

PREMISES OF A SUCCESSFUL RISK MANAGEMENT IMPLEMENTATION IN POWER COMPANIES

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Abstract - Implementing enterprise risk management (ERM) is a challenge in most companies. This is an ongoing process of identifying, measuring, prioritizing and treating risks within an integrated framework in order to minimize and control them and determine appropriate strategies to protect the company's values. The objective of this paper is to present some issues on initiating major steps involved in building the risk management system based on the experience reached in European electricity companies, which are in various stages of ERM implementation. The results consist in recommendations on- the starting point calibration in relation to best practices, identifying the main sources of resistance to the implementation of ERM, determining key success factors that favour and promote change during implementation and identifying and avoiding the pitfalls of the most common elements that hinder change. The paper opens the perspective of developing a holistic and coherent methodology for ERM implementation in power sector companies of Romania, as well as some proposals to improve the legislative provisions relating to internal management control and risk management in public entities.

Keywords: risk, management, energy, change.

1. INTRODUCTION

Within European utility industry, undergoing structural shifts as fuel shortfalls, ageing infrastructure, the emerging global climate agenda, strategic unbundling and a deteriorating credit environment are fundamentally changing how firms view risk and return. The increasing complexity of the risks faced by the sector and the rise in earnings volatility, driven by these factors, has had an impact on shareholders and raised risk management to the top of the senior management agenda, aiming at protecting assets, people, and earnings of the companies.

At the same time, utilities are beginning to face increasing risk disclosure requirements from rating agencies and regulators that lead to an increased visibility of key risks and scrutiny on how these risks are measured, mitigated, monitored and reported.

In order to address these challenges successfully, it is increasingly evident that proactive risk management

needs to move beyond merely identifying the key risks, treat potential losses and opportunities facing the company before they occur, towards understanding how they can shape the key business decisions and strategic thinking of business unit heads, top management and, ultimately, the Board and CEO.

Traditionally, risk management has been viewed as a defensive activity focussed on transferable risks, but this perception is changing, morphed from a narrow insurance-buying role, as corporate risk profiles evolve and risk management techniques advance. Currently, most utilities are integrating risk management in decision-making processes to set business and operational elements of uncertainty. Implementing enterprise risk management (ERM) is a challenge in most companies, as an ongoing process that consists in identifying, measuring, prioritizing and treating risks within an integrated framework to minimize and control the risks and determine appropriate strategies to protect the company's values.

2. BUILDING A RISK MANAGEMENT SYSTEM

The generic approach on risk management issues is provided in International Standard series ISO 31000 [1],[2],[3] and British Standards [4], in order to facilitate the adoption of consistent processes within a comprehensive framework, helping to ensure that risk is managed effectively, efficiently and coherently across the organization. The generic approach described in ISO Risk management standards provides the principles and guidelines for managing any form of risk in a systematic, transparent and credible manner and within any scope and context.

Others inputs in this paper came from the publications issued by EURELECTRIC's group on Risk Management [5], designed to serve the needs of European electricity companies at various stages of implementing enterprise risk management.

A survey [6] identified more than 40 relevant standards, guidelines or frameworks in the energy sector area for risk assessment and management [7], [8] and a conclusion was that, at the moment, there is not a comprehensive methodology for risk management and assessment and for power companies, each specific sector

facing its individual needs, audiences, perceptions and criteria to build an run an integrated risk management system.

Therefore, the objective of this paper is to present some issues on initiating major steps involved in building a risk management system representing coordinated activities to direct and control an organization with regard to risk [1], based on the experience reached in European electricity companies, which are in various stages of risk management (RM) implementation. Applied research methods were used, both structural and non-structural as research methodologies, mainly: bibliographic research, benchmarking and case study research – ERM implementation in Transelectrica, the Romanian transport and system operator.

ERM has overall responsibility for the risk-mapping process, ensuring the quality of the output, and synthesizing the main findings for the company's management team and board of directors. The main design principles for effective risk governance and control consist of clearly delineated risk oversight responsibilities, a clear allocation of risk ownership responsibilities, the separation of risk management and risk control, and proper alignment of incentives with roles and responsibilities.

To achieve effective risk governance and control companies can follow a three-step approach: define governance and control design principles, set up the basic governance and control mechanisms, and recognize and avoid the most frequent pitfalls.

Risk management consists of several steps: risk assessment, risk treatment and risk monitoring and review, organized in an improvement cycle namely: the risk management cycle [4]. Before deciding where and how to go next, it is important to calibrate where the company stands today. We may consider different broad levels of ERM sophistication, each level bringing new capabilities on top of the previous levels:

- Satisfying external requirements to meet them both in terms of regulation, investors' or rating agencies demands;
- Protecting value, anticipating problems that can threaten the achievement of the company's strategic and financial objectives, putting in place procedures to prevent or mitigate these risks, and setting up communication strategies before and after a risk materializes to avoid taking investors by surprise and to display confidence and effectiveness during crisis management;
- Optimizing the cost of risk in an integrated perspective, capturing opportunities to create value by integrating risk management across BUs or across risk categories;
- Developing ERM as a key source of competitive advantage fully embedded in the decision-making processes of the company.

Another important step is to include “establishing the context” as an activity at the start of this generic risk management process [2]. Establishing the context will capture the objectives of the organization, the environment in which it pursues those objectives [9] [10], its stakeholders and the diversity of risk criteria – all of which will help reveal and assess the nature and complexity of its risks.

3. SOURCES OF RESISTANCE AND THE KEY SUCCESS FACTORS

Even in many cases companies' top management are aware of the importance of ERM, then it is likely to be supportive of the effort and give risk managers sufficient resources to perform their missions. However, top management usually have more pressing priorities and managers and executives within operational and functional units are less sensitive to corporate needs for ERM and more focused to issues such as the impact of integrating measures on their performance reporting [9]. The role of a risk manager is to link the notions of business risk and asset risk together to make possible the right decisions for the company as a whole. The risk manager needs to pay attention at the initial level of acceptance of ERM and to design a change program taking into consideration the level of the requirements in the implementation plan and the need to generate useful reports within the organization.

Discussions with several risk managers from European power companies on the state of ERM and risk quantification in their organisations revealed a number of development challenges: the necessity of quantifying emerging risks in the utility landscape and linking risk quantification to management performance metrics, and the necessity to enhance the role of the central risk function.

Some of the key success factors are: getting top management support, setting a macro-plan with clear objectives, setting clear roles and responsibilities, developing effective tools and methodologies, and using a detailed implementation plan to manage and guide action and manage progress.

In [11] John J. Hampton mentioned seven contributions or recommendations in developing a new paradigm for enterprise risk management:

1. Recognize the upside of risk, when ‘risk opportunity’ is incorporated into the definition of ‘risk’; this is also recommended in [4], for both outcomes that are better than expected, as well as those that are worse than expected. It also encourages greater awareness of uncertainty;
2. Identify and assign a risk owner for every category of risk, with clear roles and responsibilities.
3. Align responsibility and accountability for risk management with the business model of the enterprise; this produces the least disruption of current successful practices while adding a new perspective on and capacity to understand business risk; alignment occurs when risks are grouped together so that they can be managed by a single owner.
4. Create a Central Risk Function, with an individual or unit responsible for coordination of risk discussions across the entity, to facilitate efforts by risk owners to manage risk.
5. Create an ERM Knowledge Warehouse, a risk management decision support system specifically designed to help understand risks, to share identified risks and recognize the scope of each exposure. Effective tools and methodologies are needed.
6. Involve the Board of Directors, as sponsor and beneficiary of ERM and not only for complying with legal requirements and internal audit periodic reporting issues.
7. Employ a viable Standard Risk Evaluation Process,

widely, from planning and budgeting to systematically approach decisions to retain, transfer, reduce, or avoid exposures.

4. COMMON PROBLEMS ENCOUNTERED

Despite taking the appropriate measures to initiate the program and structure the work, ERM implementation remains a challenging exercise, in particular when aiming for the higher levels of sophistication. Some of the most common pitfalls of ERM enhancement initiatives are:

- Lack of common risk management culture,
- Ineffective risk reporting focusing on strengthening the science of risk measurement rather than establishing how best to improve the quality of the underlying impacted business activities, with business units becoming burdened by the requirements of a demanding risk process;
- Exclusive focus on risk quantification;
- Lack of integration in decision – making process.

To avoid this, companies must clearly define the required benefits to business activities before starting any improvement initiatives. By clarifying this vision, risk managers will be better able to control senior management’s expectations and deliver continuous improvement. Such clarity is important also to business unit management, since it helps ensure that resources are not unnecessarily expended on potentially time-consuming risk analytics with marginal potential benefits [12].

Some potential solutions to avoid these pitfalls consists in: defining clear and realistic objectives; establishing a common risk culture, developing effective risk reporting; balancing quantitative and qualitative approaches, challenging risk maps from BU managers and integrating risk in decision-making processes.

While tools and methodologies can contribute a great deal to setting up a common ground, more is needed to establish a common understanding of basic risk terminology, approaches, and concepts [3]. These are some of the initiatives that can help to spread a common risk culture and open up the risk ‘silos’ within an organization:

- Distributing a ‘risk management code’ that defines a common risk language and illustrates, using company-specific examples, the basic risk concepts;
- Setting up a network of trained managers;
- Establishing a rotational program – while corporate risk management needs to keep a certain amount of staff stability to build up and maintain distinctive technical capabilities, it is also important for these skills to infuse the entire business.

5. IMPLEMENTING THE RISK MANAGEMENT SYSTEM IN TRANSELECTRICA

For more than 10 years the Romanian Transport and System Operator, Transelectrica SA, has been developing and implementing an integrated ERM program to minimize and control the critical risks and to determine the strategies on processing, maintaining, transferring,

recovering and restoring the Company’s assets. Many stages have been developed jointly with the consultants [13], [14], [15]: the starting point was calibrated, the main risks are annually identified, analyzed and assessed, proposing process solutions/implementing strategies on risk management within the Company to address the following objectives: anticipate and prevent major disruptions in operation, ensure adequate liquidity /cash flow for operating expenses, debt payments and strategic investments, protect long-term viability and strength of the Company. In Transelectrica enterprise risk management consists in a set of organizational components that together aim at raising the level of risk management effectiveness across the organization. These organizational components cover: risk management processes – including risk identification and prioritization, risk strategy, governance and control, elements of organizational structure, tools, methodologies, and systems and skills.

In a schematic form, improving Risk Management in Transelectrica can be represented as in Fig. 1.

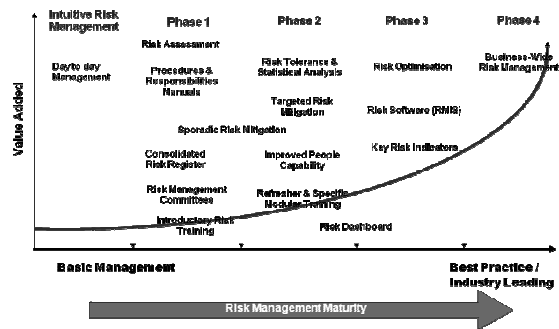


Fig. 1. Improving Risk Management in Transelectrica

As an initial diagnosis process, a Business Risk Audit was performed to identify and highlight areas of business risk exposure of Transelectrica, as well as the gaps in the current risk strategies, together with top management. Further on, risk assessment is performed yearly in order to identify critical risks which will leverage effective internal controls; risk management processes and procedures were set in-place allowing to potentially increasing the confidence of internal and external stakeholders and shareholder value of Transelectrica. It was more effective to set up a full ERM process in the first year and incrementally improve over time than to start with one of the steps and neglect the others in the first year. Transelectrica’s target is to integrate and perpetuate risk assessment as a proactive process within the corporate culture and to make risk management an indispensable/critical part of the processes and systems.

Major steps are performed in developing qualitative and quantitative tools and methodologies: a “risk model” to define a common language and a common structure [1], [2], a risk categorization tool, a scoring tool to be used to evaluate the relative importance of individual risks in a calibrated fashion, methodologies to define risk strategies, the necessary supporting IT systems to get access to basic information and allow analytics for risk measurement. Based on internal procedures for Risk identification and Assessment, in line with Romanian regulation for internal control for public entities, Risk register (Fig. 4) is updated

at corporate level and in each subsidiary accordingly. The impact and likelihood scales, ranking criteria, risk tolerance and risk retention are yearly reviewed. Risk score is calculated by multiplying the Likelihood and Impact of each risk, while risks ranking and the risk strategy are based on the score calculated by this method, as in Fig. 2.

Risk Ranking		Risk Strategies	
Priority Risks	Risk Score (RS) > 12	Prevent, detect, and correct critical risks that potentially threaten the achievement of business objectives.	
Important Risks	8.5 < RS < 12	Detect and correct	
Secondary Risks	RS < 8.5	Monitor and correct where appropriate.	

Fig. 2. Risk Ranking and Risk Strategies

An example of impact scale and ranking criteria is presented in Fig. 3.

	Financial Impact	Legal and Compliance	Customer Service/ Relations	Brand/ Image/ Reputations	Workforce/ Welfare	Competitive Edge
0 None	No detectable impact	No detectable impact	No detectable impact	No detectable impact	No detectable impact	No detectable impact
1 Negligible	Requires attention	Partial regulatory attention	Unusual or infrequent customer	Minor	Low level of employee health	Minor brand market share
2 Minor	Requires attention	Self regulatory attention	Increase in the number of first order calls	Special attention to local media/public company's decisions and decisions	Minor loss of efficiency	Lower level of market competition
3 Moderate	Requires attention	Material regulatory attention	Loss of small number of customers	Local regulatory attention company's decisions and decisions	Major increase in the turnover rate	Lower level of market competition
4 Serious	Requires attention	Enforce regulatory attention	Loss of large number of customers	Material regulatory attention company's decisions and decisions	Major increase in the turnover rate	Lower level of market competition
5 Catastrophic	Requires attention	High level of regulatory attention	Loss of key customers	Material regulatory attention company's decisions and decisions	Major increase in the turnover rate	Lower level of market competition

Fig. 3. The impact scale and ranking criteria

The same overall approach is deployed across all business units, with the same level of rigor and discipline. The risk owner was identified and assigned for every category of risk, with clear roles and responsibilities.

Risk		Assessment								
Risk Ref.	Date opened	Version	Source Originator	Category	Description	Impact Description (Cost, Time, Quality, Perf.)	Impact	Probability	Severity	Trend
Example	3-Feb	PPP	Strategy	XX fail to secure early JV or Acquisition	XX's product portfolio build up delayed	Build up of platform delayed and thus credibility for SANGA is enhanced	High	High	SI	

Fig. 4. Risk Register

A Risk management central function integrated in the Management Control system is responsible for coordination of risk issues across the company, to facilitate efforts by risk owners to manage risk. As it plays a support role across the company, it does not manage risk itself; managing risk is the role and responsibility of risk owners and co-owners. The central risk function enhances the ERM program, facilitates the sharing of risks and strategies and reduces the tendency of "silos" to refuse to share information and hide negative conditions.

The Risk map or Risk matrix (Fig. 5) is one of the most widespread tools for risk evaluation, mainly used to determine the size of a risk and whether or not the risk is sufficiently controlled.

The risks situated in the "green" section require attention of the relevant management teams. These risks often have great mitigation opportunities. If mitigated they can result in improved efficiency and potentially free up management time to deal with bigger risks. Mitigation can often be done through training, process improvement etc.

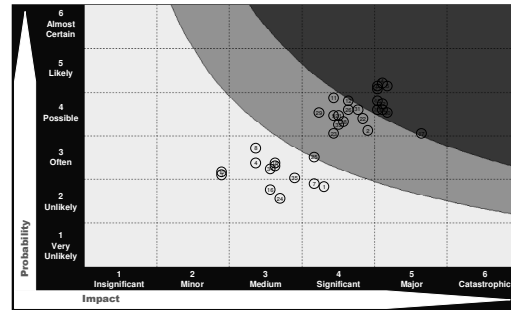


Fig. 5. Risk Map

Continuous monitoring of risks situated in the median „yellow" section is essential to the business although the chance of their occurrence is low. It should be explored how these risks can be transferred through insurance or mitigated.

Risks in "red" section are critical to the business and need immediate attention. Action plans should be developed to reduce either the likelihood or the impact of these risks. Continuous monitoring is essential and risk transfer opportunities should be reviewed. For these critical and important risks a risk management plan (Fig. 6) is set within the risk management framework, specifying by the approach, the management components and resources to be applied to the management of risk. Management components typically include procedures, practices, assignment of responsibilities, sequence and timing of activities applied to a particular activity, process and project, and part or whole of the organization.

Risk Description	Causes/ Contributing Factors	KRI's	Risk Owner
Delayed in project completion resulting in loss of revenue and brand reputation	Procurement management, limited resources	Identify key KRIs related to the risk	Risk Coordinator
Current Control Activities		Controls Assessment	
1. Possible Control will be implemented in the next 30 days		Overall 20	Overall 20
		1	1
		2	2
		3	3
		4	4
		5	5
Control Cluster		Risk Action	
TBD	TBD	Action Plans	
Action Plan	Action Owner	Review Date	
1. Action 1	TBD	TBD	
2. Action 2	TBD	TBD	
3. Action 3	TBD	TBD	

Fig. 6. Risk Action Planning

The effort is invested in proportion to the importance of the risks and by applying effective tools and methodologies to quantify risks and define effective risk strategies, ERM contributes to the bottom line by improving risk/return ratios.

As an example of changes put in places, one improvement measure taken this year was to separate risk management central function from the perceived role of managing risk, responsible for insurance buying or loss control. This was considered an inappropriate model, as risk identification and risk sharing are fundamentally different from risk transfer or mitigation.

Somebody other than the central risk function is now in charge to buy insurance and ensure workplace safety.

It is a huge effort to employ a viable standard risk evaluation and control process, widely, from planning and budgeting to systematically approach decisions to retain, transfer, reduce, or avoid exposures. Beginning with assessment of the starting position, further steps are to be completed such as: a clear rationale for the choice of target and time horizon; a clear definition of the implementation approach; key milestones, roles and responsibilities, tools, and methodologies and a detailed work plan.

The detailed implementation plan is used to manage and guide actions and manage progress, including: an initial step to explain the need for ERM throughout the company, the benefits that will result, and the changes that will be required; a 'training' step; an iterative 'bottom-up' and 'top-down' dialogue, following the various steps of the risk management processes (risk identification and prioritization, risk strategy, risk execution and control), setting up the new processes by running them for the first time, and adjusting the design along the way [3].

As in any enterprise-wide corporate initiative, success was driven first and foremost by the involvement of the Board of Directors, as sponsor and beneficiary of ERM and not only for complying with legal requirements and internal audit periodic reporting issues. Making progress in ERM implementation is part of the annual performance review cycle and in annual overall evaluation and depends on allocating sufficient resources in numbers, skills, and seniority within the company.

5. CONCLUSIONS

When implemented and maintained, ERM enables the companies to increase the likelihood of achieving objectives and encourage a proactive management [2]. Companies in the power sector are already aware of the need to identify and treat risk and improve the identification of business opportunities and threats, not only to comply with relevant legal and regulatory requirements and international norms and improve stakeholder confidence, but also in order to improve operational effectiveness and efficiency, enhance safe performance as well as environmental protection, improve loss prevention, incident management, and resilience.

The recommendations on starting point calibration in relation to best practices, on identifying the main sources of resistance to the implementation of ERM, and determining key success factors that favour and promote change during implementation allow identifying and avoiding the pitfalls of the most common elements that

hinder change. Three major recommendations may be provided: incremental iteration and iterative implementation of the ERM processes - risk prioritization, risk strategy, risk execution / governance and control in order to reinforce one another; Integration and Focus on Value creation.

The paper opens the perspective of developing a holistic and coherent methodology for ERM implementation in power sector companies of Romania, and issuing proposals to improve the legislative provisions relating to internal management control and risk management in public entities.

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