is more a matter of history and tradition ... and it differs from one company to another.

The organization of ORM activities has been found to be a reason for focus and resource allocation to risk management activities (for example, Ward, 2001). However, as the organizational affiliations of the ORM functions did not show any distinct pattern, and as this study focuses on the broad, common features, stakeholder pressures and challenges of ORM, this will not be considered as a factor in the following.

There was a broad consensus among the respondents that ORM should primarily be a *line management* responsibility, rather than a central risk function responsibility. Regarding the ‘central’ risk function (regardless of the affiliation), the respondents stressed that the scope and focus of their responsibilities concerned overall risk identification, coordination of risk management activities, provision of advice and education of risk managers and employees and analysis of reasons for business interruption. Together with insurers, their responsibilities also included identification of various needs for insurance.

The division of risk management responsibilities between the central ORM function and line management were underscored by two of the respondents in the following terms:

Our responsibility is to be moderators ... to be the devil's advocates. We make recommendations ... we provide tools and training ... we are on standby ... but line management makes all the decisions.

In the assessment and analysis of operational risk the firms applied rather similar tools. The respondents stressed that their firms applied informal and formal methods to assess their risks. One respondent stressed the informal approach to ORM as follows:

It's a muddling through process ... you have to use your toolbox ... be very creative. There is actually just one answer ... you have to visit the plants ... go there, watch and survey ... it's often very hands-on.

More formally, the sampled companies applied qualitative (such as self-assessment scales of perceived risks among employees or risk workshops), semiquantitative (such as key risk indicators) and quantitative (for instance, regarding business interruptions or fatalities) risk assessment tools and analysis. To establish a risk profile, a risk map of the firm, eight of the companies, was used what was frequently referred to as the *blue model*. This model was originally developed for the paper industry, but has been adopted and adjusted to fit also other industries and their various needs. It visualizes the prevalence of various risks by using a color code, where blue is excellent and red is alert. The companies used the blue model as a benchmark and visualization for improvement of the risk management activities.

As regards the opinions of and firms' implementation of ERM, the respondents showed a moderate interest in this approach, but few of the investigated firms had adopted it. Fifteen respondents stated that, at this point, they were not striving for an ERM approach to risk management. Four of the respondents reported that their companies applied an ERM approach, whereas one respondent said that ERM was under investigation. With regard to the four firms that applied an ERM approach, it is essential to mention that two firms had been guided by German legislation (KonTraG), and the other two had been directed by American stock exchange rules as stated by the US Securities and Exchange Commission (SEC) and the Sarbanes–Oxley Act (Sarbanes–Oxley Act (SOX; 2002); COSO, 2004).

### **The internal stakeholders: top management and the employees**

Concerning the mandate and commitment for ORM activities, 16 respondents stressed that ORM was of great and increasing concern for their firms, and

was also supported by the top management and the board as shown by the following quotes:

Yes, there is clearly an increased acceptance of these issues ... no one still questions that we need to do this ... but it also depends on that the management and board have started to take this seriously ... they really read our reports.

The management entirely accepts this new risk approach.

The issue of ORM is now more prioritized by the management ... there are a number of early adopters.

There was consensus among the respondents regarding the importance of the employees for the success and implementation of ORM. All of the respondents stressed that the employees were crucial stakeholders for the success of ORM activities. This opinion can be exemplified by the following quotes:

In our company, every employee is a risk manager for his or her specific task area ... everyone manages risk in one way or another.

The employees own the issue ... they have been educated on what to focus on ... they know that it is their responsibility that things work.

Previously, line management working in the factories thought this to be damned uncomfortable ... But now, they have realized that it is an advantage ... they prioritize what risks to focus on ... and look at what to act on.

### **The external stakeholders and the business context**

Even though the firms belong to different type of industries, the interviews indicated that there was agreement among the respondents regarding important external stakeholders and contextual factors. Four were particularly emphasized: regulators, sustainability and corporate responsibility factors, the insurance industry and the financial markets.

Firstly, the interviews indicated that the investigated firms were very concerned about regulators, notably the Swedish government and the EU. According to the respondents, regulators were perceived to have affected the risk management strategies extensively. Fifteen respondents stressed that their firms had historically overcomplied with regulation concerning occupational and environmental health and safety issues. Sixteen respondents believed that their firms' risk considerations had been affected by the *Swedish approach* to environmental protection, risk management and regulation. Seventeen

respondents emphasized the Swedish Code of Corporate Governance (SOU 2004: 130), as directing the outline of their risk management strategies.

Apart from being regulated or guided by Swedish legislation and EU directives, it has already been mentioned with regard to ERM that other national regulations and rules had been guides for four of the investigated firms.

Secondly, sustainable development as well as principles on corporate responsibility was believed to be important. Seventeen respondents emphasized that they were key drivers for their work with ORM. Moreover, various *international management standards*, such as ISO 14001 (environmental management), OHSAS 18000 (occupational health and safety standards) or GRI<sup>4</sup> were stressed by all of the companies. As illustrated by a quote from one respondent:

Nowadays it is more of a balance ... it goes both ways ... and I believe that is good ... there is a push for cooperation between the companies, the municipalities and the surrounding society ... people around us ... organizations such as the trade unions are important ... there is a fruitful dialog...on the moral aspects of our responsibilities ... I believe that is good.

Thirdly, *insurance companies* were perceived as important. Seventeen respondents stressed that the insurance industry put formal demands on how their firms managed their operational risks. This was the case notably with respect to physical risks (for example, risk of fire), but also regarding process risks, technical risks, transportation and employee safety. The respondents pinpointed two major reasons for this development: (1) to get your facilities insured, there is a need to provide relevant data on risks; (2) insurance premiums related to operational risks have increased substantially over the last decades. One respondent summarized this development as follows:

If you go back to the early 1990s, no one asked specifically for details ... today they scrutinize all our risk reports ... they issue recommendations which they follow up closely ... it's a mutual interest ... if we are good at risk protection, we'll get low premiums ... you get what you deserve.

Fourteen of the investigated firms used captives (an internal insurance function owned by the company) as a management control measure to improve risk management. By using captives, premiums were used as a managerial tool to reduce levels of risk and to establish a better control of a subsidiary or a specific plant. One respondent commented:

We have a central responsibility for the insurance issues ... we can decide the premiums ... and we have chosen high premiums on the local plants ... the reason for this is that it's a strong incentive ... if you have a lot of damages,

a lot of interruption in the production ... it must affect your result ... and in return ... this works as an impetus for action.

Fourthly, the *financial markets* were perceived an important stakeholder. Fifteen respondents stressed the increased interest and demand for ethical, environmentally sustainable, and/or socially responsible investments (SRIs) as factors believed to have spurred the increased focus on various operational risks. Thirteen respondents underscored the importance of *rating agencies*, such as Moody's and Standard and Poor's. One respondent highlighted the increased pressure from and importance of financial actors in the following terms:

It started with the environmental issues ... investors became more prone to ask questions ... they wanted to know how we managed risk ... but now, this has broadened ... there are funds that specialize in 'well-managed' companies who handle their risks well, and this has increased with CSR and various stock market indexes. We receive more and more questions from the investors regarding these issues, and we believe that it is important to answer their questions.

### **Challenges and perceived problems**

The interviews showed that there are a number of challenges that might have complicated the process of achieving a successful ORM. Overall, the respondents stressed four major challenges: risk perceptions, cultural obstacles, risk communication and measurement of risk.

Firstly, the respondents stressed concerns with subjectivity in employees' risk perceptions. The employees' varying perceptions of risk were stressed to complicate the process of identification, analysis and evaluation of risk. Consequently, the differences in employee risk perceptions were presumed to influence risk treatment. Fourteen respondents stressed the importance to understand and pay attention to differences in employee risk perceptions. The following two quotes illuminate this problem:

The concept of risk is incredibly subjective ... it varies from one person to another ... one employee might think something is a risk while another doesn't ... so, for an organization, it is important that the people working with these issues get a coherent view of what constitutes a risk ... things that relate to risk perceptions ... it's important to get a collective standpoint ... you have to understand and prevent subjectivity.

A lot of the activities with risk prevention is pure behavioral science ... to make people aware of the risks ... and then to make them change attitudes ... and actions.

Secondly, and in line with the discussion on risk perceptions above, the respondents stressed various cultural obstacles as hurdles and challenges for implementing a successful ORM. Not only the cultural differences in employees' risk perceptions but also the cultural issues regarding employees' job satisfaction, trust of management and loyalty to the firm were believed to complicate risk management activities. The respondents pointed out that, given the multinational character of their companies, it was important to understand how cultural differences in risk perception affected the overall risk profile of the company. Two respondents described this cultural challenge in the following terms:

There are also cultural differences in the perception of how the employees perceive their jobs ... if you look at a truck driver ... there is a vast difference in how you value your job ... If you compare Sweden and UK ... It is of course a matter of education ... in the UK, where the truck driver has less education ... it's tougher to communicate ... and they don't share the same feelings for the company ... the same values.

Job satisfaction is an important issue ... if an employee is dissatisfied, he or she won't take the same responsibility ... as an example ... dropping cigarette butts ... a dissatisfied person is a greater risk than a satisfied one ... it's an important part of the risk prevention work ... to increase job satisfaction ... the very sense of your job ... this is especially a challenge in our plants abroad.

Thirdly, the respondents argued that the aforementioned hurdles to effective and successful ORM could be solved partly by improving risk communication and dialog with employees. However, in addition to being a solution to the above hurdles, the respondents stressed risk communication to be a hurdle itself. As pointed out by one respondent:

Risk communication is really important ... but really difficult ... it's hard to develop policies that are universal ... intelligibility ... that's the challenge ... to talk about risk so that everyone understands.

Fourthly, the respondents also stressed various challenges related to measurement of risk. Overall, there was consensus among all the respondents in regard to the challenges of measuring risk, but the respondents displayed a somewhat divided opinion about the importance of quantification of all risks. Notably, respondents who reported to, or were affiliated, with the financial department/treasury as well as those companies who did not have a formal ORM function were more prone to stress the benefits of quantitative measurement and

analysis. Four respondents commented on the challenge of measurement in the following terms:

You'd be disappointed if you strived for total quantification regarding all risks ... to put a number on all risks.

We are not even looking for that great tool that fits everywhere ... not looking for the exact measurement ... we are trying to make a judgment ... and it might be a bit subjective. We are critical of the approach that puts a value on every risk in order to put them in a formula.

When you look at risks, you always have an ambition to measure them ... some types of risks are easy to quantify ... while others are harder to quantify ... that is something that you have to accept ... but you have to try to make an assessment of the total risk level.

Although difficult, quantification of risk is desirable ... to some extent, it is an issue of legitimization of the risk management function.

## Discussion and Conclusions

In the title of this paper, I ask whether a new risk paradigm has emerged in Swedish industry. Without a doubt, this has been the case. The ORM has gained increasing importance in recent years, and this was clearly endorsed by the respondents in the sampled companies. The results of the interviews suggest that:

- ORM is crucial today for Swedish industry. It is supported by the top management and the board and also, increasingly, by employees.
- ORM is not a coherent activity with regard to industry types or between companies. Rather, the organizational affiliation and scope of ORM differ.
- The management of operational risk is a line management responsibility. The central ORM function is at best a small function to identify, control, advice, educate and to boost an increased awareness of various risks in the organization.
- The Swedish government's approach to various environmental risks, occupational risks, health and safety issues and to corporate governance have stimulated an overall high awareness and increased implementation of ORM.
- The insurance industry, the financial markets and voluntary compliance with sustainability and corporate responsibility principles have affected the internal motivation and activities with ORM.

- Unlike many countries, Sweden has few forceful regulations on formal approaches to ORM. More indirect circumstances and related regulation have promoted ORM in Sweden.
- ERM is not widely implemented by the industry.
- Diversity in risk perceptions, cultural differences, issues on risk communication, as well as measurement of risk were perceived as challenges for the fulfilment of a successful ORM.

The results of this study indicate that the Swedish industry approach to ORM is today rarely a strictly formalized, straightforward activity in Swedish industry; instead, informal, decentralized, pragmatic, bottom-up approaches to ORM are preferred over an ERM approach to overall risk exposures. There is no uniform or prevailing model for how to organize the business function dealing with ORM.

A majority of the investigated companies had central functions for dealing with various operational risks, and the respondents agreed on the role of the central risk management function. The respondents stressed that ORM was first and foremost a line management responsibility. Risk management strategies and risk mitigation initiatives were believed to be best developed and managed where the risk exposure occurred. This division of risk management responsibilities has support in earlier research. Ward (2001) argued that the task of the central risk management function is not to take responsibility for managing risks away from line management but to facilitate the development of risk management in the organization. As regards the organization of the ORM function, there were few common features between the investigated firms. In line with the opinions of the respondents in this study, Ward (2001) stressed historical links (affiliations) to a specific department as guiding the organization and activities of the risk management function.

Stakeholders and the context have been stressed to affect ORM (Elliott *et al*, 2000; Hodges, 2000; Ward, 2001). Regarding the investigated firms, the respondents specifically stressed four stakeholders/contextual factors as guides for their ORM activities. These are attributable to economic incentives and will be discussed first, whereas the others are more concerned with the regulatory context.

The respondents stressed that various factors relating to the financial markets had motivated ORM. Investors were believed to increasingly take into account factors relating to ORM and ERM, and rating agencies (for example, Moody's and Standard and Poor's) were also mentioned to spur the development. As several such firms have launched ERM ratings to better establish credit standings (for example, Standard and Poor's launched an ERM rating in 2006), it is likely that this will enhance in the future. In addition to this, the respondents stressed the need to work closely with insurers to reduce the level of risk, and thereby decrease their premium payments. Furthermore,



second-hand risks, such as reputational risk, were considered important and relevant to factors, such as brand value, consumer/investor trust and consequently profits.

The interviews indicated that the sampled companies were highly attentive to regulators' investigations, legislations and directives on various risks. Regulators were perceived to have been primary guides for the ORM strategies. Arguably, regulators could be characterized as both contextual factors (the regulatory environment) and stakeholders. According to the respondents, the firms had historically overcomplied with regulation (especially regarding occupational and environmental health and safety issues) and had been strongly influenced by the Swedish approach to environmental risk management and regulation. In a contextual sense, the respondents underscored the role of the Swedish government's environmental approach, sustainability factors and an increased pressure on the industry to take responsibility for risks. I will discuss below some possible reasons for these findings.

Sweden has since long been a proponent of strict regulation of environmental hazards. Sweden has been proactive and precautionary regarding chemicals, consumer safety and occupational hazards, both domestically and in the EU (Kelman, 1981; Liefferink and Andersen, 1998; Löfstedt, 2003a, b; Karlsson, 2006; Kallenberg, 2008a, b).<sup>5</sup> It has been argued that the strict Swedish environmental approach has 'spilled over' to affect industry opinions and industry application of precautionary measures (Karlsson, 2006; Kallenberg, 2009). In line with this, Sweden has been highly proactive in a shift toward sustainable development and an ecologically sustainable society. (Rämö, 2003; Löfstedt, 2004; Karlsson, 2006). The Swedish Environmental Code (Swedish Government Bill 1997/98:45) is regimented by sustainable thinking and has been a guideline for the Swedish approach to environmental legislation, both in Sweden and in the EU (Karlsson, 2006). For industry, this development has been motivated by environmental, competitive as well as socioeconomic parameters. It has been argued that due to the strict environmental approach, Sweden has gained competitive advantages in the field of environmental technology and environmentally driven business development (Sölvell *et al*, 1991; Weale, 1992; Porter and van der Linde, 1995; Porter, 1998; Swedish Trade Council, 2003; Karlsson, 2006).

In addition to the Swedish regulatory approach, a majority of the investigated firms stressed the Swedish Code of Corporate Governance (SOU 2004: 130) as guiding the formulation of their risk management strategies. This finding has support in earlier research, where it has been argued that formal demands and approaches to risk management have emerged as a result of guidelines for corporate governance (Elliott *et al*, 2000; Ward, 2001; Sobel and Reding, 2004; Gates and Hexter, 2005).<sup>6</sup>

In conclusion, Swedish industry approaches to ORM have previously been motivated by internal economic incentives, as well as by an overall

'precautionary' Swedish approach (governmental as well as industrial) to various risks and regulation. However, in comparison with many other countries, there are of today fewer formalized rules and regulations relating to ORM and ERM activities and reporting. I believe that this will change, and to some extent, it has already changed. For example, in 2008, a revised Code for Corporate Governance was launched in Sweden. Besides the need for simplification and broadening of the previous Code, it was motivated by amendments in the EU directives related to accounting rules (European Commission, 2006; The Swedish Corporate Governance Board, 2008). As regards the internationalization of best practices for reporting on risk, internal control, audits and accounting rules, the US COSO I and II (1992; 2004) and the UK Combined Code (1999) have been highly guiding. Informally, it has also been guiding for companies in Sweden (FAR SRS and the Confederation of Swedish Enterprise, 2008).

As in all research, this study has its strengths and weaknesses. It could be argued that the scope of the study is too broad, and that it is based on a limited number of respondents. However, I believe that the study presents several interesting results as regards industry considerations on the organization of ORM and ERM, the role of the central ORM function, as well as regarding various important stakeholders, and perceived challenges. In the light of new regulations, and as a consequence of increased stakeholder pressures, corporate incentives for ORM and ERM activities are likely to increase in the future. Best practices and normative guidelines are likely to be developed further and converge. As a consequence, Swedish industry may have to adopt more formal and integrated approaches to manage and report their risk exposures, despite predilections for the informal, decentralized and bottom-up approaches used in the past.

## Notes

- 1 For example, Science Direct, Business Source Premier, Libris, Regina (search words: operational risk management, Sweden, Swedish, industry, operationell riskhantering, Sverige, svensk, industry).
- 2 The NRC provided a much important framework to the systematic environmental risk analysis. The tools and steps of the framework have been extended to apply to ecological and regulatory risk assessments and policy analysis (for example, US EPA, 1993). As a response to risk controversies and risk research results regarding risk perception, trust and risk communication, recently, more inclusive, deliberative modes of risk analysis has been promoted by the NRC (NRC, 1996).
- 3 Guideline to measure and report economic, environmental and social performances on issues, such as employee incidents, employee security and crime and industrial incidents.
- 4 On employee incidents, employee security and crime, industrial incidents and so on.
- 5 To protect the environment, the precautionary approach shall be widely applied by states according to their capabilities. Where there are risks of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation (UNCED, 1993).
- 6 For example, the Cadbury Code (ICAEW, 1994) and the Turnbull Report (ICAEW, 1999) in the United Kingdom.

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