

Enterprise Risk Management Good Practices and Proposal of Conceptual Framework

Hong Yuh Ching

Business Department, Centro Universitário da FEI

São Bernardo do Campo, Brazil

Thalita Maricone Colombo

Research Student, Centro Universitário da FEI

São Bernardo do Campo, Brazil

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Abstract

The objectives of this paper are: a) summarize the behavior patterns in the adoption of risk management practices by the companies surveyed; b) move into a convergence between theoretical practices and those adopted by the companies. This research is theoretical-empirical with descriptive objective and the procedure is multiple case study of ten companies. The criteria adopted for choosing these ten companies were the diversity of the industry segments, representativeness of the companies in their segments and the use of enterprise risk management. To verify if there are patterns between the practices employed in the companies, they were separated by size and nationality. All the small size companies are of traditional approach. The same happens with all the national companies. Yet, all the traditional approach companies, but one, adopt all the seven risk management practices found in the literature. Among the practices, only one – independence between board and CEO – is adopted by all the ten companies. Several practices have been adopted by the companies and not found in the literature. The contribution of this article is to develop a conceptual framework of ERM covering the cycle of risk management, its results and tools that lead to good practices.

Keywords: Enterprise risk management, Risk management practices, Chief risk officer, Risk management, Conceptual framework



1. Introduction

According to Casualty Actuarial Society CAS (2003), risks are being considered as source of opportunities for value creation and not something to be minimized or avoided. The risk is not fully avoidable but knowing to assess it and its return is a way to gain competitive edge. Many companies have demonstrated a growing concern with the need for risk management, considering the recent financial scandals involving companies like Parmalat, Enrom, Metallgesellschaft, among others. Thus, it is possible to note that enterprise risk management is a very present issue and has been the agenda of many debates.

The risk management should analyze the company in a holistic manner and not in an ad-hoc manner by business silo or by each risk type. Risk management must be conducted in a structured way, integrated across the whole company (Abrams et al, 2006). Businesses have started to embrace the enterprise risk management ERM approach. There are many definitions of ERM, however a representative example is the following from the Committee of Sponsoring Organizations of the Treadway Commission COSO (2004): "ERM 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." Yet, with the aim to optimize the process and maintain its quality,

Many organizations have been challenged by a surge of several external factors/forces pressuring them for the adoption of a structured and integrated risk management. Examples are requirements/pressure from the market, from the regulators, gain competitive advantage and good business practices (Corporate Executive Board) (2007). For CAS (2003), these forces are: increasing number of risks and interactions that organizations have to acknowledge, inclusion of risks in the portfolio theory and attempt of quantifying the risks to gain qualitative perspective. Beasley, Clune e Hermanson (2005), James Lam & Associates (2006) and Pricewaterhousecoopers (2006) also mention warning of previous financial disasters, requirements/pressure from the head office, reinforce corporate governance, reinforce internal controls and examples of companies that have adopted ERM and achieved benefits.

On the other hand, several authors such as Harner (2010), Liebenberg and Hoyt (2003), Nocco and Stulz (2006) and organizations (EIU, 2007); MARSH/RIMS (2009) have highlighted the importance of the practices in the risk management by the companies. The adoption of enterprise-wide risk management practices is also driven by regulations themselves, which focus the business on operating the "right way" as a normal business practice (Abrams et al) (2006). Since this is a matter of great importance both for scholars and for the business community, it is intended with this article to make a contribution to academic research while helping to increase the business community interest. The objectives of this paper are: a) summarize the behavior patterns in the adoption of risk management practices by the companies surveyed; b) move into a convergence between theoretical practices and those adopted by the companies.



The remainder of the paper is organized into four main sections. In the next section, the literature review on ERM structures and the good practices is presented. Next, the methodology and data collection. This provides the context necessary for the fourth section, which presents the discussion of the results followed by a conceptual framework of good practices in the enterprise risk management. Finally, the paper finishes with a brief conclusion that summarizes the objectives of this study.

This study can provide an effective assistance for the enterprises to evaluate and enhance their practices in risk management. An additional motivation is the lack of academic research regarding the use of good practices and their assessment.

2. Literature Review

This section is divided in two parts: the first shows two structures of enterprise risk management. The second part discusses the good practices used in the enterprise risk management.

2.1 Levels of evolution of the risk management structure

Based on the fact that enterprise risk management is a complex process, Aon (2010) developed a five stage ERM maturity model (see figure 1). It has been used to help organizations benchmark their progress in driving value through ERM. Basically, it address issues on the effect ERM has had on harmonizing organizational needs, culture and stakeholder requirements and how ERM is being used proactively to balance risk, opportunity and value.

scale		
1.	Initial/lacking	Component and associated activities are very limited in
		scope and many be implemented on an ad-hoc basis
2.	Basic	Limited capabilities to identify, assess, manage and
		monitor risks
3.	Defined	Sufficient capabilities to identify, measure, manage,
		report and monitor major risks; policies and technique
		are defined and utilized (perhaps independently) across
		the organization
4.	Operational	Consistent ability to identify, measure, manage, report
		and monitor risks, consistent application of policies and
		techniques across the organization
5.	Advanced	Well developed ability to identify, measure, manage
		and monitor risks across the organization; process is
		dynamic and able to adapt to changing risks and
		varying business cycles; explicit consideration of risks
		and risk management in management decisions

Figure 1. enterprise risk management maturity model



Marsh/RIMS (2009) used a different model by classifying the risk management approaches in traditional, progressive and strategic.

Traditional approach	Progressive approach	Strategic approach				
1.Risk identification,	Traditional approach	Traditional and				
loss control and	plus:	progressive approaches				
complains analysis	1.Business continuity,	plus:				
2.Increase ability to	total risk cost,	1.ERM across the				
meet corporate	education and	organization and use of				
objectives ensuring	communication	technology				
that risks are taken	2.Improve competences	2.Risk issues are part of				
into consideration in	to identify and assess	business strategic				
the decisions	risks	discussions				
3.Improve	3.Improve management	3.Risk sources are				
management of the	and responsibility of the	gathered across all				
interrelated risks	business units	levels of the				
across the	4.Internal auditing takes	organization and with				
organization	the risk issues for	the stakeholders				
	discussion					

Figure 2. Approaches of enterprise risk management

In an attempt to converge the concepts of the above structures, the authors notice that the initial and basic stages of the Aon model are similar to the traditional approach of Marsh/RIMS structure. The defined and operational stages are encompassed in the progressive approach and the advanced stage is similar to strategic approach.

2.2 Good practices in the enterprise risk management

a) culture and risk awareness

It is unquestionable the importance of information across the organization. Green and Jenning-Mares (2008) study states that the most important element in the risk management is the growth of a risk culture coherent and consistent. An education program aimed to spread this culture should be consolidated by all the managers and employees of the company (Nambiar) (2006). For Economist Intelligence Unit EIU (2007) the key determinant of success in risk management has become the need to ensure that a strong culture and awareness of risk permeates every layer of the organization. Protiviti (2006) shows that the absence of a common language and awareness prevents sharing the good practices across the organizations. It generates a great uncertainty.

b) risk permeates the whole company

The risk management function has evolved to become a core area of business practice, driven



by the board but embedded at every level of the organisation. The aim is no longer simply to avoid losses, but to enhance reputation and yield competitive advantage (EIU) (2007). Protiviti (2006) and Harner (2010) share the view that, despite ERM responsibility starts right at the top of the organization, the managers of all levels of organization should also participate to improve the process.

c) predictable increase in investments

Firms of all sizes and in all areas of the world are planning to increase investment in most areas of risk management. These areas are: improving data quality and reporting, strengthening risk assessment processes, management training in risk management, analytics and quantification, risk framework or model development, setting risk committee roles and responsibilities (EIU) (2007). Marsh/RIMS (2009) study highlights that 42% of the companies that have ERM im place (so called strategic companies) will invest more in risk management in the coming years.

d) need of a formal risk management framework

In Kaufman, Oh and Sherman study (2009), 79% of the companies surveyed said having a formal structure of ERM, either at initial stage (28%) or advanced stage (48%). However, 54% of them indicated that their ERM framework is not based on any external model. Among the 46% remaining, 67% of them use COSO framework and 16,2% adopt AS/NZS 4360 framework. Corporate Executive Board study (2007) shows a more discrete result: only 48% of the companies implemented fully or partially ERM. However, 52% of them said having implemented or planning to implement COSO framework. Ching (2011) concludes that the use of an ERM formal framework contributes significantly to its efficiency.

e) a dedicated CRO Chief Risk Officer in a senior position

The presence of a CRO is the most common practice among all. Its reason is debated by many authors. Kleffner, Lee and McGannon (2003) show that 61% of companies surveyed mention the influence of CRO as a key factor for driving and facilitating the ERM process. The appointment of a CRO is a sign of a formal ERM program and his quality and skills promote ERM importance for all the executives and influence the whole company (Daud, Yazid and Hussin, (2010), Liebenberg and Hoyt (2003). CROs are already in place at 38% of those organizations represented in the EIU survey (2007), and a further 21% have plans to appoint an individual to this role over the next three years. Trying to be neutral, Beasley, Pagach and Warr (2007) do not show any financial benefit for the shareholders in those companies that hired CRO.

f) creation of a risk committee

For Branson (2008) an emerging good practice is the creation of a multidisciplinary risk committee which can be located at the top of the ERM function and be leaded by the CRO. Whether risk should be centralized or decentralized depends on the organizational structure of the company. Most organizations are implementing a structure where there is a small number of people in the central risk function, and then embedding 'risk champions' in the



business units, all being part of the risk committee (EIU) (2007).

g) independence between the Board and CEO

Companies with independent board and segregation between CEO and the chairman present the highest level of enterprise risk management (Desender) (2007). Beasley et al (2007) claim that an independent board is more objective to comply with the management actions and strategies than companies that do not possess this independence.

3. Research Methodology and Data Collection

This research is theoretical-empirical with descriptive objective due to the objectives aimed at studying, analyzing and interpreting the use of risk management practices by the researched companies. The approach adopted is qualitative/quantitative and the procedure is multiple case study of ten companies. The criteria adopted for choosing these ten companies were the diversity of the industry segments, representativeness of the companies in their segments and the use of enterprise risk management. A semi structured questionnaire was utilized for data collection. It is divided in two parts: general aspects of the company and the market good practices. The general aspects cover the segment, number of employees, listed or not listed, reason for adoption of ERM and its duration. The questionnaire was sent to the executive responsible for risk management or the CFO, auditing manager or managing director, in the case of smaller companies.

In order to verify if there are behaviors patterns in the use of the practices by the companies, two division criteria were utilized: size (small and big) and nationality (national and multinational).

Major databases were used to search for related articles, such as those provided by library services – Ebsco, IEEE, Proquest and Science Direct, as well as entities and consulting companies involved with risk management. They were divided according to its nature: journals, entities, congress/symposiums, white papers and management consulting. See table below. However, few material was found by the authors regarding ERM in the journals and academic symposiums. Two possible reasons: little has been written about this topic and it is a recent topic for the scholars. This explains the small volume of articles researched. The table 1 suggests that the number of articles has grown considerably after 2006.



Table 1. Descriptive analysis of the articles published

		Quantity by year of publication											
		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Journals	14		2	1	2		1	1	2	1	1	2	1
Entities	8		2		1				2	1	2		
Symposiums	5							1	2		1	1	
White papers	5						1	3	1				
Consulting	4	1					1	1				1	
Others	3							1				2	
Total	39	1	4	1	3	0	3	7	7	2	4	6	1

4. Discussion of the Results

In the first section, we display the general aspects of each company researched. The adoption of market good practices by these companies will be shown in the second section.

4.1 Section A – General aspects

Company 1

Segment: capital good products
make to order
Size: 5300 employees
Listed in the head office country
Risk management approach:
improve the management and
responsibility of its managers in
order to gain competitive advantage
Duration of ERM: + 15 years
Reasons for ERM adoption:
requirements from head office; alert
from previous corporate disasters;
reinforce corporate governance and
internal controls.

Company 2

Segment: utilities/energy generation and distribution
Size: 7500 employees
Listed in Brazil and NYSE
Risk management approach: increase ability to meet corporate objectives making sure the risks are mitigated when necessary
Duration of ERM: 4 years
Reasons for ERM adoption:
requirements from market (banks, rating agencies, investors, etc);
reinforce corporate governance; good business practices.

Company 3

Segment: agribusiness,
biotechnology
Size: 6000 employees
Listed in the head office country
Risk management approach: risk
issues are part of company'
strategic discussions in order to

Company 4

Segment: health care services
Size: 5100 employees
Listed in Brazil
Risk management approach: increase ability to meet corporate objectives making sure the risks are mitigated when necessary



maximize company value in long range

Duration of ERM: + 20 years Reasons for ERM adoption: reinforce corporate governance and internal controls; gain competitive Duration of ERM: over 1 year Reasons for ERM adoption: reinforce corporate governance and internal controls; good business practices.

advantage; good business practices. Company 5

Segment: automotive
Size: 23000 employees
Listed in the head office country
Risk management approach: risk
issues are part of company'
strategic discussions in order to
maximize company value in long
range

Duration of ERM: + 10 years Reasons for ERM adoption: requirements/pressure from head office and regulatory bodies; reinforce internal controls.

Company 6

Segment: financial services
Size: 85 employees
Listed in the head office country
Risk management approach: increase
ability to meet corporate objectives
making sure the risks are mitigated
when necessary

Duration of ERM: 8 years
Reasons for ERM adoption: reinforce
corporate governance and internal
controls; gain competitive advantage;
good business practices.

Company 7

Segment: financial institution
Size: 40 employees
Listed in the head office country
Risk management approach:
increase ability to meet corporate
objectives making sure the risks are
mitigated when necessary
Duration of ERM: + 20 years
Reasons for ERM adoption:
requirements from market (banks,
rating agencies, investors, etc);
pressure from regulatory bodies;
alert from previous corporate
disasters.

Company 8

Segment: pension fund and health
plan
Size: 130 employees
Not Listed
Risk management approach: increase

ability to meet corporate objectives

making sure the risks are mitigated
when necessary
Duration of ERM: 6 years
Reasons for ERM adoption: pressure
from regulatory bodies; reinforce
corporate governance and internal

controls.

Company 9

Segment: automotive
Size: 5500 employees
Listed in the head office country
Risk management approach: risk
issues are part of company´
strategic discussions in order to

Company 10

Segment: pulp manufacturing
Size: 5037 employees
Listed in Brazil and NYSE'
Risk management approach: increase
ability to meet corporate objectives
making sure the risks are mitigated



maximize company value in long
range

Duration of ERM: + 10 years
Reasons for ERM adoption:
requirements from market (banks,
rating agencies, investors, etc);
reinforce corporate governance;
good business practices.

when necessary
Duration of ERM: 15 years
Reasons for ERM adoption:
requirements from market (banks,
rating agencies, investors, etc); alert
from previous corporate disasters;
reinforce corporate governance; gain
competitive advantage; good
business practices.

In summary, of these ten companies, just one is not listed, three are listed in Brazil, being two of them in NYSE and six are in their head office country.

Based on the replies regarding the risk management approaches, the authors classified the companies in traditional, progressive and strategic, according to Marsh/RIMS (2009). See table below.

Table 2. risk management approaches

Approach	quant	companies
Traditional: increase ability to meet corporate	6	2;4;6;7;8;
objectives making sure the risks are mitigated when		10
necessary		
Progressive: improve the management and	1	1
responsibility of its managers in order to gain		
competitive advantage		
Strategic: risk issues are part of company' strategic	3	3;5;9
discussions in order to maximize company value in		
long range		

In summary, 60% of them have traditional approach in risk management. On the other extreme, 30% have strategic approach while just one (10%) has progressive approach.

We can expect that companies with less duration of ERM would be classified in traditional approach. This was true in 3 companies – 2, 4, and 8 with until 6 years of ERM duration. And as they have more time in ERM, they would be progressing in their approach. This seems to be true with companies 3, 5 and 9, all of them with over 10 years of ERM duration and with strategic approach. However, in the case of companies 6, 7 and 10 with over 8 years of ERM duration, they did not move along and parked in the traditional approach.

4.2 Section B – Market good practices

In the questionnaire, the executives were asked which of the 7 practices found in the literature



they were adopting. Table 3 displays how the practices were adopted by each company.

Table 3. Adoption of good practices by each surveyed company

Good	Comp.	Total									
Practices	1	2	3	4	5	6	7	8	9	10	
Presence of											
CRO	X	X		X	X	X	X			X	7
Risk Committee		X		X	X	X	X			X	6
Culture/Risk											
Awareness	X	X	X	X	X	X	X			X	8
ERM Structure		X	X	X	X	X	X	X		X	8
Risk Permeating	X	X	X	X	X	X	X			X	8
Independence of											
Board	X	X	X	X	X	X	X	X	X	X	10
Investments		X		X	X	X	X	X	X	X	8
Total	4	7	4	7	7	7	7	3	2	7	

The most remarkable fact of the above table is that only one practice – independence of board – is in use in all the companies. Four of them are in use in eight companies. These are: culture and risk awareness, ERM formal structure, risk permeating the organization and increase in investments. The practice presence of a CRO was adopted by seven companies. In the opposite extreme, we have the practice creation of a risk committee with presence in only six companies.

Looking the table in another angle, we noticed that six companies use all seven practices, ie, 60% of our sample. These are companies 2, 4, 5, 6, 7 and 10. The companies 1 and 3 use four practices, while company 8 uses three and company 9 uses two.

In order to verify whether there are similar behavior patterns in the use of these practices, two division criteria were utilized: size (small and big) and nationality (national and multinational). All small size companies are from traditional approach in risk management. Same finding with all national companies.

As far as use of practices is concerned, all companies of traditional approach, apart of company 8, use the seven practices. Two out of three small size companies use all seven practices and have traditional approach. The more practices used, the higher the company's efficiency (Ching, 2011).

While companies 3, 5 and 9 have reputed themselves as having strategic approach, they adopt only 4, 7 and 2 practices respectively. In the other extreme, as said above, all companies of traditional approach (except company 8) adopt all the seven practices. We believe that some of the companies surveyed are still reluctant in assuming a forward view in risk management although they recognize its importance.



In summary, there are two possible reasons for the ERM patterns adopted by the analyzed companies: the first might be the relevance on past performance dictating their view in risk management and thus the future performance. Bank (2011) understands that many factors besides past performance will play into future performance. The consequence can be enormous depending on the future likelihood and impact of the risks. A second possible reason is the lack of board vision of how ERM program should be driven. Instead of mitigating risks, these companies could be responding to risks by undertaking them. ERM efforts should be driven to focus on long term plans and therefore, on success of the companies and their values. Regarding this latter aspect, Hoyt and Liebenberg (2011) found a positive relation between firm value and the use of ERM of roughly 20%.

The executives also mentioned other practices adopted in the companies apart of those indicated in the questionnaire. These are: ISO 9001 certification, external auditing, internal control council meeting, internal auditing, data security standards, ombudsman reporting to the board, independence between board and fiscal council, adherence to the code of good practices, corporate governance standards, risk assessment every two years, process risk management, complaints channel and effective participation in the regulation bodies committees. We have listed these practices regardless the frequency they were mentioned by the companies.

5. Proposal of a Conceptual Framework

In this section, the authors developed from these ten cases a conceptual enterprise risk management framework and its good practices (see figure 3). Given the situation that some of the companies surveyed are still reluctant in assuming a forward view in risk management, this proposed framework has the objective to help companies to upscale in the risk management approaches or in the maturity levels.

This model consists of four blocks (see figure 3). On the upper left corner, the enterprise risk management that consists of the integration between the internal environment (business goals, policies, strategies, procedures, processes, controls and organizational structure) and the risk assessment and its evolution to ERM implementation. COSO (2004), ISO/DIS 31000 (2008) and AZ/NZS 4360 models (as described in the CAS study, 2003) were taken as reference for this risk management proposal. The internal environment encompasses the tone of an organization, and sets the basis for how risk is viewed and addressed by an entity's people, including risk management philosophy and risk appetite, integrity and ethical values, and the environment in which they operate (COSO, 2004). In the risk assessment, risks are analyzed, considering likelihood and impact, as a basis for determining how they should be managed and their impacts calculated.

The integration will enable ERM implementation. It consists in creating a structure and process for managing risk which provide the organizational arrangements that will embed it throughout the organization at all levels. After its implementation, it is paramount the actions analyze, monitor, review and improve occur constantly. Analyze means considering the likelihood and the impacts of the risk mitigation and/or gain financial advantages. Monitor is following frequently the risk environment and the performance of the strategies adopted. It



provides vital inputs for review action. Review can be defined as making feedback and modifications of other elements. Finally, improve is about enhancing the performance to an upper stage constantly. And the good practices are the engine to boost the performance as can be seen later on.

Moving to upper right corner, the outcomes resulting of the enterprise risk management. The companies can obtain tangible benefits, such as: competitive advantage, thrust from the shareholders, reinforce of corporate governance and internal controls, compliances to the regulatory bodies and stock exchange standards.

In order for the loop keeps evolving, benchmarking and/or continuous improvement tools are explored (lower right corner). Benchmarking helps companies to define goals, encourages new ideas and offers a structured method of change management. Continuous improvement, on its turn, is the combination of two elements: the improvement, understood as a change for better, and the continuity, understood as permanent change actions (Laugeni and Martins) (2006).

From the use of these two tools, good existing practices are optimized and new good practices are incorporated (lower left corner). Benchmarking address more specifically the new practices, since new successful techniques, methods, processes are copied by the competition. However, benchmarking can also generate improvements in the existing practices since modifications that become successful can be copied. On the other hand, continuous improvement tackles the existing practices. It is paramount that for those companies that have achieved the so desired efficiency, they should never stop challenging and enhancing themselves.



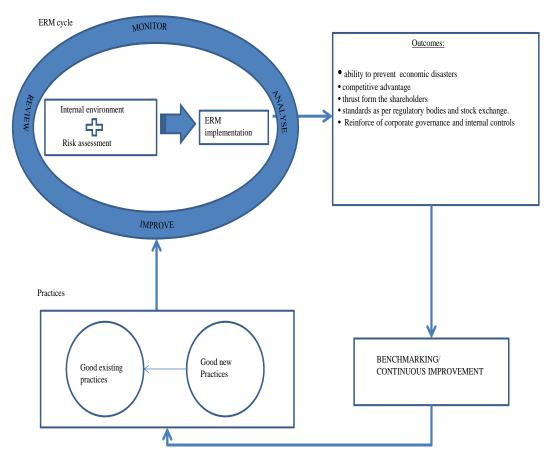


Figure 3. conceptual enterprise risk management framework and its good practices

This set of existing and new practices is fed back into the ERM cycle and closes the loop. With this loop repeating continuously, it will enable the market good practices to benefit the enterprise risk management and ultimately the enterprise's performance. Effective ERM can provide the necessary information to make an informed decision about future risks and strategic impact for the company (Bank, 2011).

Moving into a convergence between the practices found in the literature and those adopted by the companies, a zoom is given in the practices chart of above figure.

As explained in the framework, the enterprise risk management is divided in integration (internal environment and risk assessment) and implementation. Therefore, based on the new (mentioned by the executives in the questionnaire) and existing practices (those found in the literature), the authors classified them into these three parts of risk management (see figure 4).



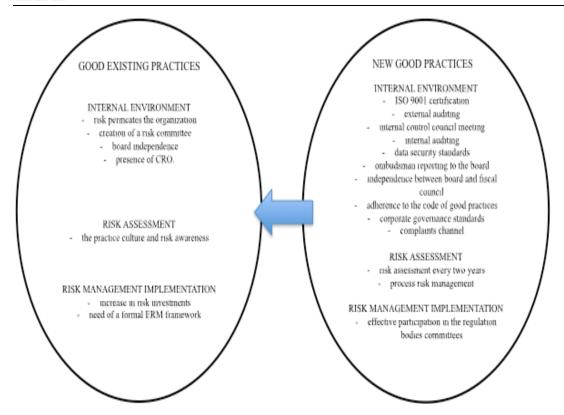


Figure 4. ERM practices

Among the existing practices, those that belong to the internal environment are: risk permeates the organization, creation of a risk committee, board independence and presence of CRO. The practice culture and risk awareness belongs to risk assessment. The remaining practices – increase in risk investments and need of a formal ERM framework are part of risk management implementation.

Among the new practices, the following ones improve the internal environment: ISO 9001 certification, external auditing, internal control council meeting, internal auditing, data security standards, ombudsman reporting to the board, independence between board and fiscal council, adherence to the code of good practices, corporate governance standards and complaints channel. The practices risk assessment every two years and process risk management belong to risk assessment. Finally, effective participation in the regulation bodies' committees practice improves risk management implementation.

6. Conclusions

It is notorious that risk management initiatives have been conducted by the organizations with a rather backward-looking perspective with risk mitigation and penalty avoidance as the main goals rather than a forward view towards a state of continuous, risk based transformation. However, this scenario is changing gradually as can be attested in this study.

All the small size and national companies are of traditional approach. Yet, all the traditional approach companies, but one, adopt all the seven risk management practices identified in the



literature. Among the practices, only one, independence between board and CEO is adopted by all the ten companies. A more comprehensive summarization of the behavior patterns cannot be accomplished because the replies were very diversified in most of the cases. Each separate company needs a more detailed assessment to identify their needs regarding the good practices. We can conclude that the timing and differences in corporate cultures may lead to differences in the adoption of ERM in these ten companies. Furthermore, several practices have been adopted by the companies and not found in the literature.

Although two companies (8 and 9) attested having enterprise risk management in place, they did not have all the conditions to back up this status. They use 3 and 2 practices, respectively, out of 7. They may have the reasons but not the practices.

The second objective of this study, ie, the convergence between theoretical practices and those adopted by the companies, is presented in an enhancement of the conceptual framework and represented in figure 3.

The contribution of this article is to develop a conceptual framework of ERM covering the cycle of risk management, its results and tools that lead to good practices. On the limitation side, this study was restricted to only ten companies. However, the findings can provide experience sharing for other industry segments, which can be of interest to international audience of scholars and business managers. As suggestion of future research, this study should be repeated with a great number of companies and check whether the conclusions might be different.

References

Abrams, C., Von Kanel, J., Muller, S., Pfitzmann, B., & Ruschka-Taylor, S. (2006). *Optimized Enterprise Risk Management*. IBM Research GmbH. Switzerland, 1-24.

AON - Global Risk Consulting. (2010). Global Enterprise Risk Management Survey. Chicago, United States.

Bank, S. B. S. (2011). Enterprise Risk Management. RiskHQ Risk HeadQuarters. Retrieved from http://www.riskheadquarters.com/wp-content/uploads/WoltersKluwer-ERM-wp.pdf

Beasley, M.S., Clune, R., & Hermanson, D.R. (2005), Enterprise risk management: An empirical analysis of factors associated with the extent of implementation. *Journal of Accounting and Public Policy*, 24(6), 521-531. http://dx.doi.org/10.1016/j.jaccpubpol.2005.10.001

Beasley, M. S., Pagach, D., & Warr, R. (2007). Information Conveyed in Hiring Announcements of Senior Executives Overseeing Enterprise - Wide Risk Management Processes, 1-34. . Retrieved 10 July, 2011 from: http://poole.ncsu.edu/erm/documents/MS1192FullPaperforWebPostingJune1907.pdf.

Branson, B. (2008). Enterprise Risk management: Current initiatives and issues. *Journal of Applied Finance*, April.

Casualty Actuarial Society CAS. (2003). Overview of Enterprise Risk Management, United



States, May, 99-164.

Ching, H. Y. (2011). Contribuição das boas práticas do mercado para a eficiência na gestão de risco corporativo. *Rebrae-Revista Brasileira de Estratégia*, 4(3), 257-273.

Corporate Executive Board. (2007). Are you ready for S&P's ERM Assessment? Washington, United States.

COSO – The Committee Of Sponsoring Organizations of The Treadway Commission. (2004). Enterprise Risk Management – Integrated Framework, Executive Summary, United States, September.

Daud, W. N., Yazid, A., & Hussin, H. M. (2010). The effect of Chief Risk Officer (CRO) on Enterprise risk Management Practices: Evidence from Malaysia. *International Business & Economics Research Journal*, 55-64.

Desender, K. (2007). On the determinants of Enterprise Risk Management implementation, 1-25. Retrieved 13 September, 2011 from: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1025982,

EIU Economist Intelligence Unit. (2007). Best Practice in Risk Management. London, UK, Retrieved 31 October, 2011 from: http://www.acegroup.com/eu-en/assets/best-practice-risk-management-web.pdf

Green, P., & Jennings-Mares, J. (2008). IIF's Final report on market best practices for financial institutions and financial products. *Banking & Financial Services Pol'y Re*, September.

Harner, M. (2010). Ignoring the writing on the wall: the role of Enterprise risk management in the economic crisis. *Journal of Business and Technology Law*, 5, 45-58.

Hoyt, R.E., & Liebenberg, A. P. (2011). The value of enterprise risk management. *The Journal of Risk and Insurance*, 78(4), 795-822. http://dx.doi.org/10.1111/j.1539-6975.2011.01413.x

ISO/DIS 31000. (2008). International Organization for Standardization, Risk management — Principles and guidelines on Implementation.

James Lam, & Associates. (2006). Emerging best practices in Developing key risk indicators and ERM Reporting. United States, September.

Kaufman, C., Oh, J., & Sherman, H. (2009). The importance of ERM during the economic upheaval, Marsh Inc., February.

Kleffner, A., Lee, R., & McGannon, B. (2003). The effect of corporate governance on the use of enterprise risk management: evidence from Canada. *Risk Management and Insurance Review*, 53–73. http://dx.doi.org/10.1111/1098-1616.00020

Laugeni, F. P., & Martins, P. G. (2005). Administração da Produção, 2nd Edition, Saraiva, São Paulo.



Liebenberg, A., & Hoyt, R. (2003). The determinants of enterprise risk management: evidence from the appointment of chief risk officers, *Risk Management and Insurance Review*, **6**(1), 37 –52. http://dx.doi.org/10.1111/1098-1616.00019

Marsh and Rims The Risk And Insurance Management Society, Inc. (2009). Excellence in Risk Management VI, Strategic Risk Management in Practice, United States.

Nambiar, V. (2006). Setting up the enterprise risk management office, ERM Symposium, 1-11. Retrieved 13 September, 2011 from: http://www.ermsymposium.org/2006/pdf/papers/Gorvett and Nambiar paper.pdf.

Nocco, B., Stulz, R. (2006). Enterprise risk management: theory and practice. Charles, A. Dice Center for Research in Financial Economics, series Working Paper Series, number 2006-15.

PricewaterhouseCoopers. (2006). Enterprise Risk Management (ERM) Benchmarking Survey. United States.

PROTIVITI. (2006). Guide to Enterprise Risk Management: Frequently Asked Questions, United States.