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(Article begins on next page)

Management Accounting and Enterprise Risk Management. A potential integration as a new change in managerial systems

Abstract

The *main goals* of this research are: i) to understand if a further change in management accounting (MA) is required by changes in the contemporary extra-organisational environment, highlighting the main direction of this change, with particular attention to the integration with the enterprise risk management (ERM) as a new organisational institution; ii) to investigate if the management accountants' role should coherently evolve toward a deeper integration and coordination with that of risk managers, as an intra-organisational condition of success.

The research *method* used is a qualitative mixed method, as it integrates inductive and deductive perspectives. In particular, we firstly used an empirical and comparative analysis based on explorative case studies. These case studies included seven companies listed in the Italian "public utilities" market sector and ten large sized unlisted companies, operating in the same sector. The choice of the companies is due to the fact that they have undergone extensive changes, which have had significant effects on both their strategic planning and management control systems, as well as on their ERM. The case studies method excels especially when it is necessary to understand a complex issue (Yin, 1984) and it can develop expertise and strengthen what is already known through previous research and this is the reason we define our case studies as explorative (Ryan et al., 2002). The tool adopted is the interview and the interviews are semi-structured to be kept within the main question area but still open the possibility to get the interviewees own ideas and feelings.

Secondly, our research adopted institutional theory, not with the intention of formally testing it, but rather to support our theoretical model of the successful directions of change. Institutional theory is assumed in our article to explain the hypothetical dynamics of change in MA and in management accountants' roles, considering the dynamics both in terms of extra-organisational institutions and in terms of power relations, as they complement the exogenous drivers that create successful change.

KEYWORDS: management accounting; management accounting change; management accountants' role; Enterprise Risk Management; ERM; Key Risk Indicators; KRIs; Performance Measurement Systems; PMSs; Italian public utilities sector; institutional theory

1. Introduction

Market globalisation has quickly turned into a "global crisis" that has affected consumption, industrial production and social welfare, especially in developed countries. In the current framework, value creation has become much more difficult and companies must now face the new and changing risks generated by this competitive environment. In this context it is inevitable that managers must make quick decisions in situations of high uncertainty and risk and a change in organisational institutions seems to be urgent. In particular, management accounting (MA) - as an institutionalised organisational practice (Burns and Scapens, 2000) - is one of the managerial systems deeply affected by the extra-organisational change.

Even if *MA change* has become a topic of much debate in recent years, the majority of the literature of the last twenty years has focused the attention on describing the achieved outcome of this change, and there are few academic authors who have dealt with *new, prospective and potential* MA changes, individualising the more successful and useful directions of this change.

There is evidence that the utilisation of MA to support the managerial process has changed, in particular as managers seem to be using the traditional accounting tools in conjunction with a wide variety of other performance measurement systems (PMSs) (Burns and Scapens, 2000). PMSs represent the evolution of the most traditional MA systems, as they are able to measure a range of strategic variables on a long time horizon and integrate economic and financial indicators with non-financial ones (Bhimani and Langfield-Smith, 2007; Bromwich and Bhimani, 1994). Therefore, MA systems have been described by the majority of the literature as being essential tools for business strategy formulation and implementation (Shank, 1996) and they have taken the form of a mechanism to monitor management's long-term strategic decisions already in the short-run period. Indeed, even if a company's top managers formulate excellent long-term strategies, they often have serious difficulties in implementing them, as the organisation struggles to translate strategic objectives into daily operations (Brusa, 2007). MA should guarantee the execution of the strategies already in the shortrun and for this reason it represents a fundamental system to support the managerial decision making process (Kaplan, Norton, 2008).

In any case, little research attention has been given to understand which could be a new direction of change for MA and for management accountants, especially considering the contemporary extra-organisational situation and the new risks that have emerged in the recent years. In particular, despite the fact that all businesses are forced to communicate their strategic intentions about risk and efforts necessary to increase business efficiency and effectiveness, only some authors (Busco et al., 2005, 2007; Collier and Berry, 2002; Kaplan, 2009, Kaplan et al., 2009, Kaplan and Mikes, 2011a, 2011b, 2012) have paid attention on how planning and control systems should evolve through the integration with those of enterprise risk management (ERM) and corporate governance (CG) in the creation of the "new" management accountant's role (Bhimani, 2009), underlying the requirements for the integration itself.

Therefore, our paper begins with the assumption that MA can change over time due to both extra and intra-organisational institutions changes (Burns and Scapens, 2000). In particular, our main hypothesis (*HP1*) is that the extra-organisational change is now creating conditions for institutional changes in MA that follow several often-interrelated directions. The least explored, in both literature and practice, is likely also the most urgent: *the integration of MA with ERM*. In particular, we are interested in understanding if it is necessary for the long-term profitability of a firm that the processes and the tools used by MA systems – on one side - and by ERM systems – on the other side - become more integrated, especially through the identification of performance and risk measurement systems, in which key performance indicators (KPIs) and key risk indicators (KRIs) are balanced.

Strictly correlated to the first hypothesis (HP1), we tried to understand which were the intra-organisational conditions required to favour the change and, particularly, which were the logical relations between the change in MA, toward the ERM integration, and the role of the management accountant and, subsequently, of the other managers involved in the managerial processes, especially the risk manager. Several authors, which investigated the function of the management accountant in a firm and her/his change over time, observed how this role should evolve from bean counter to consultant on all aspects of corporate business, as a so-called business analyst or business partner, while maintaining the most traditional tasks and traits of the pessimistic scorekeeper that characterised controllers in past decades (Baldvinsdottir et al., 2009a, 2009b, 2009c, 2009d; Scapens et al., 2003). This focus has led, at least in theory, to a redefinition of the management accountants' role, so that they require a greater engagement in business processes management, a strong attention to strategic and historical information, a decentralisation and dissemination of accounting knowledge (economic and financial) to operational managers, with a re-characterisation of the efficiency control of their activities (Burch, 2000; Kaplan and Norton, 2004). However, few authors have analysed the new competencies and functions required from management accountants in the hypothesis of integration between MA and ERM (Busco et al., 2005, 2007; Kaplan, 2009; Kaplan et al., 2009; Kaplan and Mikes, 2011a, 2011b, 2012).

Therefore, we hypothesised (*HP2*) an *evolving role of the management accountant*, and of the risk manager, who would accept the challenge of reciprocally enriching the traditional role with new intra-organisational relations, functions, tasks, skills and knowledge, even as they maintain the role's most fundamental traits.

The *aims* of our research are therefore:

- to understand if a further change in MA is required, highlighting the main direction of this change, with particular attention to ERM as a new organisational institution;
- to investigate if the management accountants' role should coherently evolve toward a deeper integration and coordination with that of risk managers, as an intra-organisational condition of success.

In this article, we use a qualitative mixed method, as it integrates inductive and deductive perspectives. In particular, we firstly use an empirical and comparative analysis based on explorative case studies, in order to understand which are the main directions of MA change and the features of the management accountant's role; secondly, we adopt a *hybrid institutional theory* to argue that a successful organisational change for MA and management accountants - a change that improves the value creation of a company and its durability across a long time horizon - is the result of interplays between external institutional forces and intra-organisational power relations. We propose that complying with the political and regulatory environment (coercive pressures and legitimation), following the influence of professionals (normative pressure and professionalisation), or acting according to market forces probably will not generate a successful change, if there is not an adequate mobilisation of power inside the company. In other words, external institutional pressures create the need for organisational change (Tsamenyi et al., 2006), but endogenous forces and human activities are required to adequately implement it.

Our analysis contributes to the extant literature as it reveals a further specific direction of change for MA and, consequently, for management accountants and risk managers, which tends toward the integration between performance and risk planning and monitoring. In particular, we explored the new tasks and skills that should enrich the management accountant's traditional role. Only if management accountants are able to accept and impose a new role for themselves by integrating performance controlling with risk monitoring and collaborating with risk managers will the change be successful for the organisation and improve the decision-making process beyond simple legitimisation and institutional isomorphism.

In the following section of the article, we firstly analysed the literature on changes in MA and challenges for management accountants, with particular attention to the key tenets of *institutional theory* that inform our research. In this section there is also an analysis about the main literature concerning the ERM, especially considering its critical and limitations, as this system represents the hypothesised direction of change for MA. Then, in the third section we illustrated the research methodology. The results of our research are presented in the fourth section, followed by the fifth one in which we engaged in a discussion of our findings. In the last section we concluded and underlined the limits and the possible implications of our research.

2. Literature Review

2.1. Institutional management accounting change

In the last twenty years a relevant interest has been given to the institutional theory applied to social sciences and many researchers have adopted institutional theory in order to analyse the MA change. These researchers consider accounting structure and processes as social practices and, in particular, as organisational institutions. Even if they adopted different analytic perspectives, it would be possible to define their approaches as *institutional MA research* (Burns and Baldvinsdottir, 2005).

Institutional MA research includes researches inspired by new institutionalism, or New Institutional Sociology (NIS), and by old institutionalism, or Old Institutional Economics (OIE) (Burns and Scapens, 2000). In particular, MA research inspired by NIS illustrates how, in addition to internal efficiency and effectiveness needs, changes in planning and control systems are often motivated by changes in the general environmental institutions (e.g., political, legal, economic, cultural, technological and social changes), that impose changes in *organisational institutions* and phenomena (e.g., rules, habits,

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routines, norms and culture). Therefore, when applied in MA research, the new institutional theory considers MA change to be an instance of *extra-organisational institutional change* (Burns and Baldvinsdottir, 2005). An organisation embodies institutional requirements and becomes isomorphic with a set of norms, practices and routines. The isomorphism can be (Di Maggio and Powell, 1983, 1991):

- coercive, when an organisation accepts that it has to change in response to formal and informal political and regulatory pressures (legitimation);
- mimetic, when an organisation accepts that it has to change to improve its success and it copies more successful organisations;
- normative, when an organisation accepts that it has to change to conform to rules and practices developed by professional groups.

In contrast to criticisms that NIS is excessively deterministic and fundamentally rooted in neo-classical economic theory (Burns and Scapens, 2000), OIE instead considers the MA change as related to intra-organisational relationships between actors and institutions or to cultural and political processes concerning the legitimacy, power and interests of actors involved in the change. In particular, Burns and Scapens (2000), following the OIE, presented a conceptual framework in which is illustrated how MA systems remain stable or change over time, due to the interaction between *rules* and *routines*.

They consider MA processes and practices can both cause and be caused by change in the *institutions* of an organisation, which represent “the shared taken-for-granted assumptions which identify categories of human actors and their appropriate activities and relationship”. The existing institutions (institutional principles and values) can evolve through a process of routinization of human activity, that is, the existing routine (“the way things are done”) usually encode the prevailing institutions, successively shaping new rules (“the way things should be done”). The new rules are successively enacted by actors and, along time, new routines can be reproduced, as the process of enactment involves conscious choices to question the new rules or unconscious choices that suggest the application of tacit knowledge about how things should be done. Therefore, it usually happens that, if the new rules challenge existing principles and values and if the actors have a certain amount of power to face them, the enactment process is modified by various kinds of resistance, new routines are reproduced and change can occur, through the institutionalization of the new routines themselves. As the new emerging institutions are abstract and they exist only in the knowledge of actors, both as individuals and groups, time is required to encode them in new rules and routine. In any case, the routinization and institutionalization process is an on-going process and not a discrete event, in which change and stability are dependent and parts of the same phenomenon. By understanding that MA systems and practices are organisational rules and routines it is possible to analyse MA change as a process and not only as an outcome.

In order to understand the MA change of an organisation, therefore, it is fundamental to analyse the existing intra-organisational institutions of the firms and the combination of “random, systematic and inertial forces, which together create the context out of which new practices emerge (*omissis*). In other words, the process of MA change is much more complex than the rational selection of so-called ‘optimal’ procedures and techniques, and is inherently path-dependent” (Burns and Scapens, 2000, p 13). For this reason, MA change has to be analysed also in terms of the “behaviour of individuals and groups within the organisation” and it is relevant to individualise the role that the “power” has in the process of change (Burns and Scapens, 2000, p 23).

However, even if changes in MA systems are deeply influenced by the internal context of the organisation, at the same time, to understand the intra-organisational process of change it is necessary to focus the attention also on the institutions outside the organisations (the general and the particular economic, social, political, regulatory institutions of the external context in which the firm is located). For this reason, in previous literature, there have also been some efforts to integrate themes suggested both by old and new institutionalism (Collier, 2001; Ma and Tayles, 2009; Modell, 2001; Yazdifar et al., 2008) and the consequential adoption of *hybrid* frameworks (Di Maggio and Powell, 1991), which represent a fusion between old and new institutionalism and use a double lens in order to explain organisational change:

- at the macro level, considering political, regulatory, cultural and market pressures;
- at the micro level, considering underlying, intra-organisational power relations.

Indeed, hybrid frameworks consider external changes and organisational actions, as well as the different interests and capacities of the human actors, as though they were important drivers of organisational change. Therefore, several studies inspired both by the NIS and the OIE have investigated the importance of internal and external organisational and business context analysis and the conflict and resistance that often threaten the success of the on-going changes to techniques and processes of strategic planning and management control.

In this study, we adopt an *hybrid institutional theory* as, in order to answer the research questions concerning the need of integration between MA and risk management, we affirm that, even if the change in MA is triggered by external environmental factors, at the same time it is indispensable, for the value creation of the firm in the long-run, that some internal key factors favour the change itself, such as an intra-organisational effective integration between the members of the organisation involved in the two systems.

2.2. Enterprise Risk Management: a “costly compliance exercise”

During the past few years, both natural and man-made catastrophic events and changes in competitiveness have generated new and variable risks for enterprises, and the global environment promoted the development of a new doctrinal approach to risk management, with the goal of improving business performance and creating value. A new methodology for risk management, called ERM, has emerged in literature and in practice. ERM “is, in essence, the latest name for an overall risk management approach to business risks. Precursors to this term include corporate risk management, business risk management, holistic risk management, strategic risk management and integrated risk management. Although each of these

terms has a slightly different focus, in part fostered by the risk elements that were of primary concern to organizations when each term first emerged, the general concepts are quite similar” (D’Arcy, Brogan, 2001, p 209).

Liebenberg and Hoyt (2003) affirm that, “unlike the traditional ‘silo-based’ approach to corporate risk management, ERM enables firms to benefit from an integrated approach to managing risk that shifts the focus of the risk management function from primarily defensive to increasingly offensive and strategic”. According to COSO’s ERM Framework (2004, p 2), “Enterprise risk management is a process, affected 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 to maintain risk within the risk appetite, to provide reasonable assurance regarding the achievement of entity objectives”.

This approach promotes the integration of business areas and transversal risk management and places the control activity of the uncertainty factors within the strategic planning phase. The COSO’s ERM framework (2004) illustrates ERM components, discusses ERM principles and concepts, proposes a unique ERM language, and provides clear direction and guidance for ERM. In particular, ERM can be represented as a multidirectional and iterative process, constituted by the following phases:

- Internal Environment: definition of risk management philosophy and risk appetite, integrity and ethical values, and the environment in which they operate;
- Objective Setting: evaluation if the chosen objectives of the firm support and align with the firm’s mission and are consistent with its risk appetite;
- Event Identification: identification and description of internal and external factors that can affect the firm’s performance, distinguishing between risks and opportunities;
- Risk Assessment: assessment of risks, considering their likelihood and impact;
- Risk Response: identification of risk responses, such as avoiding, accepting, reducing or sharing risk, and development of a set of actions in order to respect the firm’s risk tolerances and risk appetite;
- Control Activities: identification of procedures to continuously verify if the risk responses are effectively carried out;
- Information and Communication: identification and communication of relevant information concerning the risks behaviours to the various stakeholders, both internal and external to the firm;
- Monitoring: controlling the effectiveness of the ERM system and making modifications when necessary.

Despite the declared goals of ERM, some researchers and managers keep describing risk management as a *costly compliance exercise* (Collier et al., 2006, 2007) because this model, usually implemented to satisfy the legislation on CG and internal control systems (which has mainly affected companies listed on regulated markets), still has difficulty in improving long term value for companies. Consequently, some researchers and managers deny that the benefits of risk management exceed the costs.

Certainly, the adoption of a model of risk management is initially financed to ensure the following:

- greater respect of rules and regulations in the entire company structure and, therefore, a fuller application of the principles and values at the heart of the economic activity;
- dissemination of true information outside of the company structure, avoiding the risk of transmitting to the market false or incoherent information.

These two elements, however, are not necessarily antithetical to value creation. Indeed, in the long term, the environment rewards those companies that, using good information, have shown to have strong ethical values and an effective system of risk management. Therefore, the compliance exercise should be translated over time into a reduction of the specific risk factor of the firm assigned by the market (Sharpe, 1964) and an increase in firm value.

In any case, it is useful to recognise some important limitations of the use of the ERM model, rather than intrinsic ones, because the limitations may be harbingers of failure. Indeed, because the main existing framework for risk management begins with the important consideration about the need to integrate risk management policy with strategy formulation and strategic planning, it seems to be reasonable that this requirement is not fully implemented, even if managers have understood the potential of risk management in generating and protecting value. This is mainly attributable to two facts related to the intra-organisational power relations (Collier et al., 2007):

- on the one hand, the risk manager or, in general, the person responsible for the determination of risk, too often acts like a bureaucrat, in accordance with rules and procedures, without worrying about managerial and organisational issues;
- on the other hand, the role of the management accountant is quite marginal to the risk management process. It is assumed that the controller plays support functions, but is not involved in the logics underlying the measurement and control of risk.

Reports prepared by the risk manager usually do not include reference to the parameters of company performance and at the same time, there is no trace of integration of strategic planning (e.g., PMSs and models such as *Balanced Scorecard*) and management control (budgeting and reporting) with risk factors and risk indicators elaborated during the risk management process (Berry et al., 2005).

The controllers are the first to admit their “forced exclusion” from the risk measurement process while recognising a potentially significant role in risk management (Collier et al., 2007). Instead, the other employees with leading roles in the firm (such as line managers, risk managers and internal auditors) believe that risk and risk management should not be included in the tasks and responsibilities of the management accountant. In the majority of organisations, management accountants are marginalised with concern to the risk management, and, even if they affirm they should have a deeper involvement, the other subjects that operate on the process do not share the same view. Line managers, risk managers and internal auditors consider the skills and competencies of management accountants as not being ideal to a greater involvement in risk management, even if they affirm that their analytical and modelling skills are essential for a supporting role (Collier et al., 2007). This is due to the fact that in the opinion of business and non-financial managers, management accountants’ tasks rely on formal accounting-

based control. These managers consider that only when a management accountant's background was oriented to the analysis and integration of different sources of information and systems, performance and strategic management, with the capacity of explaining the interconnections between non-financial parameters and accounting information could s/he have a main role in developing risk management within their firms (Chartered Institute of Management Accountants, CIMA, 2002). For this reason, the changing role of management accountants is an important factor in permitting a pivotal role in analysing and assessing risks, but also in reporting and monitoring them. The management accountants can be considered with more aspects of risk management than any other role in a firm only if they "shift toward a more strategic and value adding role which, by definition, includes a consideration of risk" (Collier et al., 2007).

Therefore, in concrete terms, the problem becomes how to integrate the risk management process with the strategic control one, and/or how to include risk indicators within the system of strategic planning and management control. The processes and tools of strategic planning and management control should embrace the logic and techniques of risk management to ensure that all of the responsibility centres in the firm follow a systematic pattern in their decision-making process (Kaplan, 2009; Kaplan et al., 2009; Kaplan and Mikes, 2011a, 2011b).

If MA does not evolve in this direction, the ERM remains "isolated" and encounters two possible problems: i) the so-called "risk of control", and ii) the so-called "illusion of control" (Berry et al., 2005). With regard to the "risk of control", it could be that the introduced models of ERM are excessive because they impose compliance with certain requirements that become "mandatory" for managers. Indeed, the implementation of ERM is often driven more by the need for compliance and good relationships with various stakeholders than by a genuine belief in the need to monitor risks in order to protect the company value. This is partly attributable to the complex national and international regulatory framework with laws, regulations and conduct codes. The different decision makers may have little space to manage the company properly, especially in dynamic environments, and this could cause an increase in risk rather than a decrease, due to the lack of flexibility in the plans and budgets to seize new opportunities. The risk is to overemphasise hyper-control, or the fact that the person who controls is in turn controlled, without considering the effective functionality of the system itself. Regarding the phenomenon of the "illusion of control", the controls implemented during the risk management process could lead to an unjustified "belief" that all the uncertain events are well managed. In this way, hazardous and unanticipated conditions may arise, or opportunities could be missed.

Despite the interest that characterises this topic, there are few academic authors who have dealt with MA change, especially regarding the integration of MA and ERM, focusing on empirical analysis. Busco et al. (2005, 2007) viewed governance as an integrated framework, with which going beyond the compliance exercise with internal and external rules, and integrating risk management with performance management systems used for obtaining organizational performance. The adoption of an integrated governance system consequently implies an active role of the finance director and of her/his function and requires a new set of skills to support the integrated dimensions of governance, including: i) controlling/monitoring skills; ii) knowledge of the business; iii) supporting/coordinating skills and iv) interpersonal and communication skills.

Collier and Berry (2002) studied the relationship between risk and how managers perceived and managed risk in the budgeting process. They discovered that, despite wide-ranging managerial perceptions of risk, the budgeting process and the budget documents do not encompass risk and risk factors and for this reason budgets are not tools used in risk management.

Kaplan (2009) and Kaplan and Mikes (2011a, 2011b) underlined the need that technical components of strategic and management control, as PMSs and Balanced Scorecard, have to take into account risk in order to generate long term success for the companies. Indeed, they affirm that without an effective risk assessment and consideration in the tools used for the strategy formulation and implementation, unrealistic levels of risk could be taken by managers. Kaplan and Mikes (2012) presented a "new categorization of risk that allows executives to tell which risks can be managed through a rules-based model and which require alternative approaches". In particular, they examined the risks related to strategic choices and argued that companies should integrate risk control and monitoring with strategy formulation and implementation processes.

In any case, a gap in the literature does exist, especially referred to a wider social, institutional and organizational context in which MA and ERM operates, rather than just focusing on the technical aspects of risk management (Soin & Collier, 2013).

3. Method

3.1. The research method

As indicated in the Introduction section, in our research we formulated two correlated hypotheses:

- *HP1*: the external context created conditions for *changes in MA* and the most urgent direction of change is the *integration of MA with ERM*;
- *HP2*: the change in MA could be successful only if *the management accountant's role evolves*, accepting the challenge of enriching the traditional tasks and skills.

In order to verify our hypotheses, we expressed the following research questions (RQs):

- *RQ1*: is a new *MA change* required? Is it correct to affirm that the most urgent direction of change is the *integration between MA and ERM*?
- *RQ2*: should the *management accountant's role* be considered as an intra-organisational condition, which will enable a successful MA change? And what are the necessary functions and features of this role considering the main direction of change of MA?

The *research method* used is a qualitative mixed method, as it integrates deductive and inductive perspectives. In particular, we firstly used the case studies method to answer to *RQ1* and *RQ2*. This method, although it is in part affected by subjectivity and it is often criticized for lack of statistical reliability and validity, excels especially when it is necessary to understand a complex issue (Yin, 1984) and it can develop expertise and strengthen what is already known through previous

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research. The analysed case studies can be defined as explorative (Ryan et al., 2002) because our research didn't aim to assume some generalizations or definitive conclusions, but to verify our hypotheses concerning the need of change in MA and in management accountants' role and the main direction of change.

The tool adopted in the case studies is the interview (see Appendix A). This tool has advantages such as flexibility, environmental control, the order of questions, the completeness, the response from the interviewees definitely concerned, but it also has disadvantages such as time, the influence of the less standardized and the formulation of the questions. The interviews were semi-structured to be kept within the main question area but still opened the possibility to get the interviewees own ideas and feelings. The interviews also included some questions to verify the good quality of the answers. We interviewed selected respondents, to verify the opinion of management accountants regarding:

- the *status quo* of MA systems in their companies;
- the expected or potential change in MA systems in their companies;
- the expected or potential changes and challenges to the management accountants' role in their companies.

Secondly, our research adopted *institutional theory*, not with the intention of formally testing it, but rather to support our theoretical model of the successful directions of change for MA and for management accountants' role. The key tenets of institutional theory that inform our research are that MA is more than a technical system and that change in MA is embedded in institutional change. Particularly, institutional theory is adopted in our article to explain the hypothetical dynamics of change in management accountants' roles, considering the dynamics in terms of power relations as they are created by the intra-organisational condition and as they complement the exogenous drivers that create successful change and generate, preserve, improve and deliver value.

3.2. The sample

The case studies that constituted our sample included two different groups of companies: the first is composed by seven leading companies listed in the Italian "public utilities" market sector and the second by ten medium – large sized unlisted companies operating in the same sector. The choice to analyse these two different groups, one composed by the seven listed and the other composed by ten unlisted companies, is supported by the Eisenhardt's approach to case study research, which argues for the use of more than a single case. She concludes that "between 4 and 10 cases usually works well. With fewer than 4 cases, it is often difficult to generate theory with much complexity, and its empirical grounding is likely to be unconvincing, unless the case has several mini-cases within it" (Eisenhardt, 1989). Using these two different groups of companies, respecting the requirement stated by Eisenhardt, it is possible to elaborate a new theory.

To better explain the dimension of the "public utility" sector, in 2011 in Italy the public utilities companies represented 2.6% of national GDP. The research conducted by Confservizi Association highlighted a significant growth of public utilities companies (the revenues increased of 72% from 2004 to 2011), in contrast with the results achieved by other Italian companies operating in different sectors. The growth has been sustained, during the last two decades, by aggregations, mergers, and agreements with a strong affirmation of multi-utilities have characterized this sector to fulfil the rising citizens' requests (Calabrò et al., 2013). So, while the market assured strong protection to public utilities in the past, an important opportunity has recently been the development of cooperation among local public utilities, to enlarge the range of services provided to the community, as well as the geographical extension of the market.

The path of public utilities development has not been the same in all Italian regions. The higher incidence of larger public utilities is in the northern regions of Italy, with a significant presence of listed companies. Companies based in the North of Italy generate 40% of total Italian public utility revenues. The larger firms in terms of revenues, in 2011, operate in Gas and Environmental Hygiene industries.

Concerning the "public utilities" market sector of the Italian Stock Market Exchange, it represents the third sector in terms of capitalization (18% of the global capitalization of Borsa Italiana in 2011), after Banks (21,6%) and Energy (19,5%). Furthermore, the seven listed companies analysed represent 78,7% of the Italian "public utilities" sector, in terms of capitalization. The public utilities sector—which is different from posts and telecommunications and from public transport—was composed of the following sub-sectors: Energy, Water, Gas, Renewable Energy, Environmental Hygiene (wastes, maintenance of public areas, purification and sanitation, etc.), and District heating.

The selection of the case studies was made concentrating on all the listed companies in the *FTSE sector: Italian Public Utilities Services*, that is, eighteen companies and groups were chosen in this first round of selection. However, the list has subsequently changed due to new listings, de-listings, or mergers between companies. Successively, we eliminated the following companies from the original sample:

- subsidiaries of a holding company listed in the same sector, because firm policies relating to planning, control systems and ERM (which constitute the primary objects of the research) are set by the holding company;
- private companies, because we chose to focus on state-owned companies, for reasons of sample homogeneity (the vast majority of privately-owned utility companies operate in the Renewable Energy sub-sector because of the high investments required for infrastructure in Energy, Water, etc.) and because of the significant effect that the nature of government control has on them.

Therefore, ten listed state-owned companies were included in the final sample and seven accepted to be interviewed in 2011. A large percentage of the respondents were leaders of strategic planning and MA or Chief Financial Officer (CFO) in their company, with the exception of one risk manager. The companies have from 800 to approximately 6,500 employees and five listed companies are *multi-business* or *multi-utilities* (energy, water, gas, renewable energy, waste cycle, heating, lighting, maintenance of public areas, etc.).

(1) The name of the sector has subsequently changed to Petrol and Gas, that better represents the composition.

Successively, the seven listed companies were compared with ten medium - large sized unlisted companies belonging to the same sector, in order to acquire a more complete view of the “public utilities” market and to be able to evaluate differences and similarities between the two groups. The selection of unlisted companies began in 2011, starting from the Italian database AIDA and considering only companies belonging to the public utilities sector classification (that encompasses Energy, Water, Gas, Renewable Energy, Environmental Hygiene and District heating sub-sectors), with more than 500 employees and revenues greater than 50 millions of Euros. According to several studies that highlighted that managerial tools are more widespread in large sized companies than in small ones, we therefore decided to make a dimensional discrimination.

It must be underlined that unlisted companies present dimensional features generally lower than those of listed companies, especially in terms of employees and revenues. In fact, the research of Confservizi 2011 highlights that only 18% of revenues of the sector is generated by unlisted companies. In addition, as far as unlisted companies are concerned, there is a high geographical fragmentation; indeed unlisted companies are numerically higher than listed companies, however they provide services in more limited geographical areas.

In order to make the data more comparable with those of listed companies, we decided to select firms according also to the number of users served. In particular, we included in the sample only firms that offer service to a number of users greater than 1 million. At the end of the selection process, 25 unlisted companies presented the characteristics to be included in the final sample. We excluded private companies and subsidiaries, and ten unlisted companies accepted to be interviewed (six of them were *multi-business* or *multi-utilities*), with a response rate of 40% of the initial sample. The sample selection, document analysis and interviews started in 2011 and finished in 2013. The interviewed were in a large percentage leaders of strategic planning and MA or CFO in their company.

The *choice of the public utilities sector* was motivated by the fact that, in the last decade of the last century, companies in this sector were impacted by a deep change in institutional environment and market competition, including the introduction of liberalisation and privatisation (Tsamenyi et al., 2006). Several Western public utilities sectors have undergone an important reform process to make them more efficient, and this process has introduced new competition rules. In Italy, the first round of reforms was introduced in the 1990s with the specific goal of cutting costs and reducing state deficits, as well as separating the public welfare and policy functions from the commercial ones, and the liberalization was introduced in 2002. Nowadays, Italian local governments can choose from a range of different methods to produce/provide local public services: services can be provided by companies owned by Municipalities or can be outsourced to private companies. In particular, the sector is regulated by a complex system of laws, composed by European, national, local legislation and, in addition, there are specific laws for each field of activity (e.g. Gas, Electricity, etc.). In particular, European laws introduced reforms for local authorities, liberalising the sector and building up competitive markets.

Although free-market competition has not been completely established in this sector, liberalisation and privatisation have had a significant effect on efficiency and on organisational change aimed at more proactive management systems. Furthermore, the listed companies operating in this sector are particularly subject to the regulations on internal control systems and CG, which were first introduced in USA at the end of the 1980s² and subsequently developed around the world (in 2004 the so-called *Transparency Directive* was approved by the EU). Internal Control in turn introduced the ERM methodology and has forced listed companies to implement the risk management process and structure in order to improve the assessment and the control of new risks. This is the reason for which we expected to find a formalised use of managerial systems and of risk management systems in these companies, in order to test our main hypotheses concerning the integration between MA and ERM.

In conclusion, even if the chosen sample is characterised by Italian companies that:

- operate in a not-completely free-market;
- are generally state-owned,

we can affirm that these companies have been involved in a deep change, which has imposed the development of information needs, which in turn has triggered the organisational change. Indeed, even if the analysed companies operated in a not-free-market, where the limited competition for a long period smoothes the need of internal information and the change of MA, in recent years, due to the process of liberalisation and privatisation and the process of cutting costs and reducing state deficits, the need of operative and management information increased. Besides, even if these companies are state-owned and public organizations are more bureaucratic, and public managers are less materialistic and have weaker organisational commitment than their private sector counterparts (Boyne, 2002), perhaps no industry has attracted as much attention in terms of change in recent years as the utility sector (Tsamenyi et al., 2006).

4. Results

The results from the interviews showed that among the companies there were advanced MA systems, supported by integrated enterprise information systems, even if these systems were not completely integrated with the ERM processes and tools.

We observed that in all listed and unlisted companies there was a specific MA office (in five listed companies and seven unlisted companies this person was directly below the CFO); in three listed and five unlisted companies, this office had more than ten employees, while in two listed and unlisted companies it had more than twenty employees.

In all listed companies, there were company objectives (both long-term and short-term) that were compared with company performance monthly and management control had its own formalised procedures and prepared monthly reports. Unlisted companies, like the listed, formulate long-term and short-term objectives, however control activities are not so frequent (usually quarterly). Reports were issued to the following offices (Chart 1):

(2) In 1987, driven by corporate scandals and failures in the USA, the Treadway Commission published the Report on Fraudulent Financial Reporting, which contained a policy concerning CG.

Chart 1: Responsibilities Centres

	Listed companies		Unlisted companies	
Top management	7/7	100.00%	10/10	100.00%
SBU Managers (*)	7/7	100.00%	10/10	100.00%
Functional Managers	5/7	71.43%	6/10	60.00%
CFO	7/7	100.00%	10/10	100.00%

Source: own elaboration

(*) SBU stands for Strategic Business Unit.

Managers were charged with specific goals and were evaluated and rewarded on the annual achievement of results. The reports were characterised by a certain complexity because they were articulated with regard to different business dimensions or objectives (Centres of Responsibility, Services, Projects, Customers, Distribution channels, Geographic areas, Activities and processes, Business areas). The reports contained both financial parameters and non-financial indicators (quantitative and qualitative). This demonstrates that the analysis conducted by the management accountant and addressed to operational managers was characterised by multidimensionality and complexity, even though the reports included measures of business risk in only two listed cases. These statements are valid both for listed and unlisted companies.

In six listed and five unlisted companies, in addition to traditional instruments of management control (budgeting and cost accounting), innovative tools for performance measurement and strategy implementation (activity based management, process management and balanced scorecard) were used. In all of the cases the tools allowed managers to monitor the current operations in order to achieve strategic goals. Even though the balanced scorecard approaches were used in only four listed companies and two unlisted companies, all of the companies were aware of the cause-and-effect relations that connect the short-term financial perspective with the other, long-term perspectives (customer satisfaction, business processes and intangibles).

As several studies show that change in MA systems should be adequately supported by the use of business information systems (Scapens and Jazayeri, 2003; Scapens et al., 1998), we also asked if companies had implemented "integrated" operating information systems, such as Enterprise Resource Planning (ERP) and management decisions support systems. The answers demonstrated that the level of advanced computerisation and integration among data was high with regard to both operational transactions and business intelligence tools, in listed and unlisted companies.

We then analysed the structure (organisational and technical), the activities and the process of ERM to understand how this was undertaken and whether it was integrated with the strategic planning and MA tools and processes. In six listed companies there was a specific risk management office, which had more than ten employees in one case. In one listed company, ERM activities were executed directly by the CFO. In six unlisted companies there was a specific risk management office with a small number of employees, while in two companies ERM activities were executed by the CFO and in the remaining by the Quality manager.

The locations of the risk management office in the organisational structure were as follows (Chart 2):

Chart 2: Risk Management Office

	Listed companies		Unlisted companies	
Below the CFO	1/6	16.67%	1/6	16.67%
Below the CEO	1/6	16.67%	0/6	0.00%
Below the SP and/or MA Director (*)	1/6	16.67%	0/6	0.00%
Below the health and safety manager	1/6	16.67%	4/6	66.67%
Below the operational managers	1/6	16.67%	1/6	16.67%
Below the directors' staff	1/6	16.67%	0/6	0.00%

Source: own elaboration

(*) SP stands for Strategic Planning and MA stands for MA

We found that in four listed companies and in three unlisted, the risks associated with the processes were mapped, estimated, evaluated, treated, and their trends were monitored and communicated to the market; however, there was not a strict correlation between these activities and PMSs. Indeed, risk parameters were measured in connection with the performance parameters only in one listed company (none of the non-listed companies perform the previously described activities). The listed company that measured risk parameters in connection with performance parameters is the one which is located in the organisational structure directly below the SP and/or MA Director (see Chart 2). Although risk factors were often considered at the beginning of the planning phase, only some companies continued paying attention to risks and continuously verified, in the short-term, the evolution of the binomial strategy-risk during and at the end of control processes.

ERM was considered by five listed and four unlisted companies to be among the managerial systems that should be formally and substantially integrated with MA. In other words, the respondents affirmed that it would be very important that MA changes toward the full integration with risk management processes, structures and tools, in order to improve the companies' durability. To the direct question about the main expected or potential direction of change for MA, all of the respondents confirmed that the integration with ERM is this direction. The CFO of one of the listed companies gave a relevant example to clarify his opinion:

“The procurement director is deeply interested in optimising the cost performance, but it often happens that a supplier is not able to delivery materials on time or with a low percentage of faulty components. This is due to the lack of attention to operating risks when considering performances” (CFO).

In five listed companies and four unlisted ones, the strategic planning and MA directors were involved in risk estimation and evaluation activity and in three listed companies and two unlisted ones they were involved in risk reporting and communication. However, each respondent (also in the case in which the respondent was the risk manager) underlined the importance of improving the involvement of management accountants in risk management activities, especially in the definition of ERM goals and in the risk monitoring and reporting activities.

Though companies used different approaches, in all companies the respondents affirmed that in their company there was coordination between the strategic planning and MA directors and employees involved in risk management. However, in only three listed companies and one unlisted company that coordination is adequately formalised and not “ad hoc”; in only two listed companies and one unlisted, risk parameters were identified in planning and control reports. However, in only one listed company there was an effective integration of performance and risk parameters.

Next, we asked whether managers believed that it would be useful to create a corporate board (top management, management accountant and risk manager) to share information about performance and risk and whether they thought that risk management could, from the strategic and managerial perspectives, be better used. The answers are shown in Chart 3:

Chart 3: Integration by corporate board

	Listed companies		Unlisted companies	
Yes, it is necessary to achieve common goals and then ensure better monitoring of performance, and to predict, evaluate and enable risk management actions	2/7	28.57%	4/10	40.00%
Yes, it is necessary to have a more integrated view of risks and to have a more structured exchange of information	1/7	14.29%	3/10	30.00%
Yes (not justified)	1/7	14.29%	1/10	10.00%
No answer	1/7	14.29%	2/10	20.00%
<i>Presence of a similar unit in the company:</i>				
Top management participates in risk commissions for specific types of risk and in risk management committees	1/7	14.29%	2/10	20.00%
The corporate board sets out to monitor market risks and define the hedging strategy. It is being launched in the energy risk management project, which involves several managers in addition to CEO, including the director of finance, the director of planning and control, the director of administration, the director of management control, the director of risk management, the director of internal auditing and the director of legal services	1/7	14.29%	1/10	10.00%

Source: own elaboration

The fact that most managers responded positively to the question about the need of integration, despite not having worked concretely for it to become real, is quite understandable: in fact they could be induced to go along with the interviewer about her/his hypothesis. In any case, the suggested change is sufficiently rational to be acceptable by the majority of respondents. In fact, the two managerial systems have informational purposes that can be integrated.

The MA is a system whereby managers are empowered and driven to achieve the planned performance, through the identification of performance indicators for each responsibility centre. All managers at various levels of the organization (top, middle and low-managers) are involved in the system and are users of the provided information, which can be both financial and non-financial. The MA process is cyclical, starts each year by defining strategic planning objectives, setting short-term goals for various managers, and spreads throughout the year, verifying periodically the degree of achievement of the various objectives.

Also the ERM is a cyclical process, whereby it is possible to identify and describe the main risks that could affect the company's performance and that are not considered acceptable compared to the stakeholders expectations; this system describes these risks appropriately, even using risk indicators. The process continues by estimating the probability of occurrence and the extent of the damages that might generate the described risks, and evaluating which of those risks should be treated appropriately. The risks must then be treated by controlling the evolution in time and space and explaining the risk management policy and its evolution to stakeholders, as well as within the organization. The main players in this process are, again, managers at various levels of the organisational structure, but also employees who work at the lower levels, which should contribute to the risks identification, particularly referring to operating risks.

In both systems, MA and ERM, the process is therefore structured in phases, which can be summarized in this way:

1. Programming;
2. Concurrent controlling;
3. Rescheduling.

Furthermore, in both systems, managers are the main players and at the same time the users of the provided information to improve their decision-making process. Finally, the risks may adversely affect performances but, at the same time, programming activity of a certain performance brings with it new risks. Therefore, performance and risks will co-determine reciprocally and it is essential that the two systems - the programming and the control of performances and risks - work in an integrated manner, both in terms of process and instruments used. However, to achieve an high level of integration in terms of

process and tools, it is very important that management accountants and risk managers be coordinated; in order to do that they should identify, also involving the CEO, appropriate times and places during which to explain their outcome, considering that they have significant areas of overlap to deal with.

In fact, operational managers can improve their long-term performance only if they are able to implement the most appropriate corrective actions, considering both the desired performance and the risks involved. This means that the controller must develop skills of analysis especially on critical success factors and risks involved in the main business processes; instead, the risk manager should extend her/his technical preparation knowledge mainly based on analysis and risk quantification, acquiring skills also in terms of performance and critical success factors.

In practice, beyond the need of integration that is rational and optimizing, it should be noted that it is not easy to reach a good level of integration, due to power games among individuals with different responsibilities (risk manager and management accountant) and a certain natural resistance to change in case of routine activities and rules that are already institutionalized (Burns and Scapens, 2000). In particular, the intra-organisational power relations between risk managers and management accountants is commonly structured in this way (Collier et al., 2007):

- on the one side, the risk manager operates too often as a bureaucrat, respecting the existing routines and rules, without considering the critical success factors required to guarantee durability to the firm;
- on the other side, the management accountant is not involved enough in the risk management process. The controller usually acts as a coordinator in the MA process, supporting the different departments of the firm to individualise the critical success factors through the measurement and control of performance, but s/he is not deeply involved in the management of risks.

Reports prepared by the management accountant usually do not include reference to the risk parameters and *vice versa* there is no trace of integration with performance measurements in the risk management tools (Berry et al., 2005). While the controllers of the firms would accept a more significant role in risk management activities, on the other side, the risk managers consider risk management should not be included in the functions of management accountants (Collier et al., 2007).

To these considerations, we should add that top management has never explicitly fostered the integration between MA and ERM. The CEO, with the exception of one company, has normally humoured a market requirement and a political, legislative need imposing the risk management process, rather than asking for a real change in managerial systems in order to support the durability of the business. Indeed, most respondents considered critical events (six listed and six unlisted companies), board and top management (six listed and five unlisted companies) and laws and regulations (five listed and six unlisted companies) to be the strongest drivers for the introduction of ERM in their companies. This means that the implementation of risk management is usually the top management's response to extraordinary and negative events or regulatory calls to improve CG. For this reason, there is still resistance at the operational level against exploiting the full benefits of risk management, not only in terms of compliance and transparency but also in terms of value creation (Collier et al., 2007). At the end, the majority of respondents, both in listed and unlisted companies, affirmed that top management had an important responsibility in sponsoring new power relations in their companies, characterised by an higher involvement of management accountants in the risk management activities, and considered as a *conditio sine qua non* to achieving a successful organisational change.

The management accountant's role, in the opinion of the majority of respondents, is seen as a *business analyst's* role, with a proactive involvement in the main operational processes of the company. In any case, they are favourable for a greater participation of controllers in risk management activities, in particular in the planning and reporting phase of risks and performances. For this reason, the main characteristics that a management accountant should have are, in the opinion of all respondents:

- the ability to analyse management decisions, identifying and highlighting both *strategic variables* and *risks*. To achieve this goal, it is necessary that management accountants gain a high level of knowledge and familiarity regarding company processes, activities and internal resources;
- the skills in relationship and diplomacy, which would fulfil the coordination task, an essential ingredient for integration between MA and ERM;
- the knowledge of the main technical and logical mechanisms of information and communication technology (ICT) and information systems, as they generate and manage different information flows, that are at the basis of the MA and ERM tools.

5. General discussion

The results of the empirical analysis confirmed our research questions (*RQ1* and *RQ2*), both in listed companies and in unlisted ones, underlining the need of a further change in MA and in the role of management accountants, without relevant differences between the two groups of the sample.

Indeed, in the analysed case studies, extra-organisational institutional change and new regulatory requirements motivated organisational change both in listed and in unlisted companies. Subsequently, organisational change influenced the change in MA and in ERM systems. Especially in listed companies, advanced MA systems have been implemented, integrated ERP and business intelligence tools now support the decision making process and ERM processes and tools have been adopted, even if also in a large majority of unlisted firms advanced managerial systems are widespread. At the same time, the findings suggest that more change is possible, especially efforts to integrate MA and ERM systems (*RQ1*). As Collier et al. (2007) observe, "...risk has shift from being considered tacitly to being considered more formally and ... (there is) expectation that this trend will shift markedly to a more holistic approach with risk being used to aid decision-making". In addition, the results confirmed that the role of management accountants should acquire new tasks and skills and that the management accountants' role seems to be from *performance* controller to *performance and risk* controller (*RQ2*).

A research of the Chartered Institute of Management Accountants (CIMA, 2002) confirm that management accountants can have a significant role to play in developing and implementing risk management and internal control systems within the organizations. The CIMA's survey reveals that the changing role of management accountants should evolve towards risk management with a greater involvement in risk management activities. However in the majority of organizations considered in the CIMA research, management accountants are marginalized in relation to risk management even if the CIMA respondents consider that management accountants should have more involvement in ERM.

Consequently, we proposed a descriptive evolution model for MA toward ERM, useful both for listed and large sized unlisted companies, and, drawing on institutional theory, we identified a new role for management accountants. With particular reference to *RQ1*, to overcome the limits of ERM it is necessary to start anew from the operative mechanism of strategic control, ensuring that this system and the person who manages it are also effective "drivers" of risk management in the company. Risk management and strategic control should be a "unique system" in practice, referred to as the "Integrated Model of ERM and Strategic Control". Essentially, the "Integrated Model of ERM and Strategic Control" implies the following:

- integrated and balanced performance and risk measurement systems (the technical structure);
- integrated ERM and strategic control phases and time (the process);
- integrated responsibilities among risk managers, internal auditors and management accountants (the organisational structure).

In particular, focusing our attention on the first direction of integration (the technical structure), the tools of strategic control should integrate with risk and its parameters, implementing an "integrated" PMS that includes the output contained in the reports from ERM process. These results should be achieved through three different actions:

1. The first action is including some indicators about risks that were considered extremely dangerous in the evaluation phase of ERM, but not properly transferrable or financially coverable in the tools of performance measurement to attract the attention of managers. This first level of indicators should allow for "balancing" performance with the possible risks associated with pursuing a critical success factor.
2. The second action is including in PMSs parameters related to the emerging or "bottom-up" critical success factors, which are often unknown to the top managers but well-known by operative employees in the firms and their related risks. In this way, the transfer of knowledge would create the opportunity to evaluate the goodness of a strategy over time while considering organisational learning (Mintzberg, 1989, 1994), new opportunities and new risks.
3. The third action is the inclusion of some indicators in the tools of performance measurement that monitor the effectiveness of the "Integrated Model of ERM and Strategic Control".

The first and second categories of actions have mainly *facilitating* and *informational purposes* because they should allow those responsible to capture, using the indicators and the measures of risk, that which we could define as KRIs (Gilad, 2004; Martelli, 2005; Scandizzo, 2005), which are analogous to the KPIs (Johnson and Kaplan, 1987), any internal or external changes that promote strategic reformulation and the consequent tactics and operational choices. Of course, subordinate to this aim is also an *evaluation and influencing purpose* because managers should be evaluated on the degree of achievement with regard to these indicators and subsequently rewarded. The third category of action focuses on *evaluating* the risk management approach in an "integrated" way.

This first direction of integration can be achieved only if there is also a coordination between the phases and time of ERM process and the phases and time of strategic control process. That is, considering the time axis, it is necessary that the different phases of the two processes be strictly correlated, and the output of the first phase becomes the input of the following and *vice versa*. This is the second dimension of change.

Furthermore, with particular reference to the last direction of integration (the organizational structure), that is strictly correlated to *RQ2*, and drawing on institutional theory, the integration between ERM and strategic control tools and processes requires sponsorship by top management and coordination among the different subjects involved (management accountants, risk managers and internal auditors). Indeed, even if the change in MA toward ERM is a response to the effectiveness and efficiency needs required by the new competitive market, the regulatory environment (coercive pressures) and the professional and normative pressures that characterise today's economy in developed countries (Di Maggio and Powell, 1983), however, it is important to affirm that, in addition to exogenous drivers of change, endogenous organisational power relations are significant components in the effective improvement of MA. For this reason, it is imperative to examine the interaction between institutional forces, market forces and intra-organisational power relations in order to understand the dynamics of change. This implies that top management should mobilise power to implement effective and integrated MA tools and processes, making changes to the managerial responsibilities and, in particular, to the management accountant's role in the company. Top management should appoint powerful and influential management accountants to promote the use of the new MA systems and the management accountants' role should be enriched by new functions and tasks. This means that management accountants should be able to adopt a broader function, enriched by some ERM tasks:

- supporting the top management in identifying the critical success factors and designing the strategy map, taking into consideration the *risks* identified during the ERM process;
- supporting the top management to identify the performance and *risk indicators* for each critical success factor;
- preparing and disseminating guidelines for the whole structure about the design of the different performance and *risk* measurement systems and coordinating the design of these systems;
- monitoring the actual results in terms of performance and *risk indicators*, supporting top and operational managers in analysing the causes of possible deviations and in proposing corrective actions and updates;
- producing and disseminating the global corporate reporting and managing the communication of performance and *risk*.

Therefore, the changing role of the management accountant is moving towards the consolidation of several important competencies (knowledge, skills, abilities and commitment), such as at least the following:

- the ability to logically analyse management decisions and a high level of knowledge and familiarity regarding company processes, activities and internal resources;
- the skills in relationship and diplomacy;
- the knowledge of the main technical and logical mechanisms of ICT and information systems.

This means that management accountants should increase their intra-organisational power and that top management should influence and support this empowerment process. On the other hand, risk managers and internal auditors should be responsible for carrying out the fundamental phases of identification, description, estimation and evaluation of risks and new business opportunities, in addition to more technical consulting for risk treatment. In particular, risk managers and internal auditors should work continuously with top management and management accountants to build the integrated model of *performance* and *risk* measurement, identifying the related KRI for each KPI. This means that risk managers and auditors should abandon their traditional bureaucratic approaches to risk and enrich their knowledge of the critical success drivers of their company (Culasso, 2009; Kaplan and Mikes, 2011a, 2011b).

6. Conclusions

In conclusion, the empirical analysis seems to confirm our beginning hypotheses and answers to the previous research questions:

- *MA systems* should be enriched by new functions and features, necessary to survive in the new competitive environment. Indeed, a further change in MA is required, both for those companies that are operating on listed market and for the unlisted ones. The most urgent direction of change is the integration between MA and ERM (*RQ1*), especially considering technical tools and processes;
- *management accountant's role* can be considered as an intra-organisational condition, which will enable the successful MA change. Without the involvement of management accountants in risk management activities, indeed, risk management is often only a costly compliance exercise. The necessary features of this role are a high level of knowledge and familiarity regarding company processes and internal resources, skills in relationship and diplomacy and the knowledge of the main technical and logical mechanisms of ICT and information systems (*RQ2*).

Our analysis contributes to an understanding of the potential MA change and of the changing role of management accountants, with regard to the interplay between managerial systems, as it reveals a further specific direction of change, which goes toward the integration between performance and risk planning and monitoring. In particular, we identified new functions and abilities that should be integrated in the management accountant's traditional role. This could help top managers in understanding what their institutional role is for an adequate mobilisation of power inside the company, required to enrich management accountants with new responsibilities, functions and tasks. In other words, endogenous forces within the companies are necessary to adequately implement the organizational change caused by external factors. At the same time, this article is useful to identify a new perspective for the MA subject and, in particular, could be used to establish new frontiers for high education in accounting, considering additional issues to develop academic courses.

Our work, however, is limited, as the empirical analysis concerns only one sector with few companies. Future development of this line of inquiry would include a broad survey and longitudinal empirical case study analyses. Furthermore, it could be interesting to analyse in depth the tools and the processes of the Integrated Model of MA and ERM.

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APPENDIX A

In this appendix a selection of the questions used during interviews will be presented: the requests selected are those which are relevant for the study.

1. **GENERAL INFORMATION ABOUT THE COMPANY:** company's name, main economic and financial figures, number of employees, type of shareholding, business activity, belonging to a group, geographical distribution of users, type of users, organizational role covered by respondents.
2. **ORGANIZATIONAL CHARACTERISTICS OF MA:** organizational structure of MA, presence of a specific office, number of employees in MA area.
3. **ORGANIZATIONAL CHARACTERISTICS OF ERM:** organizational structure of ERM, presence of a specific office, number of employees in risk management area.
4. **MA SYSTEMS:** presence of formal procedures, use of advanced and integrated operating information systems and management decision support systems, frequency of report processing, characteristics of reports, variables contained and monitored in company's reports, type of MA tools used by companies, type of company objectives, KPI monitored, characteristics of reporting activities, the beneficiaries and users of MA information, presence and characteristics of incentive system.
5. **RISK MANAGEMENT PROCESSES AND TOOLS:** characteristics of risk management activities, type of risks monitored, ascertainment if risks are mapped, estimated, evaluated, and treated, analysis if trends of risks are monitored and communicated, correlation with performance parameters, managers/offices involved in risk management activities, presence and characteristics of integration and coordination between strategic planning, MA directors and risk managers, main drivers for the introduction of risk management, opinion in creating corporate board to share information, top management responsibility in sponsoring risk management activities.
6. **THE EXPECTED OR POTENTIAL CHANGES AND CHALLENGES:** the actual and future role of management accountant and risk managers, main characteristics that management accountant should have.