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MANAGEMENT ACCOUNTING AND
ORGANIZATIONAL CHANGES IN HEALTHCARE:

A CRITICAL APPROACH

Supervisor Lino Cinquini

Phd Canditate
Cristina Campanale
Ai miei nonni
Mangement accounting and organizational changes in healthcare: a critical approach

Table of contents

Introduction

Chapter 1 - Approaching Management Accounting studies in healthcare organizations: a literature review

Chapter 2 - Integrative-Interactive Model of Management Accounting and Control in Healthcare organizations: evidence from a qualitative research

Chapter 3 - Do management accounting systems influence organizational change or vice-versa? Evidence from a case of constructive research in the Healthcare Sector

Conclusion

Acknowledgements
Introduction

Table of content

1. Antecedents and rational for the research

2. Theoretical framework

3. Research context

4. Structure of the research
Introduction

1. Antecedents and rational for the research

The aim of this thesis is to study, in the context of the public healthcare service, how Management Accounting Systems (MAS) could be implicated in broad organizational changes, i.e. changes which involve both tangible and intangible elements of the organization. This thesis is particularly interested in analyzing the process of change together with causes of changes in and results of change.

In this thesis, the term Management Accounting System will be used in a broad meaning, in term of “collection of practices, such as Budgeting and Product Costing, whose systematic use supports the achievement of some goals” (Chenhall, 2003).

The role of MAS in healthcare arises in a context of reforms aiming at a great control on costs and at a consequent greater accountability for doctors’ results in terms of costs and quality of activities. These reforms, commonly knew as New Public Management reforms (NPM reforms), were implemented in all European countries since ‘90.

These reforms attempted to subordinate public sector to private sector operational models and practices, with the aim to increase efficiency and cost control in a context of limited resources. Main points of these reforms can be summarized as it follows: introduction of a sort of internal market (Lapsley, 1994_1, 1994_2); healthcare organization as autonomous enterprises, higher emphasis on performances and results; introduction of perspective methodologies for the reimbursement of cost of services provided. The introduction of an internal market aimed at stimulating efficiency and quality on the provision of services, by mean of a great competition between providers. It was linked to the reorganization of health providers as autonomous enterprises, subject to the same principles working in the private sector. Consequently they have to provide services in an efficient and effective way within limited available resources. The concept of autonomous enterprises determined two subsequent aspects: greater delegation, from the central government to local level (providers of services), for the organization and the provision of health services and consequent delegation of responsibility for results. Responsibility dealt with the
capacity to get certain goals with certain resources. Within health providers responsibility was then delegated to doctors by mean of *clinical budgeting*. *Clinical budgets* were assigned to doctors in charge of a department or of a unit and was based mainly on financial measures on resource consumption. The aim of *clinical budgeting* was to contain cost of health services by mean of a tight control on doctors’ resource consumption.

Within these reforms MAS in organizations has assumed the role of absorber of these new principles with the final aim to transmit new principles clinicians’ culture, thus supporting broader organizational changes.

Many scholars report the “failure” of these reforms in terms of their inability to influence organizational culture and get objectives prospected by reformers. In these studies healthcare organizations rejected the application of reforms or chose to apply reforms differently (see for example Kurunmaki, 1999, 2004; Kurunmaki et al. 2003; Lapsley, 1994_1, 1994_2, 2001). This has been often the consequence of several factors, some of them related to the characteristics of reforms, some of them related to characteristics of organizations. We can recall: limited attention to the manner of implementation of reforms (Kurunmaki et al., 2003; Kurunmaki, 1999,2004; Lapsley, 1994_1, 1994_2, 2001; Jones and Dewing, 1997), strong organizational cultures (see for example Abernethy and Stoelwinder 1990, 1995; Abernethy,1996; Kurunmaki, 1999;Campanale et al. 2011), characteristics of MAS used by organizations, approach to the introduction of MAS in organization. In this respect, these studies suggest that, studying the role of MAS in driving broader changes in healthcare organizations, requires a complex approach which includes the consideration of both the external context and the organizational context and how they interact in the dynamic of organizational changes.

Studying the external context is important because in most countries healthcare sector is public funded and political and governmental influences are forces that need to be included in the analysis. The organizational context should be studied because both organizational culture and characteristics of tools could influence the process of change.

Considering these preliminary assumptions, this thesis aims at analyzing how does MAS has changed through time in order to absorb pressure coming from the external environment and to impact on clinicians’ culture at the same time. However this thesis is also interested in analyzing how organizations react to external influences and try to influence MAS as well.
Studying the interaction between all elements could support broader considerations about the process of change of organizations

2. Theoretical framework

The aim of the research could be adequately supported by Habermas’ framework (1987) integrated by Broadbent et al. (1991), Laughlin (1991) and Broadbent and Laughlin (2005) refinements. All this thesis has been developed around this framework. The model helps in studying the interaction between internal (micro level) and external (macro-level) environment and, at the same time, helps in identifying and studying the interaction among elements composing both the micro and the macro level. Moreover this model particularly emphasizes the aspect of change, particularly useful in contexts in continuous evolution.

A brief description of this framework follows. The model used (Figure 1) in this thesis combines the model of society traced by Habermas (1987) which represents society (the macro level) and subsequent adaptations by Broadbent et al. (1991), Laughlin (1991) and Broadbent and Laughlin (2005) which represent organizations working on society (the micro level). The combination of these two models within a unique model allows for the development of a model that can support the analysis of the interaction between micro and macro level within the complexity of these settings.
In this model both the macro level (society) and the micro level (societal organizations) are composed of the following tangible and intangible elements: lifeworld, systems of actions/societal organizations and steering media at macro level and interpretative scheme, subsystems and design archetype at micro level.

Lifeworld, at societal level is the less tangible element. It is a cultural space that articulates the culture of individuals, society and personality. Culture is the stock of knowledge that individuals use to interpret and understand things in the world. Society concerns the order through which individuals regulate their membership in a social group. Personality concerns competencies that make a subject capable of speaking and acting and asserting his/her identity. Lifeworld is not static but evolves through time, according to culture, society, personality and to other external elements.

Systems of actions/societal organizations represent organizations working in society (e.g., corporations, local health authorities, schools and universities). They are basically the expression of the less tangible lifeworld.

Steering media/societal institutions, at societal level are mechanisms—such as power systems—that steer the communication and interaction between lifeworld and systems of action/societal
organizations. The role of steering media/societal institutions is basically to assure a coherence between lifeworld and systems of action/societal organizations. Governments are examples of steering media/societal institutions. In modern societies steering media/societal institutions, through laws, try to influence societal organizations and their own lifeworld. These attempts are called disturbances.

Also societal organizations have they own lifeworld, systems and steering media, called respectively interpretative scheme, subsystems and design archetype. When the interpretative scheme and subsystems are coherent each other the organization is in equilibrium (Miller and Friesen, 1984; Mintzberg, 1983), otherwise tensions could arise. The role of the design archetype is just to balance and make coherent interpretative schemes and subsystems. MAS is an examples of design archetypes. In healthcare sector, for example, the interpretative scheme could be the clinicians’ culture; the design archetype could be represented by MAS, rules and system of responsibilities; subsystems would be represented by behaviours, actions, spaces, technologies etc.

This model helps in analyzing both the interaction among internal elements of the organizations (the micro level) and the interaction between the macro level and the micro level.

Regarding the micro level, the analysis is based on the assumption that the correct functioning of the organization requires an equilibrium among its internal elements. The term < equilibrium > means that subsystems are the tangible expression of interpretative scheme. For example there is equilibrium when behaviours and actions (subsystems) are expression of the current culture (interpretative scheme). This is not taken for granted when for example some rules require certain behaviours that are not accepted by individuals. In this situation there is a risk of resistances and tensions within the organization. In this respect design archetypes are tools whose role is to promote and facilitate different level of coherence between interpretative scheme and subsystems. For example MAS, through a reward system, could link bonuses or punishments to required behaviours and consequently could drive individuals through a cultural change toward the acceptance of certain behaviours.

In this respect it is interesting to analyze how MAS has evolved and how it can evolve through time in order to play its role of moderator in the debate between subsystems and interpretative scheme. It is also interesting to analyze if MAS is able to influence subsystems and interpretative scheme and if subsystems and interpretative scheme influence MAS as well (see for example Campanale et al. 2011).
Regarding the interaction of the *micro* and the *macro level*, its analysis is based on the assumption that the focus of the research can’t observe only what does it happen in organizations. This model assumes that when organizations are in a situation of equilibrium they tend to *inertia*. This *inertia* could be interrupted only by *disturbances*. *Disturbances* in healthcare organizations are particularly frequent: healthcare organizations face every day with influences coming by the external environment. First we can recall the government, but also other institutions such as pharmaceutical company. In this respect it is interesting to analyze how does MAS absorbs external influences and translates these influences to the rest of the organization. It is also interesting to analyze how the interaction of internal elements of the organization affect the way external requirements are applied (see for example Laplsey, 2001).

Considering this theoretical framework, the focus of this research would be analyzing how the *design archetype* MAS has evolved and evolves through times in order to drive evolutions in the whole organization.

Possible specific research questions are:

- How does the *macro* level influence the *micro* level?
- How and why do organizations (*micro level*) evolve?
- How do organizations (*micro level*) react?
- How do internal elements (*design archetype, subsystems, interpretative scheme*) or the organization (*micro level*) interact in the process of change?
- Do internal elements influence the process of change itself?
- Does the interpretative scheme influence the design archetype MAS?
3. Research context

This research has been developed in an Italian region, Tuscany region. This context particularly suits the study of MAS changes for two main reasons.

First, within the aforementioned reforms of the healthcare sector, in last ten years the regional healthcare government has introduced by many initiatives and reforms, aiming at a great accountability and responsibility over clinicians’ results. Within this reforms MAS, as a tool whose role is to drive organization towards certain behaviours, has evolved according to new requirements.

Second the regional government represents a context where there is an high attention to innovations and in this respect investments in innovations are highly promoted.

A deeper description of reforms follows.

Fist, budget constraints, have introduced limitations for the provision of continuous additional funding required by healthcare organizations. They have represented a great challenge for MAS. Before the rise of severe budget constraints, MAS was mainly used as a tool for the recording of expenses at the end of the year and for the identification of the need for resources in financial terms and not as a tool for supporting decision making and control. The Regional Government has started to define the amount of funding to assign to Local Health Authorities (LHAs) at the beginning of each year; as a consequence, LHAs had to manage activities within those financial constraints. This change has stressed the need to begin to use cost information systematically for decision making. This change has involved both doctors, as user of MAS information, and controllers as providers of MAS information. The impact on doctors has been in terms of increasing accountability for consumed resources and in terms of the need to improve their awareness of the economic impact of their decisions. The impact on controllers has stayed in their ability to develop tools aligned with clinicians’ attitudes and able to affect the clinical decision-making system.

In 2002, the Regional Government has introduced a new territorial level for the management of outsourced administrative activities of the LHAs, called the Area Vasta. Three Area Vasta were instituted: Northwest, Central and Southeast, corresponding to their geographical locations. Each Area Vasta consists of a network of LHAs that manage their technical, administrative and
purchasing activities in an integrated way. The aim was to optimise these activities by taking advantage of synergies coming from the integration of LHAs, for example, the possibility to take advantage from higher economies of scale in purchasing goods and services. The task of managing these activities was assigned to new organisations called Estav.

The introduction of Area Vasta and Estav for the optimisation of administrative and technical activities has required integration and coordination between LHAs and Estav. In this respect, the challenge for MAS has been to be able to represent and support this integration. For example, the MAS of LHAs should be able to support the measurement and the control of goals that are in the interest of the whole Area Vasta and not only in the interest of a single LHA. In terms of impact on clinicians’ decision making, the goals of the whole Area Vasta has represented another limitation of their autonomy. For example, in decisions regarding the purchasing of drugs and medical devices they must take into account the requirements of other LHAs and the goals of the Area Vasta.

In 2004 a Regional performance measurement system has been formally implemented (Nuti et al., 2009). The system compares the performances of all LHAs and Teaching Hospitals (THs) considering several perspectives: population health, Regional policy targets, quality of care, patient satisfaction, staff/employee satisfaction, efficiency and financial performance. The system is dynamic and evolving in time, and indicators are defined and are updated through a bottom-up approach that requires the direct involvement of professionals. This system is monitored by the Regional Government and its results are linked to a reward system.

This system has been progressively extended to all activities, from hospitals to prevention, and to all levels, from LHA to Districts. It has increased visibility of actions and put stress on results. In this respect, the challenge for MAS has been to be able to change in order to manage performances measured by the Regional PMS. At the same time, a change in clinicians’ culture has been required in order to promote higher attention of results.

In 2008, the Regional Government has also introduced organisational innovations in pursuit of a better organization of work and a higher accountability for all operators. An example is the new organisation of hospitals by intensity of care (rather than by specialities) and changes the organization of accountabilities within hospital, where the role of nurses as managers has been formally recognized and the role of doctors has been partially downsized. This change in the
organization of hospital (subsystems in our theoretical model) has required MAS to change in order
to represent the new organization of work and the new levels of responsibility. In terms of impact
on clinicians this reform has required a change in the way they were use to organize their work and
required doctors to accept the new role of nurses.

This brief description of reforms, underlines a research context in continuous evolution where MAS
is subject to frequent changes towards approaches and archetypes suitable for changing
requirements.

4. Structure of the research

This thesis is organized as it follows. It is composed by three papers analyzing the role of MAS in
terms of its ability to change and to influence organizational culture.

The first paper is a review of main literature analyzing which characteristics of MAS influences its
impact on organization and in particular on clinicians. The paper analyzes previous researches using
three research approach – interpretative, rational and critical (Wickramasinghe and Alawattage, 1997) –
and tries to integrate their findings within a model of analysis built on three dimensions.
The first perspective, is the emphasis: (1) on the external context; (2) on the organizational context;
(3) on both. Authors focused mainly on the (1) - external context- study, within the external context,
elements that could impact on the occurrence and use of MAS within organization, but
leave the possibility that other organizational characteristics impact on their findings. Authors
focused mainly on (2) – organizational context- study, within the characteristics of organizations,
elements which could impact on the occurrence and use of MAS within organization.

The second perspective is the kind of aspects analyzed: (1) technical aspects, such as
characteristics of information, structure of instruments etc; (2) processual aspects comprising
social, relational and cultural factors such as approach to budgeting process, manner of
implementation of reforms etc; (3) on both.
The third perspective represents the approach used in studying MAS: (1) dynamic (D) ; (2) static (S). The dynamic approach (D) analyzes aspects of the first and the second perspective (emphasis and kind of aspects analyzed) through time. They provide a picture of the organization in subsequent moments in the light of changes in analyzed aspects. The static approach (S) analyzes the results, in terms of impact on organization, of the interaction between the first and the second perspective (emphasis and kind of aspects analyzed) at a certain point. They provide a picture of the organization in a certain moment in the light of certain aspects analyzed. The meaning we give to change in this paper is not the same as to the meaning proposed by Laughlin (1995). In Laughlin’s view (1995) change is related to the openness of researches to possible changes for society. The change dimension represents also the discriminates used to classify accounting research. In this respect while critical researchers believe in a high level of change, rational researchers are happy with the status quo ( see: Hopper and Powell, 1995; Wickramasinghe and Alawattage, 1997). In this research we choose to use the term change in a broader meaning in terms of researchers analyzing organization in different moments or researchers analyzing organization at a certain point. This meaning in part overlaps the meaning given by Laughlin but it opens the possibility to find commonalities between different approaches, mainly between critical and interpretative research, more limited with rational perspective which typically uses a static approach.

The results of this model is a matrix which offers the possibility to integrate findings of different perspectives, thus providing a broad understanding of phenomena and overcoming limitations embedded in using a single perspective. The aim is to underline that an integration is possible and wished and that using a methodological pluralism in analyzing accounting, instead of remaining within boundaries of a single research perspective, could improve our understanding of accounting in healthcare organizations (Abernethy et al.2007). This reviews underlines some possible new research needs in terms of approach used in studying MAS: the need of using a complex approach in analyzing MAS, the need of considering the interaction between the organizational context and the external environment and the need of using a dynamic perspective where the change is particularly emphasized. Leaving from these limitations the design of subsequent papers of this thesis has been planned.
The second and the third paper specifically use the theoretical framework described in this introduction and are designed within a broad research project dealing with the introduction of innovations in MAS in healthcare. These papers are strictly integrated each others.

They both analyze changes occurred in MAS aiming at absorbing external influences and transferring these influences within all organization - and in particular on *interpretative scheme* – thus supporting the obtainment of a new equilibrium in organization. The paper n. 2 describes some outputs of the first explorative phase of the broad research project, while the paper n. 3 focuses on the development of solutions to a particular problem found in the first phase, and uses a sort of action research (Kasanen et al., 1993).

In particular the second paper “Integrative interactive management accounting and control in healthcare organizations: evidence from a qualitative research” bases its findings on interviews with clinicians and controllers of all 12 LHAs and 4 THs belonging to Tuscany Region. This paper describes how MAS has changes over last years in order to answer to external requirements and become more suitable for clinicians’ attitudes. The model of change of MAS is based on a collaboration between controllers and clinicians were the integration of knowledge and trust supports the development of more *integrate tools*. *Integrate tools* means tools able to support the achievement of goals imposed by the external environment whose structure and approach are designed in order to suit clinicians attitudes. Findings of this research support the assumption that this model of change could be able to move clinicians towards a more managerial culture, thus can be able to support changes in the *interpretative scheme*. However this model of change is not without limitations. In particular changes in the *interpretative scheme* require the support of top management or in its absence the support of other middle managers. Support is intended in terms of involvement in decision making, in analysis of results and in general in diffusion of a more managerial thinking. Moreover the way in which governments introduce innovations and reforms could influence changes in the *interpretative scheme* as well.

The third paper “Do Management Accounting Systems influence organization or vice versa: evidence from a case of constructive approach” starts from findings of the second paper. In particular it focuses on a particular reforms which introduced a change in the organizational structure (*subsystems*) of hospitals: from a traditional vertical organization to an horizontal organization based on the intensity of care required by patients. In fact the explorative phase of the broad research project evidenced a difficult of MAS to adapt to the new organizational structure and a consequent resistances faced by the *interpretative scheme* in the change required. This third
paper, based on a constructive approach (Kasanen and Lukka, 1993), describes the process of change MAS from an internal perspective where researchers were promoters and part of the process of change itself. In particular the research underlines that both the approach used in the development of the new system and the structure of the system could be able to provoke an impact on clinical culture, thus favouring clinicians’ acceptance of regional reforms. At the same time, by mean of the constructive approach, clinicians’ culture has been able to influence MAS as well.

Figure 2 provide a picture of this thesis and linkages between these three papers.

**Figure 2 – Structure of the research**
References


Broadbent J., Laughlin R. (2005), "Organizational and accounting change: theoretical and empirical reflections and thoughts on a future research agenda", Journal of Accounting and Organizational Change, 1, p. 7-26

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Approaching Management Accounting studies in healthcare organizations: a literature review

Table of contents

1. Introduction

2. Analysis of external context related aspects
   2.1 Reforms in HC sector
   2.2 Processual aspects of reforms on Management Accounting
      Pressure created by reforms
      Manner of implementation of reforms
   2.3 Technical aspects of reforms on MA
      Conditions for the success of reforms on Management Accounting

3. Analysis of organizational context related aspects
   3.1 Processual aspects of Management Accounting
      Approaches to the issue of control
      Approach to Budgeting Process
      Role of Management and Role of Superior
      Managerial Education
      Career
      Integration of actors
   3.2 Technical aspects of Management Accounting
      Availability of information
      Informative goals associated with information
      Association of financial and non financial information
      Kind of responsibility attributed

4. Discussion

Appendix 1 - Analyzed researches: details
Approaching Management Accounting studies in healthcare organizations: a literature review

The aim of this paper is to analyze how previous researches have approached to the study of Management Accounting (MA) in the healthcare sector. The objective of this paper is to find possible new needs felt in MA research in healthcare. This paper is based on the assumption that using a methodological pluralism in the study of MA, instead of remaining within boundaries of a single research perspective, could improve our understanding of accounting in healthcare organizations (Abernethy et al. 2007).

In this respect this research has considered papers using both rational, interpretative and critical approaches (Wickramasinghe and Alawattage, 1997) and has tried to combine their findings in three perspectives, with the aim to open the possibility to integrate different approaches. These perspectives are: emphasis (on the organizational context or on the external context); kind of aspects analyzed (technical or processual); and the research approach (dynamic or static). Moving from the combination of these papers in these three dimensions, possible new research needs, in terms of how to approach to the study of MA in healthcare, arise. They are: need to use a complex approach, which includes the consideration of both the external and the organizational context; need to use a dynamic perspective in studying MA in healthcare and the need to use an internal perspective in order to deeper appreciate how MA works in healthcare setting. This suggests possible ways to improve our understanding of MA in healthcare and provides a contribution to the evolution of this field.

**Keywords** – MAS in healthcare organizations, research approach to MAS, complex approach in studying MAS
1. Introduction

The role of management accounting in professionals’ organizations, and in particular in healthcare organizations, has been widely studied. A review of previous studies reveals some main growing needs felt in management accounting research and in particular in management accounting research applied to the healthcare sector.

First, the need of studying the introduction, the operation and the implication of management accounting within healthcare organizations using a complex approach, which means studying management accounting in terms of its broader impact and implications on the whole organization. In fact many studies focus on the implication of management accounting in terms of their impact on professionals’ decision making without further studying broader implications in terms of organizational changes. Within the complexity of healthcare organizations, analyzing only the impact of management accounting on professional decision making leaves away wider implications such as: consequences of changes in professional decision making, determined by management accounting; professionals’ influence on management accounting and on other elements of the organization, such as procedures, information, responsibilities; characteristics of management accounting that enable wider impact on the organization.

Second, there is the need to study these aspects within a wider context. In this respect, as many studies analyze, management accounting born and evolve through time according to influences coming from the external context.

Third there is the need of studying management accounting in a dynamic perspective, considering the process of change of management accounting through time. In this respect in literature, we can find studies analyzing the evolution of management accounting in a life – cycle perspective (see for example Moores and Yuen, 2001 and Cassia et al., 2005). These studies analyzed changes collecting data from several firms and dividing them in clusters correspondent to the stage of the life cycle and put these clusters in relationship with characteristics of the MAS, but they did not analyze the process of change.

These considerations suggest the need to study how management accounting work within healthcare organizations and its changes in a processual dynamic in the light of: external context, techniques used, organizational culture (Laughlin, 1991). The interaction of these three elements allows for a broader understanding of management accounting within healthcare organizations. Moreover the consideration of the interaction of these elements have also managerial implications: it provides to managers of healthcare organizations useful insights for the development management accounting tools more coherent with both organizational and environmental characteristics.
All these aspects have been explored, mainly in isolation, by most important literature studying management accounting in healthcare. These studies adopt different theoretical perspectives - rational, interpretative and critical (Wickramasinghe and Alawattage, 1997) – and consequently their findings and implications offer different views of the phenomena. However all studies assume a growing complexity of healthcare organizations and consequently recognize their limitations and the need of developing further studies, where the dynamic of changes in management accounting is studied through the interactions of elements of the organization and of the external context. The complexity is determined by internal and external elements.

Considering internal elements affecting complexity, one of the most important in these studies is the presence of a dual hierarchy: a clinical staff that demands services and an administrative staff that provides support services to the clinical staff (Mintzberg, 1983; Harris and West, 1925; Jacobs et al., 2004). Typically clinical and administrative staff have different attitudes in the decision making process: clinicians ground their decision on their experience and expertise, while administrative are driven by efficiency evaluations.

These peculiarities need to be taken into account in the identification of management accounting and in the approach used in the diffusion of these tools.

Considering external factors, healthcare organizations, and in general all organizations working on society, are subject to several external forces which impact on their complexity in terms of organization, financing and decisions in general.

First we can recall all reforms that have characterized all European and American countries. These reforms underline a progressive entrance of the state in the management of healthcare organizations, but also changes in governance models towards the application of managerial principles to the public sector as well as the private sector.

There are also several other actors and elements impacting on the complexity of healthcare organizations: economic contingencies, population health status, associations grouping professionals, the educational system, pharmaceutical industries, the introduction of advanced technologies.

External and internal factors, affect the occurrence and the working of management accounting and also its ability to impact not only on clinicians’ culture but also on the whole organization.

The aim of this paper is to reviews main literature (coming by many research approaches) that explores the working of management accounting in healthcare organization. In the light of limitations embedded in every research approach, the attempt is to try to integrate findings of these research and open the possibility to a more comprehensive approach to explore the complexity of healthcare organizations.
The paper is organized as it follows: first we will focus on *external context related aspects* and their impact on the ability of accounting to influence organizational changes, second we will focus on *organizational context related aspects* and their impact on the ability of accounting to influence organizational changes. During every session there will be some considerations about the importance of studying those specific aspects, but also limitations embedded in using an approach analysing those aspects in isolations. *External context related aspects* refer to all elements outside the organization and analyze how these elements have influenced the birth and the operation of management accounting within healthcare organization and how they have attempted to influence the whole organization through accounting. Healthcare has ever been a public concern and a lot of attention has been paid by governments on the health of the population (also in countries where healthcare is private, such as USA). Consequently the main *external context related aspects* analyzed by authors relate to reforms and to state interference in the management of healthcare organizations. *Organizational context related aspects* refer to all elements inside the organization that have impacted on the ability of management accounting to influence the whole organization.

Both organizational and external aspects could be related to more *technical aspects*—such as characteristics of tools— or could be related to more *processual aspects* linked to the approach used to the operation and introduction of management accounting.

At the end of this paper we will try to integrate results of researches considered in this paper in a matrix for comparison. The aim is to underline that a meeting between different approaches is possible and desirable and that there is the need of researches using a “methodological pluralism”, to further improve our understanding of accounting in healthcare context (Abernethy et al. 2007). During the reading of this paper we should take into account that the overlapping among researches are unavoidable. First, many researches are in a borderline position between different alternative perspectives; second most of researches considered focus on more than an element, so there is the possibility to find the same research analyzed in different part of this paper, depending on the factor taken into account; third it is not always possible consider in isolation every factor, because different factors are often interrelated.

In this paper, the terms management accounting system will be used in a broad meaning, in terms of “collection of practices, such as Budgeting and Product Costing, whose systematic use supports the achievement of some goals” (Chenhall, 2003).

Table 1 provides a list of main researches considered in this paper and the country where these research have been developed. As we can observe this kind of research are frequent in UK, while they are quite limited in other context such as Italy. More details about the approach and the aim of
the researches analyzed are provided in Appendix 1. This table categorizes also these researches in three perspective: rational, interpretative and critical (Wickramasinghe and Alawattage, 1997).

**Table 1 – List of main researches analyzed**

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<thead>
<tr>
<th>Author(s)</th>
<th>Category</th>
<th>Research context</th>
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<tr>
<td>Cinquini L., Campanale C. (2010), “Integrative interactive management and control in healthcare organizations: evidence from a qualitative research”, 33° EEA Annual Congress</td>
<td>Critical (Habermas)</td>
<td>Italy</td>
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</table>
Rational perspective represents the mainstream of accounting research (Hopper and Powell, 1995) and its theoretical stance is built upon neoclassical economics and theory of organization. From neoclassical economics, rational perspective draws the framework for seeing management accounting as a set of calculative practices which help decision makers to maximize their utility. From organization theory, rational perspective draws on the understanding of the relationship between management accounting systems and contingencies.
Interpretative perspective is a methodology for doing management accounting research based on the assumption that practices of management accounting are the output of actions of organizational actors guided and legitimized by shared meanings.

Critical research assumes that management accounting emerges as the interplay between the organization and the broader socio-economic and historical context and draws from other social sciences such as sociology, history, political science, anthropology etc. (Wickramasinghe and Alawattage, 1997). As we can observe these kinds of researches are frequent in UK, while they are quite limited in other context such as Italy. More detail about the approach and the aim of the researches used are in Appendix 1.

2. Analysis of external context related aspects

Rational research on management accounting usually tends to ignore the historical and political context in which organizations are located and treats organizations as a closed system. (This is confirmed by appendix 1, where for rational perspective there is not the identification of any particular political or historical context). On the other side both interpretative and critical perspectives collocate their researches in a precise historical context and interpret their findings on the light of the research context, but critical research particularly emphasizes the interaction between organizational and external context and possible struggles that arise from this interaction (Wickramasinghe and Alawattage, 1997). In this respect critical studies collocate management accounting and its evolution within health reforms, as a consequence of conflicts that arise between internal and external environment, generated by the pressure that the external environment puts on organizations. In particular they analyze how the external environment attempts to “colonize” the clinical culture by mean of accounting, how clinical culture reacts to colonization, and how this reaction impacts on the emerge of management accounting.

The most frequent element of the external environment studied by many authors is represented by national and local reforms, even if many studies contain also brief considerations about the education system or about economic contingencies in general.

These aspects do not exhaust all the elements of the external context that could impact on the emergence and occurrence of management accounting, but these are the main topics analyzed by authors. There could be other peculiar elements. For example Arnaboldi and Lapsley (2004) observed innovations in management accounting techniques introduced by an organization working on the collection of blood. These innovations were a voluntary initiatives (not imposed by the
government) and aimed at increasing cost control within a context of increasing costs, and at being legitimized by the society as a managerial organization. In this respect changes in management accounting are externally driven, because difficulties coming by external contingencies, such as the discovery of AIDS and of BSE typical of their context, “the blood supply chain”. These contingencies required specific interventions aiming at facing these problems, but these interventions were voluntary and not imposed by government reforms. This is also due to the particular condition of this kind of organizations, which are more autonomous, if compared to other healthcare organizations.

Studying in dept the external context and how it impacts on management accounting within organizations is particularly useful in all public sector, characterized by a straight involvement and interference of the state in the decision making. Studies using this approach usually offer a dynamic perspective of how the external environment, through subsequent reforms, influences the operation and the occurrence of management accounting in healthcare organization. This influence is played by what has been called “disturbance” (Laughlin, 1991), such as reforms. However these studies limit their analysis to external disturbance and do not consider also internal disturbance and internal characteristics of organizations. Consequently they leave the possibility that changes could be provoked by actors of the organization but also that their findings could be influenced by internal factors not considered in their analysis.

The following section discusses findings of researches that have analyzed the impact of reforms in healthcare sector. First we will discuss, in wider terms, how analyzed authors approach to the issue of reforms. Then we will discuss more in dept some particular elements. The first set of elements, which we can call *processual aspects*, comprises aspects linked to the approach used by reformers in the implementation of reforms. The second set of elements comprises aspects more linked to the *technical aspect* of reforms, such as kind of goals or kind of instruments introduced by reformers. However boundaries between this classification are not strictly defined: we have tried to order these elements and treat them separately in order to emphasize certain peculiarities, but overlapping is unavoidable, because of numerous interconnections between all aspect analyzed.

The aim is to discuss how the degree of pressure posed by reformers on changes could impact on the birth and operation of management accounting in healthcare organizations, how the way in which reforms are applied and how other *organizational* and *external factors* impact on the success of reforms in terms of obtainment of desired outputs.
2.1 Reforms in HC sector

Clinical accounting and budgeting trace their origins in reforms of 80’ and 90’ that interested all European countries as well as US countries. These reforms, often named New Public Management reforms (NPM reforms), aimed at increasing a great control on costs and a great accountability for doctors’ results in terms of costs and quality. Within these reforms we can recall some initiatives such as the creation of a sort of internal market and the introduction of perspective method of payment (PP), both aiming at increasing efficiency and control on costs. The concept of internal market aimed at promoting efficiency my mean of a great competition within hospitals. On the other side, the PP, which substituted the previous method based on the evaluation of ex post expenditure, aimed at making hospitals responsible over a great control on costs in the provision of services. The PP was based on a classification of diseases called Diagnosis Related Groups (DRGs). These reforms came after a period of growing expenditures which threatened the sustainability of the whole system.

In fact, from the period after the II World War to eighties, in all developed countries, a model of “politics of health” (Focault, 1980) has worked: health of people started to be considered an important political concern to face in order to guarantee labour force in a period of investments and capitalization and for a general concern over the responsibility of the State on the health of population.

Within these new politics we observed “the multiplication of doctors, the foundations of new hospitals, the opening of dispensaries and, generally, a noticeable increase in the consumption of health services” (Cousins and Hussain, 1984, pp. 142). Within this politics doctors assumed a sort of monopoly over the decision making and a great power over the use and the consumption of available resources. This phenomena, associated with an increase in the use of technologies, in the elder population and in the number of chronic diseases, contributed to a progressive arising of the costs sustained for healthcare, while available resources started to be limited by budget constraints.

Increasing costs were not affordable in the light of the sustainability of the whole system and, since eighties, the topic of cost and performance control in healthcare sector assumed a growing importance in the agenda of local and national governments. Reforms introduced after eighties focussed the need to realize a great control on cost and the linkage between costs performances of activities performed.

Governments of all European and US countries have elaborated several reforms in order to introduce mechanisms able to support the sustainability of the healthcare system by the way of influencing clinicians’ behaviors.
Broadbent et al. (1991) summarize and evaluate changes happened in NHS resulting from reforms that were introduced in UK from 1979 to 1988, by using the model of society traced by Habermas (1987). They attempted to explore and trace the contribution of financial and administrative changes to the life and work of the NHS, within the context of the Government of the UK society as a whole. In this respect the model traced by Habermas (1987) particularly suits this attempt for two reasons. The primary reason is because of the power of Habermas’ thinking to provide a discursive framework which enables a theoretical and practical understanding of the appropriateness of particular changes such as the financial and administrative changes in the NHS, set within the context of an overall model of societal development. The second reason is the more open and less predetermined means of evaluating particular societal and institutional changes. Habermas’ evaluating process allows for an interpretation of changes without a predetermined view about their beneficial or damaging nature. It supposes that it is not true that everything is necessarily good or appropriate as well as bad and inappropriate.

This model traces modern society in three elements: *lifeworlds*, *systems* and *steering media*. *Lifeworld* is the less tangible element of society and it is represented by experiences and beliefs which guide attitudes, behaviors and actions. *Systems* on the other hand are expression of *lifeworld* in terms of definable and tangible organizations. According to this model *systems* are guided to follow *lifeworld* by mechanisms called *steering media*, such as power and money. Societal evolution, creates an increasing differentiation between *lifeworld* and *systems*: increasing discursive skills increase the complexity of the *lifeworld* and differentiate *lifeworld* from other elements of society, at the same time the rationality of *system* grows and increase the differentiation. As this growing complexity *steering media* can find harder to direct the behavior of the *system*, leading often a growing distance between elements of society. According to Habermas (1987), social evolution occurs because of the interaction of these three elements. In this respect the normal and preferred logic is when the development of *lifeworld* drives the change and leads to shifts in both *steering* media and *systems*. The alternative track, typical of western societies, is the internal colonization of the *lifeworld*: *steering media* gets out of hand because of increasing complexity and steer *systems* in domains which are not locked into or reflecting the *lifeworld*. In this process steering media colonizes *lifeworld* directly or through *systems* and *lifeworld* faces a crisis with loss of meanings, anomie and psychopathologies.

Changes in organizations could follow two different tracks: *morphostasis* and *morphogenesis*. *Morphostasis* occurs when, the attempt to colonize *lifeworld*, brings to a change in the *lifeworld* itself. On the other hand *morphogenesis* occurs when the attempt to colonize *lifeworld* results in resistances and does not bring to changes in *lifeworld* (see Laughlin, 1987,1991;
Broadbent and Laughlin, 2005). In this respect Habermas suggests that, in order to appreciate colonizing tendencies, one should look at the steering media in order to judge whether particular steering media has this colonizing effect. In particular Habermas argues that steering media has a potential colonizing effect when it has a constitutive role – that is “it constitutes some new activity” – instead of a regulative role that is “it regulate some pre-existing activity”. Further refinements of this model (Broadbent et al., 1991) attempt to make it more practical. First refinement assumes that societal steering media and systems of society are themselves made respectively of a wide range of institutions and organizations with their own micro lifeworld, steering media and systems of action. In this case management accounting, as set of tools used to drive behaviors, represent an example of steering media for societal systems/organizations and laws are example of steering mechanisms introduced by steering media/institution to colonize systems. Second refinement highlights that evaluation of societal steering media processes needs to be specific to certain institutions and organizations (and not to all the society) and time related. Third refinement consequently assumes that the evaluation of the steering process should take the organizational viewpoint. In this respect, in order to be able to understand the regulative or constitutive role of steering media, researchers need to approaching to management accounting research trough an internal perspective and need to be part of the process of change.

Within this model Broadbent et al. (1991) analyze how the Department of Health –DOH- (the steering media/institution) has tried to colonize the National Health System –NHS- (system of action/organization), and in particular NHS lifeworld, by introducing a set of steering mechanisms by mean of reforms from 1979 to 1988. Le logic behind these reforms was to force change in organizational lifeworld by mean of changing organizational system and steering media. Broadbent et al. (1991) observed that DOH has tried to steer NHS in ways which are not in line with organizational lifeworld.

Broadbent et al. (1991) classify reforms between 1979 to 1988 in three categories – Pilot project, Accountability and action dictates and Management change – characterized by a growing intensity in the attempt to colonize NHS. They observed that the more lifeworld resisted to the colonizing effect, the more reforms become radical and invasive. Some examples follow. The introduction of an internal market into a service which has ever seen as a provider of service to patient created a lot of debate between government and doctors who refused this change of perspective. This debate highlighted the differentiation between DHO lifeworld and NHS lifeworld and as an answer DHO acted by emanating laws more and more invasive. The same consideration could be done about the introduction of budget constraints that required to doctors to use clinical freedom to care patient within a limited amount of resources instead of ensure a primary responsibility to patient care. The
peak of colonizing attempts was related to the introduction of an accountability system for doctors and the introduction of a budget for them. The introduction of a new accountability system was not sufficient to change lifeworld, as government wished. Consequently the government react by introducing a reward system linked to results and engaged new managers from outside the NHS. From this analysis Broadbent et al. (1991) underlined the strength of the colonizing attempt made by the government. From their analysis it emerges a clear constitutive role of these reforms: they try to constitute a new reality within NHS lifeworld and the debate around government reforms and doctors underlines a growing differentiation between NHS and DHO. Even if from this research it is clear the colonizing powerful of constitutive steering mechanisms introduced by DHO, authors concluded by arguing that this does not mean that the desired output of government is reached because the complexity of organizational change and of the external environment, that introduced continuous element of disturbance. This suggests that the analysis proposed by Broadbent et al. (1991) is useful in understanding the dialectic between government and organization in changes trucks but it does not provide evidences about the effect of these colonizing attempt on culture: has something change and to what extent? In this respect a deeper study of what has changed within organization is required: interviews with key actors and analysis of internal documents is wished to understand the impact of reforms on organization systems, steering media and lifeworld. Subsequent researches by Laughlin et al. (1992;1994) focused on General Practice (GP) and explored the nature and the context of financial and accountability reforms for this branch of medicine and if these reforms impacted on the interpretative scheme, thus provoking a morphogenetic change. This branch has particularly resisted to reforms, if compared with other branches (surgeons and physicians) because of the particular historical and professional context of general practitioners (GPs). While professional status of surgeons and physicians was defined since ‘500, GPs have always faced difficulties to establish their status and have always been considered an inferior branch by physicians and surgeons. In that situation the emergence of GP, as an established profession, at the end of ‘800, was facilitated by legislative and regulatory interventions of the Government. Within arrangements between GP and the Government, Government encouraged a wide autonomy of this branch: their contracts were quite generalist, without thigh definition of tasks expected, remuneration was fixed and based on capitation payments and a limited number of cost information was required. Reforms of 90’ that have interested all the public sector introduced changes also for GPs. We can recall: tight definition of tasks required through new GP contract with a growing emphasis on prevention, remuneration linked both to services provided and to the number of patients,
introduction of an indicative drugs amount, tight control on costs through Family Health Services Authorities (FHSA) and introduction of medical audit.

These reforms was resisted by general practitioners and considered an unfair intrusion into their autonomy. Lauglhin et al. (1992; 1994) traced the resentment felt by general practice in the previously state supportive role in their autonomy. The intrusion of reforms of '90 was felt by general practitioners as a breakdown in trust that had always characterized the relationship between the state and general practice through history and that have always emphasized their autonomy in decision making, but also their isolation from the rest of medicine.

A quite complex example of critical research around reforms was the research by Chua & Degeling (1993). They analyzed the debate around the introduction of a perspective method of payment (PP) based on DRGs classification. They analyzed the impact of accounting based interventions in three areas: instrumental, moral and aesthetic. The instrumental question concerns with the PP financial effect and its consequences in terms of quality. The moral question concerns with what kind of behaviors does accounting legitimate. The aesthetic question concerns with what concept of subjectivity has been created.

Regarding the instrumental question in the debate within several researchers they found controversial results: there were who argued that the introduction of accounting may have improved quality and efficiency and who argued that accounting may have decreased quality and efficiency. Authors used terms like “may”, “seems”, “perhaps” to indicate that it was not clear if these trends were due solely to an effective PP system. For example the reduction of in-patient costs, observed after the introduction of PP, could be also linked to a decrease of in-patients and an increase of out-patient of with a decrease of the length of stay (see Russell and Manning, 1989, Rosko, 1989). Another element of the picture was a change in the composition of costs, with an increase in non labor costs per admission and a reduction in labor costs per admission (Sloan et al., 1988). According to the critical approach Chua and Degeling (1993) used in their research, they conclude that “perhaps the instrumental question can never been answered outside of a socio-historical juncture”. Accounting represents facts, but facts could be re-presented within a particular context and particular struggles, power and knowledge. Because of this ambiguity accounting is subject to multiple readings and the use and interpretation of accounting is contingent upon numerous conflicting and ill-defined interests and needs.

Regarding the moral question the debate around the impact of accounting shows that the introduction of PP has colonized the lifeworld in several aspects. First it transformed the problem of healthcare from a social to a budget-deficit problem: given the high deficit which characterized US at the introduction of PP, covering budget-deficit become a problem to solve immediately, leaving
to fester the social problem. Second it re-defined the language: patients become numbers (DRGs) and were considered products requiring activities, as well as hospital were considered commercial firms. Behaviors consequent to the introduction of PP were in terms of: choice of less expensive patients, closing of rural hospital which are less efficient, reduction of post-operative counseling, physiotherapy and dietary advices for elderly. This behaviors were not explicitly required by the government. Accounting changed language and played a role of “implicit arbitrator” for the allocation of resources, thus making certain choices “natural”, “obvious” or “rational”.

Regarding the aesthetic question, PP created a disciplinary power that put individuals (doctors, nurses and patient), routines and procedures in precise codes. However the disciplinary power of PP emerged only slowly because of a reluctance of doctors to administrative concerns after a long tradition of medical privilege and partly because of technical flaws of DRG. Claims for expertise, associated with administrative control, produced a fragmentation of people consciences contextually to a juridification of society.

2.2 Processual aspects of reforms on Management Accounting

*Pressure created by reforms*

Pressure introduced by reforms has been taken into account by critical and interpretative researches. Pressure has not to be interpreted as in negative meaning: pressure represents an important stimulus for clinicians to enter into a more managerial culture and its absence could prejudice effects wished by reforms.

If we look to interpretative approaches, such as Pettersen (1995), Jacobs et al. (2004), Nyland and Pettersen (2004) and Lawrence et al. (1997), they observed how clinicians react to reforms in terms of modification of their decision making.

The study by Pettersen (1995), based on institutional theory, confirms the importance of pressure. She studied, through a combination of quantitative and qualitative data collected in all Norwegian hospitals, the role of budgets in achieving higher coherence between action and plan. She found that the limited importance and pressure, posed by the Norwegian County Council on the achievement of budget goals, may have impacted in terms of use of this tool for the decision making. The County Council considered the budget only as a formality – it argued that *the only important thing was that they had a written document, even if nobody was aware of the content*. Consequently the County Council did not consider the ability to stay within budget constraints as a matter of importance and did not link overspending to any punishment. Consequently doctors did not feel the importance of
staying within budget constraints: one manager of the hospital said that “The Budget do not really matter. The hospital will always get what it needs, because the County Council has to pay the bill”. Similar conclusions are drawn by Nyland and Pettersen (2004) in their study in one Norwegian hospital. In this case hospital sees budget deficits only as a way of getting more resources, because any negative consequences were prospected by the Government in case of deficits and budget was use as a sort of flexible budget were deficits, were covered by additional governmental resources. As a consequence the same approach was used by hospital top management with regard to his doctors.

Jacobs et al. (2004), through multi-site case studies, compared Italy and Germany and found, in both countries, an increasing importance attributed by clinicians to cost in the decision making. The entrance of costs in the clinical decision making was described in terms of “considering different treatments or drug options and choosing the cheaper option if the clinical benefits were the same”. In Germany this situation was driven by the proposal of introducing DRG funding. Within this reform it was implicit that doctors were expected to be responsible not only for clinical issues but also for economic issues. This created pressure upon doctors: they felt that their hospital would be in a difficult financial situation if they were not aware of costs. Even if they recognized the difficult in understanding DRG system, the fear about possible problems for their hospital was a strong stimulus to learn the new system.

In Italy the progressive entrance of cost in the clinical decision making system was considered a consequence of reforms of 1995 which introduced costs as a part of the performance measurement. Under these reforms the budgetary system of hospitals underwent a revision: doctors were attributed specific responsibility for performance of their unit, in terms of output and in terms of cost. They were attributed goals and relative targets and the achievement of targets was directly linked to the amount of salary, thus increasing the interest and a growing awareness and control issues and costs.

Lawrence et al. (1997) studied, through interviews with senior hospital staff in a regional hospital in New Zealand, the way in which accounting was implicated in organizational changes. The research was located within national reforms aiming at promoting hospitals as successful business. Hospitals introduced a divisional structure and doctors become accountable for results in terms of revenues of their division. Revenues were measured as a function of output achieved, measured by the number and types of patients treated and adjusted by measures of productivity and cost such as length of stay and drug treatment costs. Doctors’ responsibilities were viewed as operating the standard procedures efficiently, so as to keep expenditure within the limits of the income earned. In this case the fear of losing part of their funding put high pressure on physicians, who reacted by
integrating clinical and business language. In this case, for physicians, new emphasis in accounting and economic concerns in decision making represented a new way of acquiring access to resources. If we look at researches using critical approaches to interpret the role of pressure played by reforms, we can find Kurunmaki et al. (2003), Cinquini and Campanale (2010), Campanale et al. (2011) and Laughlin et al. (1994). They observed how pressure created by reforms was able to modify the interpretative scheme. At the same time they analyzed how clinicians’ reaction impacted on the application of reforms.

Kurunmaki et al. (2003), Cinquini and Campanale (2010), Campanale et al. (2011) observed how reforms on the pursuit of efficiency and performance evaluation progressively penetrate into clinical culture, but at the same time observed how resistance and attitudes of clinicians influenced the development of accounting within organizations. The result was often the adaptation of reforms to the pre-existent culture, rather than the deployment of reforms.

In particular Kurunmaki et al. (2003) analyzed, through semi-structured interviews, the role of accounting systems in the Finnish and British context. In their research they point out pressure created by reforms as a necessary, but not sufficient, factor required in order to favor the penetration of economic considerations into the clinical culture. They pointed out also a factor able to favor the penetration of accounting calculation within clinical culture: the absence of a well-established profession of accountant. This situation incentivized clinicians to put their idea in accounting terms and to enter into managerial calculation, as a mean to get power and avoid other actors could regulate their area. At the same time they observed that, even if clinicians got possession of accounting techniques, they maintained themselves separated and isolated by administrative personnel. For this reason, in this process the “clinicians management accountants” tended to operate independently from the administrative function and perpetuated decoupling (Weick, 1976). Decoupling means that the organization face internal differentiation between its different souls. In the case of healthcare two parallel systems live together: the budgetary system based mainly on financial information, and used by administrative and by politicians, and the clinical decision making based on clinicians’ goals and professional judgments (Weick, 1976).

On the other side, Cinquini and Campanale. (2010), through semi-structured interviews, analyzed the role of accounting and control systems in one Italian region. They observed that the penetration of management accounting into the clinical discourse happened within a context of growing constraints, both at national and at local level. Their study assessed the importance of pressure created over budget limitation as factors affecting the use of control and accounting systems. In fact in their research setting there was a strong pressure upon the achievement of goals and upon the ability to stay within financial constraints, defined at the beginning of the year. In their research,
Cinquini and Campanale (2010) observed that regional level defined goals and assigned resources, at the beginning of the year and hospitals had to stay within these limits. In the evaluation of results during and at the end of the year the inability of hospitals to achieve goals brought to several negative consequences: lack of economic incentives and loss of reputation. Moreover hospitals had to explain the reason of overspending and revision in goals and resources were accepted only in case of new investments or particular contingencies. Hospitals did not absorb all pressure but revised their internal responsibility system, thus translating this pressure over doctors with the creation of clinical budgets.

However, Cinquini and Campanale (2010) and also Campanale et al. (2011) observed that, a collaborative approach in the construction and interpretation of clinical budget, helped clinicians to enter into a managerial and economic reasoning, but, at the same time, this collaboration brought clinicians to influence accounting and control systems as well. Collaboration and dialogue are particular important and the lack of this pre-requisites has been argued as one of the reasons of the failure of Management Budgeting initiatives in NHS (Pollit et al.1988): they argued that a scarce involvement of all those interested in these initiatives has prejudiced the development of a system that would have been able to impact on clinicians behaviors.

Laughlin et al. (1994) did not explicitly refer to pressure created by reforms as a factor that could facilitate changes in culture, but this could be deduced by their argumentations. They observed that reforms introduced in GP in UK were not able to bring changes in GPs’ interpretative scheme. During their discussion they assessed the non operational nature of reforms introduced at the time or their study and the soft nature of interventions. For example the budget introduced for drugs prescriptions was at “such a level as to allow some considerable slack over and above current prescribing behavior”. At the same time the behaviors of audit organization, such as FHSA, were quite “friendly” and not using “strong arm tactics”, as recognized also by GPs.

*Manner of implementation of reforms*

The way in which reforms are applied could give different results in terms of acceptance or resistance faced by doctors. In particular many authors argue that gradual reforms suit the complexity of healthcare organizations and are more likely to be accepted, while radical reforms are more likely to be resisted and criticized (Kurunmaki et al., 2003, Kurunmaki, 2004, Cinquini and Campanale, 2010).

In particular the study by Kurunmaki et al. (2003) observed the impact of accounting in healthcare organizations. They analyzed the Finnish and the British context. in order to understand the
occurrence of two alternative phenomena describing the ability of accounting to influence and penetrate into the clinical culture and the impact of accounting in terms of its use in the decision making: accountingization (Power and Laughlin, 1992) and legitimization (Lapsley, 1994; Pettersen, 1995; Kurunmaki et al. 2003). Accountingization describes the ability of accounting to penetrate into the clinical culture and modify it. It results in the acquisition, by medical professionals, of accounting skills and expertise and their combination with the existent clinical knowledge. This colonizing force of accounting in healthcare was described by Power and Laughlin et al. (1992) as it follows: “in the area of healthcare the sacred domain of clinical action is becoming influenced, although not yet comprehensively transformed, by accounting initiatives…as the accounting language of budgeting attempts to occupy clinical discourse it has the potential to control significant definitions of the hospital environment”.

Legitimation (Lapsley, 1994; Pettersen, 1995; Kurunmaki et al. 2003) expresses a phenomena were budget is used only as a tool for external visibility. It simply registers information ex-post with the aim to provide to the Government information which could justify/legitimate their required funding. Within this phenomena accounting is not used in the decision making. For example Kurunmaki et al. (2003) observed that gradualism of Finnish reforms was associated with gradual implementation of accounting within healthcare organizations and progressive involvement of clinicians on that issue. They suggested that this context had favored the emergence of the phenomena of accountingization. On the other side, they observed that the series of hectic initiatives characterizing UK prejudiced their ability to impact in the complex healthcare sector and bring to legitimization. In this case the series of hectic initiatives, observed in UK reforms, put high pressure over the need to accomplish government requirements and consequently brought hospitals to introduce accounting systems with the aim to please the government.

In a subsequent study Kurunmaki (2004) analyzed, in UK and Finland, the adoption of accounting and control systems by doctors, through a longitudinal qualitative research over ten years. They observed that gradualism could impact on the occurrence of the phenomena of hybridization. In particular, they found the emergence of hybridization in Finland in a context of long trajectory reforms, while in UK compulsory reforms were associated with resistances by medical doctors.

In a another study comparing Uk and Scotland, Lapsley (2001) further confirmed the importance of the manner of implementation of reforms as factor affecting their capacity to influence clinicians’ decision making. He confirmed the failure of UK initiative, characterized as insensitive to the subtleties of hospital life. On the other side in Scotland the process of reforms proceeded at a gentler pace and, even if the success was not immediate, there were evidences that it occurred over a broad period. In this research Lapsley referred to two specific initiatives: the Management
Budgeting Initiative (MB) and the Resource Management Initiative (RM). MB concerned with the introduction of a clinical budgeting based on financial information aiming at supporting clinical decision making system. RM concerned with the extension of reports for hospital doctors beyond financial information to include also medical data. The aim of RM initiative was to meet clinicians’ requirements and attract their support for this initiative. The study reported a failure for both initiatives in UK while in Scotland it reported a late success of the MB initiative and a failure of the RM initiative. More in dept Lapsley (2001) underlined an initial rejection of the concept of clinical budgeting at the introduction of the MB initiative in Scotland. Subsequently, at the implementation of the RM initiative, they underlined a failure of RM but at the same time they observed the occurrence of a revised version of the MB initiative. The variant of MB initiative was the introduction of a new professional figure - clinical director – responsible for a clinical budget. The clinical budget continued to present only financial data but only clinical directors, instead of all doctors, had a financial responsibility for managing budgeting. They observed also a quite visible interaction between financial staff and clinical directors. In this variant clinical directors acted as interface between administrative and other doctors. However, the role of clinical directors had a negative consequence, not expected by reformers. Clinical directors acted as absorber of reforms: they, acting as interface between financial staff and other doctors, protected clinicians from the intrusion of financial information into their autonomy and perpetuate the decoupling between administrative and clinicians, that is the separation between technical and operational elements (Weick, 1976).

Radical reforms have an impact also in terms of their capacity to obtain desired outputs. Agrizzi (2008) examined the micro effects of a performance measurement introduced in England in 2001 to control hospitals. She used a critical approach based on Habermas model (1987) described in session 2.1. Reforms introduced a star rating system for hospitals based on two sets of targets: the first set of targets evaluated the overall performance, while the second set aimed to refine judgments by considering three areas (the clinical, the staff and the patient). The system rated hospitals in three categories, from the hospitals performing well to the hospitals performing worse. Results of rating were used by the government to determine its degree of intervention into organizations: hospitals performing well gained financial freedom while hospitals with poor performance lost their autonomy. In particular Agrizzi (2008) studied in dept an hospital with poor performance. The high pressure met hospital unprepared and consequently unable to manage this pressure. This inability to manage pressure resulted in a set of policies introduced by the hospital which produced unwanted effects. The hospital introduced some initiatives in order to improve performances: controlling the number of patients to be included in the waiting list and concentrating on day case procedure were
attempts to reduce the length of waiting list. Closing ward was another attempt to cope with scarce resources. These initiatives were not adequately evaluated by the hospital and resulted in unexpected effects. For example the excessive concentration on day cases resulted in conflicting changes in clinical work: patient diagnosed with severe conditions which required a longer stay in hospital were left waiting longer and some of them become emergency patients, often more costly. Another example is related to the effect of early discharges: the intended output was to reduce costs, but this leaded to premature discharge. Premature discharges were often followed by need of readmissions, which are costly. In this scenario, quality of care was reduced and, as it is well known costs of non quality are higher than cost of quality. This research demonstrated that the pressure could lead organization to introduced rash policies that could get to unexpected and unwanted results.

2.3 Technical aspects of reforms on MA

Conditions for the success of reforms on Management Accounting

This paragraph analyzes how technical characteristics of reforms on Management Accounting could have an impact on results expected by reformers. Pressure created by reforms and gradualisms represent two important elements that have brought to a greater attention to costs. Their success assumes the ability of reformers to adapt reforms to the context of healthcare, by introducing tools able to produce the desired output- and the ability of healthcare organizations to adapt government requirements to their internal context. Many reforms have been criticized because they attempted to apply private sector principles to the public sector without taking into account the peculiarity of healthcare organizations: the nonprofit nature of most hospitals (mainly in Europe); the special relationship between providers of services and purchasers of services where often the purchaser of services is also the owner (i.e. government); the difficult to apply an internal market mechanism because of the relationship between providers and purchaser and because of the objective difficult for patient to choose where they want to be treated, especially in rural area where there is a limited number of hospitals. Lapsley (1994_1) observed, through an history analysis, the impact of market reforms in terms of implementation of a responsibility accounting system. These reforms introduced the concept of responsibility for resource consumption to all levels of the organizations: from ancillary services to doctors and other professionals. But these reforms brought private sector principles within the public sector without taking into account the complexity of healthcare delivery: limited attention to
cause and effect relationship, inconsistent goals, difficulties of confronting notions of clinical freedom with administrative rules and management prerogatives.

In order to avoid tensions with doctors, a decoupling between clinical and financial results occurred. Budget started to be used only to register ex-post expenditure in order to justify funding. Inefficiencies were not punished and there was not any incentive for efficient behaviors. Consequently the responsibility accounting played only as a myth, thus actively encouraging professional autonomy, creating a system of ambiguous goals and rendering data on technical performance invisible and free from rules. In this perspective, the concept of the role of responsibility accounting as *myth and ceremony* has been introduced by Meyer and Rowan (1977). It means that the responsibility accounting is only a formal attainment but it is not used for decision making. In this way the organization tries to gives the perception of rationality of the decision making, which actually follows different rules.

Kurunmaki (1999) observed, in the Finnish context, how the introduction of market mechanism, aiming at increasing competition and efficiency, did not produced the desiderate effects because of limits of the context of healthcare. Market mechanism in Finland, at its introduction in 1995 with the Municipal Act, was structured as it follows: the State allocated resources to Municipalities on the base of population, and no longer directly to hospitals, and Municipalities could contract services with both their own health institutions and with other competing providers. First, the limited number of providers precluded the possibility of a real competition. Second, competition was based on the comparison between costs afforded by providers (hospitals) for the provision of services, thus, it was supposed that purchasers (Municipalities) should buy services from the organization more efficient in terms of costs. However costs were determined internally by providers each with its own system and methodology, thus making costs incomparable. In this respect Kurunmaki (1999) suggested the need for increasingly standardized, relevant and accurate cost information aiming at making visible inefficiencies. Third, market mechanism was limited by political issues: Municipalities were at the same time owner of providers and purchasers of services and they strongly influenced providers’ decision making. Moreover, in their dual role, they had a little motivation to set competition. In this respect Kurunmaki (1999) suggested the need of a more detailed specification, at national level, of the rules of the internal market.

Jones and Dewing (1997) analyzed, through interviews with clinicians and professionals at different levels and with the financial staff of a UK hospital, the attitudes of clinicians towards changes in accounting controls associated with reforms promoting an higher delegation of responsibility to doctors. They found a situation where clinicians were willing to accept a greater accountability for their actions and believe that it could improve efficiency and quality, but only if precise and timely
tools were available. In this respect Jones and Dewing (1997) criticize the manner of implementation of reforms, too much focused on controlling behaviours and not interested in providing a valid support to healthcare organizations. They argue that the increasing control over results and outputs, did not really support an higher doctors’ awareness and control upon performance and costs, but it was only an attempt of the government to dominate doctors’ behaviour through financial information. In this respect they argue that the government should have developed a robust system of accountability for doctors, rather than continue to exercise a crude control on costs.

The structure of tools introduced by reformers is a matter of importance when analyzing the impact of reforms in terms of structure, information provided and complexity of tools. In this respect Lapsley (2001) individuated in characteristics of tools some explanations of the failure of MB initiatives in UK. One aspect is related to the relevance of information which government associates to budget holders performances: in his case study, in fact, doctors had many concerns about information provided in reports: this information was at too high a level of aggregation with substantial categories of overhead or costs not under the control of budget holders. Another aspects relates to the crudity of MB system which provide only financial information. In this respect MB system was criticized because it did not capture variations in activities and was not able to represent the complexity of hc services.

Arizzi (2008) criticized also the star rating system introduced in England in 2001. This performance measurement system, with the aim to be simple in its methodology, was too much generic and used a high-level summary. This system did not involve every area, leaving hospitals free to individuate how to act on indicators. This freedom, associated with a lack of competences in hospitals and with a great external pressure, lead hospitals to introduce wrong policies that in some cases brought to unwanted results.

On the other side Laughlin et al (1994) criticized the approach used by the UK Government in the revision of GPs’ contracts. GPs’ contracts introduced in UK leave to GP an high freedom to chose how to manage the contract. Consequently they adapted contract in order to gain most of financial benefits for their practices and the aim of reformers – exercise higher control on GP – was not reached (Laughlin et al., 1994).

Radicalism of reforms, analyzed within the processual aspect “manner of implementation of reforms” has the further problem of finding healthcare organization unprepared in terms on competences and capabilities (Agrizzi, 2008), internal instruments and informative systems available (Pollit et. al., 1988, Laughlin et al. 1994). In this respect Pollit et al. (1988) argued the need of accurately preparing the ground for allowing the occurrence of results expected by reforms
and avoiding hostilities. They analyzed, through a deep field study, the failure of Management Budgeting (MB) and Resource Management (RM) initiatives in NHS, in terms of their inability to make clinicians able to use these instruments. They observed several problems arising from an inaccurate development of MB and RM: these reforms found a situation where there was a lack of information currently recorded, lack of linkages to the planning system, lack of experience. Moreover these reforms have been criticized because the structure of MB and RM, which did not consider all actors involved (Nurses, District, Treasures, administrators, patients etc), their requirements and how these actors relate each others in the daily activity.

Lapsley (1994_2) observed, through an history analysis, the change in organization deriving from reforms. They found that market reforms and general management initiatives in UK failed in promoting higher efficiency because of their radicalism. In fact, at the time of reforms, local infrastructure, such as Management and Accounting System, were not in place. Consequently the new logic was not supported by adequate information and did not produce the expected results. More in detail the effectiveness of reforms in promoting an internal market between providers and purchaser did not produce higher efficiency, because providers provided to purchasers limited information often subject to manipulation. Consequently, as observed by Lapsley, efficiency was not really linked to funding and often, a large amount of funding was given to certain providers, despite limited efficiency. Moreover the re-organization of the system of responsibility, wished by reforms with the aim of making professional accountable for financial and economic results of their units, did not produce the expected results. The reorganization of responsibility resulted in limited internal usefulness, because of the absence of an adequate flow of financial and economic information by which doctors should be held accountable. Consequently the re-organization of responsibility did not produce any effect in terms of promotion of a managerial culture in professionals.

3. Analysis of organizational context related aspects

When maintaining the focus on an internal perspective it is possible consider two aspects of accounting and control systems: processual aspects, linked to the analysis of the organizational culture, the approach used on the issue of control etc.; technical aspects more linked to the specific technical characteristics of management accounting tools used in the organization. Here considerations about overlapping described at the beginning of the second paragraph are still valid.
Studies based mainly on an internal perspective can provide a deep perspective of the organizational context and can support the individuation of characteristics of the organization and of MAS that can support the use of accounting information. However, these studies are often static, because they do not analyze the dynamics of change between accounting and clinical culture: how the interaction between accounting and clinical culture evolves through time and how these elements influence each others. Moreover, in these studies, findings are interpreted mainly on the light of an analysis of the organizational context, instead of considering the effects produced by the external context.

3.1 Processual aspects of Management Accounting

Processual aspects in the organizational context concern with the approach in the use and diffusion of accounting and control within organization. Main features linked to processual aspects analyzed in this section are: the approach to the issue of control, the approach to budgeting process, the role management and superiors in promoting the diffusion of accounting and control, education on managerial issues provided to professionals, integration of actors and career opportunities linked to the acquisition of a managerial role for professional.

Approaches to the issue of control

The way organizations approach to the issue of control is a matter of great importance, considering the professional nature of healthcare services. Many authors underline how the complexity of healthcare organizations makes often ineffective traditional forms of controls, while suggesting the use of forms of control such as group co-ordination mechanism, clan control etc. These studies, often based on a rational perspective, analyze the link between traditional forms of control and aspects such as individuals’ orientation or tasks performed, and how this interaction affects behaviors, in terms of acceptance or resistance against management accounting tools. These studies suggest some strategies aiming at promoting the achievement of organizational goals through an higher coherence between organizational and individuals goals: realizing on socialization policy, paying attention to the organizational level which receives information and to the attitudes of the user of information, developing instruments coherent with the kind of tasks evaluated. Relying on socialization policy is considered a mean to improve the organizational environment and to avoid conflicts over managerial instruments. For example Abernethy and Stoelwinder (1995)
analyzed through questionnaires to physicians on a large Australian hospital, the effect on role conflict determined by the interaction between individuals' professional orientation and their control environment. The meaning of role conflict they used, draws from the definition by Rizzo et al. (1970), who define role conflict in terms of a “dimensions of congruency - incongruency or compatibility-incompatibility in the requirement of the role”. An example of conflict could arise between a person’s standards and required behaviors. Abernethy and Stoelwinder (1995) observed that traditional forms of control based on output are more likely to create conflicts between individuals and control mechanisms. They suggested managerial implications. First they suggested that, in order to avoid conflicts and tensions, professional organizations should rely on socialization and training policies to encourage professionals to forego their expectations and at the same time to accept values and norms of the bureaucratic control system. Second they suggested that creating an organizational environment where professionals’ values and goals are recognized, could facilitate the achievement of organizational goals, because professional could perceive that the best way to achieve their own goals is through the achievement of organizational goals.

Finally they found that behaviors control is the less offensive of professional autonomy: they found that, if the supervision for work come by professional expertise, behavior control is seen as an acceptable control tool.

Instruments should be carefully evaluated based on the organizational level that use these tools and on the nature of tasks attributed to employees.

For example Abernethy and Stoelwinder (1990) analyzed, through questionnaires submitted to sub-unit managers of a large Australian hospital, the relationship between the organizational level (medical, health professions, and administrators) and the use of management control tools. They found that different levels of the organizations have different approaches to control issues. In particular, they studied the degree of importance attributed by different levels of the organization to the following instruments: (1) Standard Operating Procedures (SOPs) (the use of procedure to standardize the work processes, work outputs and workers’ skills); (2) Budgeting; (3) Statistical Performance Reports (SPRs) (which include subunit output, quality and control statistics, patient related data, financial data, staff management statistics and complaints and incident reports); (4) Supervision (the control done by a superior on the work of the subordinate); (5) Mutual Adjustment (exchange of information between individuals in a non-hierarchical relationship) and (5) Group Co-ordination Mechanisms (the exchange of information within groups in scheduled or unscheduled meetings). According to the professional bureaucracy model by Mintzberg (1979) they studied three levels of the organizations: (1) Primary component composed by physicians, nurses, therapists etc; (2) Secondary component composed by laboratories, supply food services; (3)
Tertiary component composed by administration, personnel etc. In their study they found that factors such as frequency of reports and consciences of individuals of their input in reports could favor the acceptance and importance attributed to such information by the primary component. In this respect they observed that SPRs were used to a greater extent by primary component as instruments for the co-ordination of clinical activities and for the management of patient care process, rather than as an instrument for controlling performances. This could be also influenced by the presence, in these reports, of patient relate information, even if authors did not explicit this assumption.

On the other side they found that traditional instruments, such as budget, were used and accepted to a greater extent by the secondary and tertiary component. In this respect they observed the inability of budget to influence the primary component because it was not considered able to represent the complexity of tasks performed by the primary component.

Finally the inexistence of differences regarding SOPs, supervision and group co-ordination supported the conclusion that these procedures were not perceived offensive of the autonomy, when they were organized within the self governing structure of professionals, because in this way they did not stress the concept of hierarchical control. They concluded that, if the authority for that control activities came from the expertise of the same professionals, it may not be perceived as a bureaucratic control, thus can be accepted.

Another study by Abernethy and Stoelwinder (1991) analyzed, through questionnaires submitted to 192 subunit managers of four large Australian hospitals, the effects on sub-units performance determined by the interaction of budget use, tasks uncertainty and system goals orientation. They found a difficult faced by traditional instruments to evaluate performances where there was not a clear relationship between input and output and between behaviors and outputs. They assumed that complex organizations, such as healthcare organizations, are characterized by high tasks uncertainty. High tasks uncertainty occurs for non-routine tasks, where there is not a pre-defined relationship between inputs and outputs or between behaviors and outputs. In this context traditional formal control such as budgeting are ineffective for influencing doctors’ behavior and other forms of control, such as clan control and mutual adjustment, are needed. In their survey they found that in situations with high task uncertainty and limited importance attributed to budget, performance were better in subunits where there is an high system goal orientation. This means that in that situation the recognizing of individuals in a system of organizational goals, rather than individual system goals, could have good results in terms of performance improvement. With system goals authors mean goals such as the prestige or the loyalty of the hospital. In this respect they suggested
that, in situations where the budget is ineffective, the promotion of system goals could be a mean of realizing alternative forms of control, such as clan control and mutual adjustment.

Orientation and attitudes of individuals play also an important role in the choose of instruments. Abernethy (1996) analyzed the impact of managerial orientation on accounting and non accounting control, where non accounting control considered are social control and the use of standard operating procedures. She also analyzed the impact of such forms of control on performances in terms of sub-unit managers’ perception about the capacity to achieve results expected by the superior.

She observed, through questionnaires submitted to physicians of four large Australian hospitals, the interaction between several items and their effect on performances. Items considered were budget and managerial orientation, standard operating procedures and managerial orientation, social control and managerial orientation. She found that managerial orientation could significantly increase an effective use of accounting forms of control. In this respect the author suggested the usefulness of socialization strategies aiming at encouraging individuals to take on organizational values and at showing physicians that organizational goals are compatible with physicians’ goals. Example of strategies could be represented by training and education programs and higher involvement of physicians in managerial roles.

On the other side, she observed that there is a tradeoff between managerial orientation and non accounting forms of control: she observed that, when using non accounting control, an increase of managerial orientation could have a negative impact on performance.

In this respect author suggested that organizations should choose between accounting and non accounting forms of control. When relying on accounting forms of control there is the need to make individuals aware of the compatibility of their own goals with organization goals. When relying on non accounting forms of control, organizations should incentive the interaction of individuals and should pay attention on the definition of standard operating procedures. In this respect authors observed that standard operating procedures are not perceived as bureaucratic controls only when emanating from professional body.

Another study by Arnaboldi and Lapsley (2004) analyzed the introduction of a new costing techniques, Activity Based Costing (ABC), in an organization working on the “blood supply chain”, through a deep case study. They observed a slow and late implementation of the ABC techniques due to several critical aspects in the process of development. The organization was divides in five main activities dislocated in UK: blood collection, two manufacturing plants and clinical and support services. Blood collection and manufacturing plants represented clinical activities, while clinical and support services provided advices and services to other clinical activities.
In the process, all members of the organization were involved in all stages of the implementation, from the identification of activities to the identification of drivers. Subject could be classified as “implementers” and “recipients”. “Implementers” was mainly financial and accounting people and they had the task to deliver an operational ABC system. “Recipients” include directors of clinical facilities of this organization. The problem in the development process was that this involvement was not associated with participants’ awareness of this technique. Both “implementers” and “recipients” were not able to justify the choice of this particular costing technique, whose selection seemed to be more related to the presence of a champion for ABC within the organization. They trusted in ABC adoption as a “blind belief” of the possibility of this modern technique to support the competition in the blood global market associated with decreased state protection, but there was not the conscious introduction of ABC as a tool able to suit their need of higher cost control.

Another critical aspect was the composition of the implementation team: they were accounting and finance people with no experience of the field of healthcare. This created particular resistances especially for clinical services.

**Approach to Budgeting Process**

An extensive literature attributed great importance to the approach used in the budgeting process as main control system used in healthcare organizations.

Some researches put as an important factor the need to base the identification of goals during the budgetary process on a negotiation and discussion within the organization over goals to achieve and resources to allocate. Other researches extend their analysis over all the budgetary process, thus comprising also the evaluation of results and the identification of subsequent actions. Involvement not only creates a better organizational environment but avoids also the perception of the budgetary process as a formal duty not linked to clinical activity and not usable for decision making.

Jones and Dewing (1997) focused on the phase of identification of goals. In their research they analyzed the process of delegation of responsibility in one UK hospital. The delegation of responsibility, required by national reforms, was realized through the introduction of Clinical Directors, who were doctors responsible for their financial budget. They observed that the top down approach to the definition of goals and the inability of senior managers to promote a more participative approach, resulted in resistances in the use of the budget by Clinical Directors. In this hospital the Chief Executive, to give the idea of a more participative approach, used an “open door” policy, where Clinical Director could discuss everything informally with the him, but actually
the identification of goals for Directorate was based mainly on historical data on resource allocation and possible revisions were quite limited.

Kurunmaki (1999) focused on the final phase: the evaluation of results. In this respect she argued that the use of reward systems linked to the achievement of goals could favor the use of budget for managerial purposes. In her research, she observed how the introduction of a reward system linked to performances of clinical unit in Finnish University Hospital effectively supported the use of financial and economic information in the clinical decision making.

Nyland and Pettersen (2004) and Cinquini and Campanale (2010) extended their analysis to all the budgetary process. Nyland and Pettersen (2004) analyzed, through a case study in a Norwegian hospital, the link between budget accounting information and decision making process at both strategic and operational level. They observed that a gap in the process of budget could create severe control problems, in terms of limited importance attributed to the budget. In their study, they observed that the formulation of budget, the management of actions and the evaluation of results were disconnected. First they observed that the formulation of budget was made by “rule of thumb” not coupled with clinical activity: it was simply based on the assumption that expenditure would decrease from an year to the following one, without consider the trend in the level of activity. Second, budget was managed in a flexible manner and deficits were systematically adjusted in order to stay within budget constraints. There was the assumption that the level of activity, in terms of number of patient treated, could not be influenced by doctors, that many resources could not be controlled by doctors, i.e. salary expenditure, and that the interdependencies and collaboration in the provision of care could not allow the attribution of results to a doctor alone. Consequently doctors were not considered accountable for expenditure but only responsible: budget deficit did not produce any negative consequences because of the lack of controllability of many factors and doctors were responsible only for explaining reasons for overspending.

Cinquini and Campanale (2010) analyzed, through semi-structured interviews and document analysis, the approach used in the definition of budget goals and in the evaluation of results. Considering the approach used in the in the identification of goals, they observed that the identification of goals was based mainly on adjusted historical results, however a part of goals was based a provision, made by doctors, regarding the amount of activities expected for the following year. In this process clinicians were able to influence a part of goals and resources by estimating activities they expected to perform the following year (i.e., number of treatments and number of surgeries) and consequently the necessary resources. Even if constrained possibilities for intervention, this “exercise” requires clinicians to deal with budget language and with managerial activities, thus it is a sort of informal education. This process made the definition of budget goals
the results of an effort in analyzing the past and the expected activities (March and Olsen, 1989). The most important consequence is that, in this way, clinicians could formalize their “personal program and goals” in a written document that is within the budgetary system.

Regarding the following stage of the budgeting process, the evaluation of results, authors found that clinicians were strongly supported by controllers in the evaluation of results and in the identification of needed actions.

These researches recognize the potentiality of using a bottom up approaches in the definition of goals and resource allocation as an approach that could favor a certain coherence between budget and activity levels and between planning and action.

*Role of Management and Role of Superior*

Top Managers of healthcare organizations are key actors in the promotion of higher acceptance of managerial concerns over clinicians, in terms of (a) making investments in training and education programs (b) diffusing awareness of organizational goals.

Regarding training and education there is the need of high investments in these activities. These activities give clinicians the instruments needed to understand reports and information on performances provided and to take the necessary actions. At the top management level, as observed by Kurunmaki (1999) and by Arnaboldi and Lapsley (2004), strong support in terms of investments in training and education programs is the first condition for supporting changes in culture towards the appreciation of a managerial and efficient reasoning in the decision making.

Arnaboldi and Laplsey (2004) analyzed the introduction of an ABC project in an organization working in the “body supply chain” and associated low top management commitment as one of the reasons of the failure of this project. In this study low top management commitment resulted in limited investments in training, software and external qualified support with subsequent difficulties and delays in the development of the ABC project.

Regarding the second aspect, awareness of goals, top management could support this requirement through wider meetings and through a relationship as direct and frequent as possible with employees. The awareness of organizational goals is important in order to favor clinicians’ acceptance of the strategy of the organization and consequently to promote the perception of individuals to be part of an integrate organization.

However, the complexity of healthcare organizations in terms of number of organizational levels, numbers of employees and typology of tasks performed makes quite difficult for the top management a direct interaction with all employees and probably top managers will be able to have
a direct relationship only with the highest managerial levels. In this situation the role of middle managers assumes a great importance. In this respect middle managers, who have a direct relationship with the top management, should transmit principles learnt by the top managers over the lower levels. Problems that could arise in absence of direct participation of all employees during the budget negotiations with the top management, could be overcome if the superior plays a role of promoter of the budget goals, for example, by increasing the involvement of his subordinates in decisions concerning the whole unit and by organizing frequent meetings with all individuals in his unit (Cinquini and Campanale, 2010). In this process top management should incentive these practices over his middle managers.

However there are some risks: as suggested by Jacobs (1995), the superior could provoke a positive or a negative colonizing effect. First, when Clinical Directors absorb most of the new managerial tasks and responsibilities, in order to protect their doctors, the results is that other clinicians do not enter into the new language. On the other side in Jacobs’ research when Clinical Director choose to delegate budgetary responsibility to other doctors, they become more aware of the new language and did not perceive budgetary responsibility as a threat to patient responsibility. Second, when Clinical Directors absorb all managerial tasks they could result stressed and frustrated because they spend a lot of time in administrative activities and they risk to found themselves isolated from other doctors. In Jacobs’ research context Clinical Directors aiming at a more managerial role found themselves isolated by other doctors and classified as “one of the management”.

However the role of absorber of reforms is not always played by the superior and in some case the superior, in order to protect himself, could transfer his responsibilities to his subordinates. This is the case described by Laughlin et al. (1992) in GP. They described the story of the introduction of a new GP contract in UK in ‘90. The revised GP contract explicitly prefigured GPs’ tasks only with a medical approach: the provision of preventive medicine. This contract was not aligned with the holistic approach, traditionally used by GPs, based on social and medical problems, where prevention was only a part. Anxieties for GPs occurred because they were scared to come back to a more modest role that GPs have had for long time, if compared to surgeons and physicians. For this reason they delegated these tasks to nurses who assumed a role of absorbers of reforms.

Consequently GPs interpretative scheme remained unchanged and these reforms were not able to provoke morphogenetic changes.

On the other side, in the research by Cinquini and Campanale (2010) the superior plays a positive role. They observed, through interviews with the Head of a Department and his subordinates in one Italian hospital, that the Head of Department played a positive colonizing role. In fact, the Head of Department, who was the only one who had a direct relationship with the top manager, involved his
subordinates in decisions regarding the whole department, in the identification of goals and in the
interpretation of results. In that context Cinquini and Campanale (2010) observed that all level felt
involved and was able to acting and speaking within an economic reasoning.

Managerial Education

Education on administrative and financial matters could favor the understanding of managerial
information. Training and education traditionally provided to doctors is clinical and not managerial
and this could be a great limitation in terms of ability of doctors to perceive the importance of
budgeting (Abernethy and Stoelwinder, 1990), to appreciate costing information (Arnaboldi and
Lapsely, 2004) and to introduce a calculative argumentation and financial reasoning in the clinical
decision making (Kurunmaki, 1999), despite internal and governmental initiatives aiming at
promoting a managerial culture in professionals (Broadbent et al. 1991).
However formal education is not the more effective because it gives only a superficial
understanding and an abstract knowledge of managerial issues. A superficial understanding is not
sufficient in order to really transform doctors’ reasoning. A more practical education coming by a
daily use of managerial information and tools is needed in order to impact on clinical culture and
thinking, otherwise doctors could not be able to perceive the importance of that information.
Jones and Dewing (1997) in their research underline that the limited usefulness of formal education,
perceived by Clinical Directors, gave them an additional pretest to avoid to use accounting
information which can constraints their autonomy.
On the other side Kurunmaki (2004), even if she did not explicitly refer to education, underlines
that hybridization - that is that the acquisition, by medical professionals, of accounting skills and
expertise and their combination with the existent clinical knowledge – does not occur through a
transfer of some abstract knowledge, but through the transfer of techniques to doctors.

Career

Also the possibility to associate career advancements with increasing responsibility could be a mean
of involving clinicians in economic and financial issues.
Fitzgerald (1994) observed that the possibility to make career advancements could be a stimulus to
accept a managerial role. In fact the organization of medical professional in their research context,
UK, is characterized by a quite slow career advancement where the same position could remain the
same for long periods. In this respect the acquisition of a managerial role by clinicians represented a way to make career advancement faster than the clinical career allows. Fitzgerarld (1994) observed also that, in a context of long terms effect changes, clinicians were willing to accept managerial role and associate managerial and clinical role in order to influence and to be part of the process of change itself. However, they pointed out several negative effects which could arise when professionals move towards a managerial role. First there is the risk that they would feel scared and frustrated about an overload of work due to the necessity to spend time both in managerial and not in clinical activities. Second there is a risk of stress due to a possible isolation when other doctors are hostile. This possibility as been prospected also by Jacobs (1995) as described at the end of the paragraph describing the role of management and the role of superior (see paragraph 3.1 - Role of Top Management and Superior).

The possibility to link a managerial role to career improvements has also powerful effects in terms of possibility to impact on and to colonize the clinical culture. Lawrence et al. (1997) study, about the introduction of clinical division in a New Zealand hospital, supports this assumption. In their research setting the hospital introduced clinical divisions and asked clinicians to apply for the position of leader. Applicants for the new positions of clinical leaders would be accountable for both clinical and business performance. Clearly, anyone who opposed running hospitals as businesses would either not apply or would not be considered suitable for the position of unit leader. In this way the possibility to became leader and have a career advancement indirectly brought to a progressive entrance of new principles in the interpretative scheme and in the current language.

Integration of actors

There is also a growing need of higher interaction between clinical and non clinical personnel during the budget negotiations, as observed by Pettersen (1995), Cinquini and Campanale (2010), Campanale et al. (2011) and Jones and Dewing (1997). Integration is needed in order to favor the integration of knowledge for the development of managerial tools, for the provision of support to clinicians and in general to favor trust in management accounting tools. Researches described in this paragraph particularly underline the need to create conditions for allowing doctors to be able to integrate their clinical activity with managerial considerations without leaving their traditional role. In this respect a synergy between clinicians and non clinicians is particularly wished. This could be useful for two reasons. First they could integrate their knowledge gap, that can make difficult the evaluation of managerial implication of their
decision. Second, through the relation with controllers, they can underline their requirements and needs and influence managerial instruments.

Campanale et al. (2011), using a constructive approach (Kasanen et al., 1993), worked on the adaptation of management accounting systems to changes required by the external environment. They worked, with clinicians and controllers working in healthcare organizations of one Italian region, to the development of a new management accounting systems whose change was required by regional reforms. In this respect the constructive approach, was based on the integrations of different knowledge, and allowed for the development of tools able to support external requirements but also clinicians requirements. This approach resulted particularly useful in terms of higher acceptance for clinicians and in terms of possibility to develop tools more suitable for clinicians’ use.

Pettersen (1995) analyzed this phenomena, through a survey in all Norwegian hospitals. She observed that a limited interaction between non clinical managers of hospitals and clinicians during the budget negotiations resulted in a decoupling of decision-making systems of hospitals: the budgetary system which expressed goals and the clinical decision making system which was a sort of “shadow budget”. In the context she studied, hospital managers defined resources at the beginning of the year considering signals from the Ministry of Health and considering the economic situation of the country. In this process they did not involve clinicians and they did not consider also ex-post information. Hospital managers during the budget negotiations had frequent dialogues with the County Council, but they made internal communication of budget information. The aim of budget in this respect was only to legitimate the existence of the hospital, not to drive the decision making system. The County Council and physicians acted following different norms of rationality. For the County Council the importance of the budget was that it is was written document, and the council did not care about the awareness physicians had about the content. On the other side physicians used only their own “shadow budget” and chose to overspend with impunity the budget to further their interests in the clinical area. This resulted in a systematic differences between budget and actual.

Cinquini and Campanale (2010) and Jones and Dewing (1997) more specifically referred to the role of controllers. In particular Cinquini and Campanale (2010) asserted the need to improve the communication and the integration between doctors and controllers in order (a) to increase the trust in the usefulness of accounting and control systems and (b) to favor the development of integrate instruments, more aligned with doctors’ requirements. They analyzed the approach used in the identification and use of accounting and control in general in all health organizations of one Italian region and how this approach impacted on the acceptance of these instrument by clinicians. They
analyzed both the perception of controllers and the perception of physicians at different levels of the organization and found that the strict relationship between clinicians and controllers in the use and identification of accounting and control tools was the most important factors affecting a progressive change in the reasoning of clinicians with a position of Head of Department (middle managers) who had a direct relationship with top management. For lower levels, this condition is not sufficient. For them there is a need of strong role of Head of Department in promoting managerial culture (see page 19-20 paragraph *Role of Top Management and Superior*)

Jones and Dewing (1997), in their research developed in UK, further assert the role of controllers as supporters in the interpretation of information and variances as well as accounting reports

The integration between controllers and clinicians could be a mean of involving clinicians in the development of tools and in managerial decisions, without asking clinicians to move from their role of doctors to become managers, condition that could also have negative effects for clinicians such as overload of work and isolation from other doctors (Fitzgerald, 1994; Jacobs, 1995), as described in the previous session.

3.2 Technical aspects of Management Accounting

Previous session on *processual aspects* recognizes that paying attention to the approach used to the issue of control, in terms creation of a favorable environment, could be a mean of promoting wider diffusion of accounting in the organization. However organizations need also to pay attention to more *technical aspects* of tools.

*Technical aspects* related to the *organizational context* concern with characteristics of accounting and control tools used by the organization. *Technical aspects* considered in this research could be ascribed to: availability of information, association of financial and non financial information, informative goals associated with information provided, kind of responsibility attributed to professionals.

Researches analyzed in this session discuss the impact of accounting and control systems associated with these aspects.
**Availability of information**

Despite organizations attempts to move clinicians into more managerial reasoning, for example through more participative approaches, a wider diffusion and sharing of reliable information within all levels of the organization is an important prerequisite. In this respect, there is the need to provide timeliness information to all levels of the organization. First, limited and late information makes difficult for doctors to perceive the importance of costs (Jacobs, 1995) and limits the possibility to advance proposals regarding goals to achieve and related resources (Jones and Dewing, 1997). Consequently higher involvement does not produce desired effects. Jacobs (1995) analyzed three countries, Germany, Italy and UK, and observed that difficulties faced by the lower levels of the organization to perceive the importance of costs, were partly associated with limited and suitable information: information was provided mainly to the highest levels of the organization and information about quality, output, patient satisfaction was missed. Second, inaccuracy, late information, missed recognizing of activities give clinicians an additional pretest for not using control and accounting systems: in Jones and Dewing (1997) research context, where information were not shared and reliable, doctors argued that information provided were “illusory” because of the inaccurate recoding of costs, so “acting on this information did not make sense”.

**Informative goals associated with information**

Many researches based mainly on institutional theory address the problem of how healthcare organizations and in particular clinicians, react to the introduction of budgetary system in organizations when its design and associated goals are based mainly on government requirements. In situations where the budgetary system expresses only goals associated with political requirements not linked to the core activity risks prospected are: use of budget as myth or ceremony, use of budget as a legitimating device, decoupling (Meyer and Rowan, 1977; Lapsley, 1994_1; Pettersen, 1995; Weick, 1976; Wildawsky, 1975, Power and Laughlin, 1992). These concepts are close each other and are usually studied togheter. When these phenomena occurs, there is the risk that the budgetary systems loses its function of supporting the daily decision making and shifts toward the function of external instruments for political decisions (Wildawsky, 1975) related to financing, leaving clinicians free to continue to base their decisions on their goals and professional judgments.
Modell (2001) provides an example of how decoupling could occur. He illustrates how the development of systems based mainly on political requirements could result in resistance and decoupling. He describes how a Norwegian hospital has answered to the institutional pressure coming by the introduction of a perspective method of financing based on the DRG classification of activities. He observed that the hospital introduced a financial system based on DRG, with some adjustments, for the distribution of resources among divisions and departments. The system had two functions: external visibility and internal use. In terms of external visibility the budgetary system aimed at accomplish political requirements and asked to a legitimating function. In terms of internal use the aim of the budgetary system was to support improvement of financial control. However this financial system was designed mainly to answer to political requirements: it contained only financial measures linked to DRG levels of activity and it left other important factors such as personnel management indicators and effective quality indicators, considered internal issues that did not need also an external visibility. The consequence was a non integration between clinical decision making system and financial system and their decoupling and differentiation. However decoupling acted differently for the Personnel System and for the Quality System.

In fact the introduction of quality indicators answered to a legitimating function: the Quality Department introduced a set of indicators measuring quality (i.e. infection or patient injuries) and systematically reported them to Division, but quality indicators were only those requested by influential external actors (state agencies). When the Quality Department tried to introduce that indicators at a Department level these indicators encountered several resistances: doctors resisted to the attempt to introduce quality indicators, because they thought that that indicators were alien to clinical realities and that the monopoly over the evaluation of quality was only on their hands. In this case decoupling of systems was a consequence of the behaviors of doctors, who did not accept indicators based on political and external requirements.

On the other side the decoupling of financial system and personnel system was wished by the General Manager. An employees’ satisfaction survey revealed that there were an high level of dissatisfaction linked to the introduction of the financial system because there was the perception that it was designed only for a legitimating function, leaving outside the management of personnel as an internal issue. The Personnel Department wished a formalization and a legitimation of a system measuring the management of personnel but the General Managers reacted by continuing to threat the question of personnel satisfaction internally, thus creating two parallel and decoupled systems.

The elaboration of information only to compliance governments could impact directly on the importance and the usefulness attributed by clinicians to budget information, thus giving additional
pretexts to avoiding the use of that information. The researches by Modell and Lee (2001) and by Jacobs (1995) and Jacobs et al. (2004) specifically address the occurrence of this problem.

For example Modell and Lee (2001) analyzed, through a case study in the largest Norwegian hospital, how do the properties of institutional processes associated with public sector reforms influence choice exercised by senior management in the development of performance measurement. In particular they analyzed how the way in which organizations approach to budget information in order to demonstrate the influence of politicians, could have severe negative consequences. In particular they observed that at the end of the year organizations used ex post and subjective adjustments in order to demonstrate to politicians compliance to cost containment. Ex post arrangements were elaborated mainly on items considered of limited controllability, due to prices and contracts defined at a national level, such as salaries, medical, disposable and equipments expenses. Even if this practice was a way to defend clinical director, it created a distort consequence: this practice recognized unequivocally the subjectivity of results, thus giving clinicians a pretext to claim for the limited usefulness of the budget in the decision making.

Association of financial and non financial information

The association of financial and non financial information, helping clinicians to reframe clinical activities in accounting terms (Power and Laughlin, 1992), makes easier the understanding of financial information and the acceptance of the usefulness of accounting information (Arnaboldi and Lapsley, 2004), thus creating higher possibilities of using financial information in the clinical decision making system.

If informative systems do not provide the linkage between activities and costs, the behavior of costs, according to activity levels, is not clear and clinicians do not have information needed in order to make proposals for budget indicators (Campanale et al. 2011).

The difficult in associating financial and non financial information could create difficulties in all the budgetary process from the identification of goals, and related resources, to the analysis of results, during, and at the end of the year.

For example Modell and Lee (2001), in their research in a Norwegian Hospital, observed that the lack, in terms of ability to link financial and activity information, resulted in a process of budget which saw the identification of resources in the form of fixed global grants and on an elaborate process of disaggregating expenses to divisions and departments.

This process resulted in many problems in terms of acceptance and understanding of the budget. We can recall: the perception of an unrealistic budget, difficulties to understand the way work is
organized, difficulties in using the budget to drive the decision making, difficulties in explaining variances occurred.

Another research by Laplsey (1991) addressed the problem of crudity of financial information provided as one of the reasons of the failure of MB initiatives in UK. MB aimed at increasing doctors’ responsibility over their results, by introducing clinical budgeting, but it failed because of the inability of the clinical budget, introduced by hospitals, to link financial information to activity levels. In their study many interviewees commented the budget as static and not flexible for variations in activities, other interviewees assessed the inability of budget to represent the complexity of healthcare. Above these comments there was the dominant concern that MB was not able to materialize itself as an operational system, but only as a financial system not linked to operations.

*Kind of responsibility attributed*

High attention has been put on the Reliance on Controllability Principle (RCP), in terms of goals to include in individual budget goals. In fact, the inclusion of less controllable factors is considered to induce effects such as reduced motivation, gaming, staff turnover (Mechant, 1989 and 1998) and lower acceptance of the budgetary responsibility especially in the public sector (Jones and Dewing, 1997; Modell, 2000). In particular, Modell (2000) observed that the decision of not allocating uncontrollable costs and the use of systematic adjustment for less controllable factors reinforces the commitment of clinicians-mangers to an active use of budgets for the improvement of financial control.

Kurunmaki (1999) observed the impact of the introduction of *Results Management Programs* in Finnish hospitals. The aim of these programs, within market mechanism and budget constraints reforms at national level, were to improve the coordination of operational and financial planning by incorporating health professionals into the management process. Previously, the chief physicians of each clinical unit was responsible only for the operations (clinical activities) in his unit while the financial manager was responsible for the economics. In that situation there were two budgets with limited linkages. The *Results Management Program* introduced only one budget composed by operational and economic goals and attributed the responsibility for goals achievement to medical professionals who become heads of *cost/responsibility centers*. This initiative strengthened the accountability for resources into clinical units and created the ground for tying medical professionals into a network of calculations via the budgeting process and this initiative had two main consequences. First, medical professionals saw this change as a possibility to create a sphere
of discretion over decisions and the possibility to contract resources linked to operations, creating
the ground for higher understanding of information and making them feeling more involved in the
process of programming. Anyway this new role of professionals, at the same time, required
clinicians to deal and to enter into a managerial language. Second, it helped to ensure that
professional’s actions were taken in accordance with financial and economic considerations, thus
providing benefits in terms of efficiency of the whole organization.
However, if responsibility for results does not produce any consequences in terms of awards or
punishments linked to the achievement of goals, the positive effect associated with responsibility do
not occur.
In this respect Lapsley (2001) suggests the importance of using a reward system linked to the
budget in order to incentive the use of this instrument, within a national context of reforms aiming
at delegating higher responsibility over results to physicians.
However, assigning a managerial role to medical doctors could create confusion when it is simply a
replication of the role traditionally played by managers. In this respect the managerial role of
doctors should a be a “new role” defined taking into account their interests and attitudes.
Despite the need to bring doctors into management, the transformation of doctors in managers
should be carefully evaluated.

4. Discussion

This review, without pretending to be comprehensive, has examined different research perspectives,
in order to provide a broad vision of the birth and working of management accounting within
healthcare organization.
This review starts form some preliminary considerations about studying management accounting in
healthcare organizations and opens the discussion about some needs that have emerged from the
reviews itself.
This review is based on the assumption that studying management accounting within healthcare
organizations requires a multi-perspective approach, based on the consideration that using a
methodological pluralism in analyzing accounting, instead of remaining within boundaries of a
single research perspective, can improve our understanding of accounting in healthcare
organizations (Abernethy et al.2007).
Within this preliminary assumption, specific needs emerge: the use of a complex approach, the
considering the external environment, the need for a dynamic perspective.
First, the need of using a complex approach in studying the complexity of healthcare organization: healthcare organizations are made of several elements which interact each other and linked by a quite complex relationship. These elements, typical of what we called organizational context related aspects, are made of both processual and technical aspects. Processual aspects could be ascribed to: the approach to the issue of control, the approach to budgeting process, the role management and superiors in promoting the diffusion of accounting and control, education on managerial issues provided to professionals, integration of actors and career opportunities linked to the acquisition of a managerial role for professional. Technical aspects could be ascribed to: availability of information, association of financial and non financial information, informative goals associated with information provided, kind of responsibility attributed to professionals. Between processual and technical aspects there are overlapping and reciprocal interactions. For example the integration of controllers and clinicians could favor the identification of tools more suitable for clinicians’ attitudes, but at the same time tools more suitable for clinicians requirements create a positive environment and favor trust in administrative personnel; training and education for clinicians allows for a greater understanding of management accounting reports, but gives also clinicians competencies needed in order to be part of the process of management accounting tools change towards approaches more suitable for their requirements; top management’s support is needed both in terms of creating a favorable environment with regard to control issues and in terms of investments in training and education programs and in new informative systems.

In this respect there is the need of analyzing how all aspects influence each other and not only how a specific element influence the others.

Second, the external context needs to be taken into account, especially in a sector were the state involvement has ever been high. In this respect, it is important to study how the external context influence organizational context related aspects, but also how organizations react in terms of how they apply external context requirements. In this respect many researches underline different behaviours which organizations assumes in the external colonizing attempt: resistance (Lauglhin et al. (1992; 1994); adaptation of external requirements to their needs (Lapsley, 2001); use of control tools, such as budget, only as ceremony (Meyer and Rowan, 1977, Lapsley,1994_1; Weick, 1976; Wildawsky, 1975) or only as a legitimating device (Lapsley, 1994;Pettersen;1995, Kurunmaki et al. 2003).

This issue has been analyzed within what we called external context related aspects. These aspects are made of both technical and processual aspects, even if boundaries of this classification are not defined and overlapping is possible.
Third there is the need of studying accounting and control systems in a *dynamic perspective*: this means studying how accounting and control systems work within healthcare organizations and their changes in a *processual dynamic* in the light of: external context, techniques used, organizational culture (Laughlin, 1991). A deeper understanding of this dynamic could be supported if researchers are part of the process of change itself. In this case, researchers should be able to use a communicative approach in order to get trust within member of the organization and to obtain deeper insights. In this respect Habermas (1987), within the theory of communicative action, sees language as a key element in the dynamic between researchers and “researched”: the language is seen as a discursive process made of actions that researcher has to carry on in order to support the process of change. In Habermas’ perspective, the process of language between researcher and “researched” is made of four interconnected stages describing different levels of knowledge about problems to be faced during the process of change: *quasi-ignorance stage, critical theorems stage, enlightenment stage and selection of strategies stage*. In the *quasi ignorance* stage both the researcher and the researched have few concerns about any issue regarding current or potential conflicts between the social and the *technical* elements. In this stage they begin a discursive process about the nature of important variables and connection between the two worlds. In the following stage – the *critical theorems stage* – the researcher begins to explore more about the functioning of the accounting system and the relationship between social and technical elements. The third stage – the *enlightenment stage* – both researcher and researched develop some common understanding. In this stage the researcher, usually through a kind of action research, identifies all technical and social roots. Then researcher tries to provide deep explanations that should be useful in driving the change. The last stage – the *selection of strategies* – deals with the individuation of how the change should occur. Strategies could be three: a change in the social aspects, a change in the technical elements or a mutual adjustment between the two elements. Developing this interconnected stage could be a mean of gaining a deeper understanding of the dynamic of change. This process assumes the characteristics of an *action research*, whose applications are quite limited in management accounting research.

This paper has tried to answer to these growing needs by integrating findings of different researches based on different theoretical frameworks. The assumption is that this integration could allow filling gaps we find in researches conducted within the boundaries of a single paradigm. This attempt of integration has been developed by searching for commonalities in these researches, in terms of kind of factors analyzed by authors.

With this aim, three main perspectives can be addressed.
The first perspective, is the emphasis: (1) on the external context; (2) on the organizational context; (3) on both. Authors focused mainly on the (1) - external context- study, within the external context, elements that could impact on the occurrence and use of management accounting within organizations, but leave the possibility that other organizational characteristics impact on their findings. Authors focused mainly on (2) – organizational context- study, within the characteristics of organizations, elements which could impact on the occurrence and use of accounting within organization. We use the term mainly because, as it is evident from figure 2 and table 2 there are researches that try to use a more comprehensive approach, but the focus is still on certain aspects.

The second perspective is the kind of aspects analyzed: (1) technical aspects, such as characteristics of information, structure of instruments etc; (2) processual aspects comprising social, relational and cultural factors such as approach to budgeting process, manner of implementation of reforms etc ; (3) on both.

As pointed out there could be overlapping in this categorization because it is not always possible to consider every aspect in isolation.

The third perspective represents the approach used in studying management accounting: (1) dynamic (D); (2) static (S). The dynamic approach (D) analyzes aspects of the first and the second perspective (emphasis and kind of aspects analyzed) through time. They provide a picture of the organization in subsequent moments in the light of changes in analyzed aspects. The static approach (S) analyzes the results, in terms of impact on organization, of the interaction between the first and the second perspective (emphasis and kind of aspects analyzed) at a certain point. They provide a picture of the organization in a certain moment in the light of certain aspects analyzed.

The meaning we give to change in this paper is not the same as to the meaning proposed by Laughlin (1995). In Laughlin’s view (1995) change is related to the openness of researches to possible changes for society. In his approach researchers who believe in a high level of change are of the view that society needs to be changed, while who believe in low change are quite happy with the status quo. Those who are in the middle are open to possibilities for change but do not automatically reject all aspects of the status quo. The change dimension represents also the discriminates used to classify accounting research. In this respect while critical researchers believe in a high level of change, rational researchers are happy with the status quo ( see: Hopper and Powell, 1995; Wickramasinghe and Alawattage, 1997). In this research we choose to use change in a broader meaning in terms of researchers analyzing organization in different moments or researchers analyzing organization at a certain point. This meaning in part overlaps the meaning given by Laughlin, but it opens the possibility to find commonalities between different approaches,
mainly between critical and interpretative research, more limited with rational perspective which typically uses a static approach.

Table 2 summarizes elements analyzed by papers considered in this review. As we can observe, all needs underlined in this paper have been faced by analyzed authors but they have been faced in isolation: some papers are quite complex in terms of number of factors analyzed and their interaction but are static in their approach; some papers are dynamic but leave the considerations of many important factors. This table provides also information about the role of researchers as observer or as actor of change. This distinction is particularly important for researches using a dynamic approach.

Table 2 – Summary of elements analyzed and approach used by authors

<table>
<thead>
<tr>
<th>Researches</th>
<th>Organizational context</th>
<th>External context</th>
<th>Researchers' approach</th>
<th>Researchers' perspective</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Tangible aspects</td>
<td></td>
<td>Tangible aspects</td>
<td>Dynamic</td>
</tr>
<tr>
<td></td>
<td>Physical aspects</td>
<td></td>
<td>Physical aspects</td>
<td>Static</td>
</tr>
<tr>
<td></td>
<td>Dynamic aspects</td>
<td></td>
<td>Processual aspects</td>
<td>Dynamic</td>
</tr>
<tr>
<td></td>
<td>Static aspects</td>
<td></td>
<td>External context</td>
<td>Static</td>
</tr>
</tbody>
</table>

*External context is mentioned as one of the aspects but it has not been studied

In order to provide a more systematic view it can be useful to combine and elaborate these factors in a graph (Figure 1).

This graph combines two perspectives: emphasis and kind of aspects analyzed. If we look to emphasis, papers could be focused mainly on the external context, on the organizational context or they can analyze both. If we look to the second perspective, kind of factors analyzed, papers can study processual or technical aspects or both. The third perspective - approach (dynamic or static), can not be represented in a two dimensions graph; for this reason this will be represented within the graph, directly associated to each paper (Figure 2).
The grey area is the area of integration. In this area we located all researches analyzing at the same time aspects (technical, processual or both) related organizational context and aspects (technical, processual or both) related to the external context. Dotted lines represent the boundaries between technical and processual aspects. Researchers represented above the dotted line consider both technical and processual aspects. For example researches in point A analyzes processual aspects related to the external context and to the organizational context. Researches located in point B analyze processual aspects related to the external context and to the organizational context and technical aspects related to the organizational context. The higher integration is in the middle of the picture (point C): here there are researchers analyzing both technical and processual aspects linked to both the external and the organizational environment.

In the white area we located researches considering only the external environment or only the organizational context. In this case researches located above the dotted line consider at the same time processual and technical aspects respectively of the external or of the organizational environment. For example researches in point D analyze only processual aspects related to the
external context; researches in point E analyze both processual and technical aspects related to the external context.

Figure 2 locates researches considered in the graph. Within this graph the approach, dynamic or static, is associated with each paper.
Figure 3 - Combination of emphasis, kind of aspects analyzed and approach and categorization of researches
As we can observe, about an half of researches are in the grey area, and only a few of these have the highest level of integration. Researches in the grey area are mainly critical or interpretative researches.

Researches in the white area focused on the internal context use all a rational approach. They have the limit of leaving considerations about the external environment but they are integrated in terms of aspects analyzed (they analyze both technical and processual aspects). If compared to researches in the grey area they provide a deeper understanding of the organizational context, because they are much more focused on a limited number of aspects, but they provide a vision limited to the organizational context and they are mainly static in their analysis.

Researches in the white area focused on the external environment are mainly critical or interpretative. They provide a deeper understanding of how characteristics of the external environment impact on organization but they leave all aspects related to how characteristics of organizations impact on the results of the external environment colonizing attempt. Some of these researches are historical analysis of reforms, based on documents analysis and on previous studies. Some of them are based on qualitative researches developed within organizations, but they do not study characteristics of organizations in terms of processual and technical aspects, they study only how the external environment impact on organizations and do not use organizational characteristics to explain their findings. In this area, only Fitzgerald (1994) is an actor of change but she focused only on external context processual aspects. We can argue that these studies, using data from organizations, have potentialities in terms of expanding their considerations over organizational aspects.

This review suggests that, in studying management accounting in healthcare, we need to adopt an approach that can be able to capture the dynamic and the results of change process in a broader perspective which can be able to capture the interaction of external and organizational context.

In this respect as we have underlined there is the need of using an approach able to capture the dynamic between internal and external context. In this respect Habermas approach, refined by Broadbent and Laughlin (2005) and by Broadbent et al. (1991), suits this purpose, because it identifies all elements of the internal context (the micro level) and all elements of the external context (macro level) and provides a framework to analyze the interaction of all elements (both interaction of internal elements and the interaction of external elements and the interaction between internal and external elements) in a dynamic of change. However we noted that authors using this approach provide an interesting but macro vision of phenomena and do not consider also the interaction between internal elements of the organization. In fact, they often analyze in dept how the macro level impacts on the micro level in the dynamic of organizational change, but few
considerations are made about the role played in the dynamic of change by the interaction of micro level elements. There is the need of considering many elements: how the external environment influence organizations, how organizations react and translate these influences into their internal elements in terms of culture and instruments, how the pre-existent culture and instruments interacts in this dynamic and influence the result of change. Moreover, despite Habermas (1987) provides also a framework about the possibility of researchers to be actor of change, until now limited interests has been put on more action research approach. This approach has some risks in terms of possibility that researches could develop a distort perception of reality because they are part of that reality. At the same time this approach allows for a deeper understanding of the organizations, because of the different perspective they can have but also because, as actors, they can gain trust within the other members of the organization and have the possibility to acquire greater and deeper amount of information.

This paper has attempted to open the discussion over potentialities and risks connected to use more complex approaches in studying management accounting within healthcare organizations and it is based on the assumption that a methodological pluralism could improve our understanding of accounting in healthcare organizations (Abernethy et al.2007). In this respect it does not pretend to conclude that complex approaches are the most suitable, it only aims at reflecting over alternative approaches. Researchers could choose do study in dept the organization or the external environment and acquire deep and precise understanding of these aspects. Otherwise researches could chose to use a broad perspective less precise in terms of details collectable but richer in terms of interpretations of results.
# Appendix 1 Analyzed researches: details

<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Category</th>
<th>Research context</th>
<th>Methods</th>
<th>Political and historical Context</th>
<th>Topic(s) analyzed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abernethy M.A., Stoelwinder J.U. (1990), “The relation between organization structure and management control in hospital”, <em>Accounting Auditing and Accountability Journal</em>, 3(1), pp. 18-32</td>
<td>Rational</td>
<td>Australia</td>
<td>Questionnaires to 193 subunit managers in four large Australian hospital (medical, health professions, administrators)</td>
<td>Not explained</td>
<td>Relationship between the organizational level (medical, health professions, and administrators) and the use of management control tools</td>
</tr>
<tr>
<td>Abernethy M.A., Stoelwinder J.U. (1991), “Budget use, task uncertainty, system goal orientation and subunit performance: a test for the fit hypothesis in not for profit hospitals”, <em>Accounting organization and society</em>, 16(2), pp. 105-120</td>
<td>Rational</td>
<td>Australia</td>
<td>Questionnaires to 192 subunit managers in four large Australian hospitals</td>
<td>Not explained</td>
<td>The effect on subunit performances of the interaction between subunit managers' use of budgeting for performance evaluation, tasks uncertainty and system goal orientation of subunit managers</td>
</tr>
<tr>
<td>Arnaboldi M., Lapsley I., (2004), “Modern costing innovations and legitimation: a health care study”, <em>Abacus</em>, 40(1), pp.1-20</td>
<td>Institutional</td>
<td>UK</td>
<td>Documentation, archival records, observation of software demonstrations of activity based costing, interviews with key informants over a certain numbers of years</td>
<td>Desire of this organization working on the supply chain for the collection of blood donations to move towards a “complete organization” that is an organization able to present itself as if it operates in a similar fashion to major private sector corporation. This desire was within an external pressure determined by many events such as AIDS and BSE; these events required higher safety measures and consequently higher costs, thus requiring higher control on costs.</td>
<td>To study the introduction of a new costing techniques - ABC - as an accounting language able to create as new social construction able to change organization and legitimate the organization as modern.</td>
</tr>
<tr>
<td>Author(s)</td>
<td>Category</td>
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<td>Methods</td>
<td>Political and historical Context</td>
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<tr>
<td>Broadbent J., Laughlin R., Read S. (1991), “Recent financial and administrative changes in the NHS: a critical theory analysis”, <em>Critical Perspectives on Accounting</em>, 2, pp. 1-29</td>
<td>Critical (Habermas)</td>
<td>UK</td>
<td>Examination and collection of some of the main reforms the Department of Health used to influence the NHS</td>
<td>Reforms in UK from 1979 to 1988</td>
<td>To analyze to what extent the UK government has attempted to steer the NHS in a direction which is amenable to the lifeworld of NHS, with a set of mechanism introduced by reforms</td>
</tr>
<tr>
<td>Campanale C., Cinquini L., Tenucci A. (2011), “Do management accounting systems influence organizational change or vice-versa? Evidence from a case of constructive research in the Healthcare Sector”, 34th EEA Annual Congress</td>
<td>Critical (Habermas)</td>
<td>Italy</td>
<td>Interviews followed by action research</td>
<td>Reforms aiming at promoting more efficient organizational structure</td>
<td>To study which elements of the process of change of management accounting make this tool suitable for clinicians requirements</td>
</tr>
<tr>
<td>Cinquini L., Campanale C.(2010), “Integrative interactive management and control in healthcare organizations: evidence from a qualitative research”, 33rd EEA Annual Congress</td>
<td>Critical(Habermas)</td>
<td>Italy</td>
<td>Interviews, questionnaires and document analysis to clinicians to different organizational levels and controllers of all Local Health Authorities of an Italian region</td>
<td>Reforms on the sector on the pursuit of growing clinicians’ accountability for results</td>
<td>To study if and how management accounting is able to change according to the external environment and if and how it is able to transmit external environment principles to clinicians</td>
</tr>
<tr>
<td>Fitzgerald, L. (1994), “Moving clinicians into management: a professional challenge or threat?”, <em>Journal of management in medicine</em>, 8, pp. 32-44</td>
<td>Interpretative research</td>
<td>UK</td>
<td>Longitudinal analysis: before and after training for clinicians, in a cohort of clinicians</td>
<td>NPM Reforms</td>
<td>What has motivated clinicians to accept a managerial role? Which is the nature of the clinical management role? How clinicians perceive their new position?</td>
</tr>
<tr>
<td>Jacobs K. (1995), “Budget: a medium of organizational transformation”, <em>Management Accounting Research</em>, 6, pp. 59-75</td>
<td>Critical(Habermas)</td>
<td>New Zeland</td>
<td>Interviews to 42 staff clinicians and managers of four hospitals; observation, document analysis</td>
<td>Implementation of clinical directorates and clinical budgeting</td>
<td>How and why these reforms have been absorbed</td>
</tr>
<tr>
<td>Author(s)</td>
<td>Category</td>
<td>Research context</td>
<td>Methods</td>
<td>Political and historical Context</td>
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<td>Jones C.S., Dewing I.P. (1997), “The attitude of NHS clinicians and medical managers towards changes in accounting control”, <em>Financial accountability &amp; Management</em>, 13, pp.261-280</td>
<td>Institutional</td>
<td>UK</td>
<td>Semi structured interviews with 38 members of staff (clinical directors CDs, service managers SMs, operational managers OMs, finance staff</td>
<td>Delegation of responsibility to doctors</td>
<td>Attitudes of clinicians towards changes in accounting controls associated with these reforms</td>
</tr>
<tr>
<td>Kurunmaki L. (1999), “Professional vs financial capital in the field of health care: struggles for the redistribution of power and control”, <em>Accounting Organization and Society</em>, 24, pp.95-124</td>
<td>Critical (Bourdieu)</td>
<td>Finland</td>
<td>Interviews and observation in in one university and two central hospitals. Thirty-two interviews were held with persons working hospitals and related organizations (hospitals mangers, financial managers, doctors, nurses, health economists, an accountant and a municipal representative) In addition, 41 meetings were observed, including meetings between hospital representatives and municipal decision-makers, between hospital managers and clinical unit representatives, hospital management group meetings, as well as meetings of chief physicians and ward sisters.</td>
<td>Transition to market based control in Finland</td>
<td>The expectations associated with the transition to market based control mechanisms in the field of health care, and the experiences of those directly involved in this transition by examining the power games that characterize the field of health care in Finland.</td>
</tr>
<tr>
<td>Kurunmaki L., Lapsley I., Melia K. (2003), &quot;Accountingization v. legitimation: a comparative study of the use of accounting information in intensive care&quot;, <em>Management accounting research</em>,14, pp. 112-139</td>
<td>Critical (Habermas)</td>
<td>Finland and UK</td>
<td>30 semi-structured interviews in 2 Finnish and 2 British hospitals, with two distinct groups: (a) those members of the ICU team who were concerned with the management of resources and taking clinical decisions and (b) finance and management staff in the hospitals in this study. This data was supplemented by an examination of the accounting details, budget profiles, staffing levels and other documentation and policies, reports and statistics concerning the costs of provision of intensive care.</td>
<td>NPM Reforms</td>
<td>The role of management accounting in organizational life</td>
</tr>
<tr>
<td>Author(s)</td>
<td>Category</td>
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<td>Institutional</td>
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<td>management budgeting and resource management initiatives</td>
<td>Examining attempts to influence the activities of medical professionals by the mechanisms of introducing clinical budgets aiming at making clinicians financially accountable for their actions and attenuate their clinical freedom.</td>
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<td>Managerial changes for GPs introduced by reforms in UK: (1) introduction of medical audit (2) introduction of indicative drugs amount (3) managerial shift in the working of the Family Health Service Authorities (4) new GP contracts</td>
<td>To study if the fundamental values, beliefs, norms (the interpretative scheme) of GP practices have changed with the introduction of disturbances coming by reforms.</td>
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<td>New Zealand</td>
<td>Interviews to senior hospital staff in Waikato region: general managers finance, general managers information system, divisional accountants, clinicians and operational staff</td>
<td>Reforms promoting the role of healthcare organizations as “successful business”</td>
<td>The way in which accounting and their practices are implicated in organizational changes.</td>
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<td>Case study in one university hospital: (1) semi-structured interviews with: general manager, managers of the financial affairs, two managers of clinical directorates, three clinical managers in different departments, one manager of a specialist division and three staff specialists from the finance department, 13 physicians from one medical department (2) document analysis</td>
<td>NPM Reforms</td>
<td>Link between budget accounting information and decision making process at both strategic and operational level</td>
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Integrative-Interactive Model of Management Accounting and Control in Healthcare organizations: evidence from a qualitative research

Table of contents

1. Introduction

2. The theoretical model

3. The research context

   The health care sector in Italy

   The Tuscan Health Care Regional System

4. The research methodology

5. Findings

   a) The process of change of MAS - The integrative-interactive model

   a) The impact of the integrative-interactive model on MAS characteristics

   b) The role of MAS in driving changes in the interpretative scheme

6. Discussion and concluding remarks

Appendix 1 Sample of relevant interview questions

Appendix 2 Interviewees, details

1 This paper is co-authored with Lino Cinquini
Integrative-Interactive Model of Management Accounting and Control in Healthcare organizations: evidence from a qualitative research

Abstract
The purpose of this research is to analyze the role of Management Accounting System (MAS) in the healthcare setting (HC) focusing on how MAS has changed and how it plays a role in the dialectic between clinicians’ culture and administrative requirements. In particular, this paper is interested in analyzing (1) how MAS has been able to change and absorb influences from the external environment (Regional and National Government) and (2) if and how the model of change of MAS may have broader implications for the whole organization. To this aim, the theoretical framework traced by Habermas and refined by Laughlin and by Broadbent and Laughlin has been basically adopted. This model suits our purposes because it particularly underlines the interaction between the external and the organizational context and the interaction between internal elements of the organization in the process of change. This model has been integrated by the findings of Greenwood et al. (1988) who suggest organizational factors which could affect deeper changes in organizational interpretive schemes (morphogenetic changes). These factors are mainly related to cultural issues and have not been explored empirically. In this respect, the paper provides evidence that have not been explored yet empirically but also extends the research to factors not only linked to organizational culture, but also to the role played by MAS tools and processes in change.

The research has been developed in Italy and has involved 12 Local Health Authorities (Aziende Sanitarie Locali LHAs) and all 4 Teaching Hospital (Aziende Ospedaliere Universitarie THs). In this respect, this research context has not been adequately explored by similar research.

The original value of this paper stands on the complexity of its approach and in its findings. In fact, this research considers both organizational and external aspects and found in organizational aspects some peculiarities of MAS that can support its role of promoter of morphogenetic changes.

Keywords – Management Accounting Change, Organizational changes, Habermas, Morphogenesis
1. Introduction

*Clinical accounting and budgeting* traced their origins in reforms of 80’ and 90’ which have interested all European countries as well as US countries. These reforms, often named New Public Management reforms (NPM reforms), aimed at increasing a great control on costs and a great accountability for doctors’ results in terms of costs and quality. Within these reforms we can recall some initiatives such as the creation of a sort of internal market and the introduction of perspective method of payment (PP), both aiming at increasing efficiency and control on costs. The concept of internal market aimed at promoting efficiency my mean of a great competition within hospitals. On the other side, the PP, which substituted the previous method based on the evaluation of ex post expenditure, aimed at making hospitals responsible over a great control on costs in the provision of services. The PP was based on a classification of diseases called Diagnosis Related Groups (DRGs). These reforms come after a period of growing expenditures which threatened the sustainability of the whole system and their ultimate goal was to impact on clinicians decision making, after a period of clinicians’ monopoly and autonomy in decision making.

MAS has been the tool used by organizations to impose these changes to clinicians and attempt to influence their culture. In this respect, when MAS is able to change and forward these changes to the rest of the organization, and in particular to culture, broader organizational change occurs. If MAS fails in this attempt, culture resists or rejects changes and the organization faces internal inconsistencies and conflicts.

This research is a contribution to a deeper understanding of how MAS has changed in order to transmit to clinicians principles proposed by reforms, thus finally determining broader changes in organization towards a new equilibrium. This research uses a complex approach, it means that both the external context and characteristics of MAS has been considered.

These issues are explored through a qualitative analysis developed in Italy and in particular in one region, Tuscany Region. This research involved all 12 LHAs and 4 THs of this region with a close examination of one LHA. The interpretation of the role of accounting in healthcare organizations is grounded on the model developed by Habermas (1987) and adapted by Laughlin (1991) and by Broadbent and Laughlin (2005). Within this theory changes in organizations can be observed as an interaction between tangible and intangible elements of organizations (internal environment) and between organizations and society (external environment). Within this model MAS plays a role in the interaction of these elements towards a situation of equilibrium, which means that all elements are coherent each others. With reference to healthcare organizations this scheme has been applied in previous research by Broadbent et al. (1991), Laughlin et al. (1992; 1994) Kurunmaki et al. (2003),
Jacobs (1995) and by Agrizzi (2009), to interpret how characteristics of healthcare sector or of healthcare reforms have influenced the process of changes of healthcare organizations and in particular clinicians’ culture.

In particular the papers by Broadbent et al. (1991) and by Laughlin et al. (1992) adopt an external perspective and analyzes the broad nature of approaches used by government to influence the healthcare system. The papers by Laughlin et al. (1994), Jacobs (1995), Kurunmaki et al. (2003) and by Agrizzi (2009) focused on MAS changes and MAS impact on clinical culture, but they do not analyze in dept how characteristics of organizations could impact on the result of change. Moreover these researches are based on interviews or case studies within a limited number of organizations of the healthcare systems analyzed.

The paper by Greenwood et al. (1988) suggested many organizational factors whose occurrence could facilitate morphogenetic changes, but these factors has not been explored yet empirically. Moreover these factors are mainly related to characteristics of organizational culture, while aspects related to MAS are not mentioned.

Findings of our research support the idea that elements that could affect the capacity of MAS to be involved in morphogenetic changes stand not only in external context related aspects but also in organizational aspects. Organizational aspects are linked both to culture (as suggested by Greewood et al. (1998)) and to characteristics of MAS both in terms of its tangible characteristics and in terms of approach in its introduction and use.

Findings underline that MAS could be implicated in broader organizational changes, when it is developed and used by mean of an interactive integrative approach. This approach is based on an integration between users of information – clinicians – and providers of information – controllers. However, this model works only when top management and middle management are involved in diffusing cultural changes towards lower levels of the organization. Otherwise, despite the integrative interactive model morphostasis occurs. In this picture the way in which the external environment interact with organization could also prejudice changes, despite organization efforts.

The remainder of the paper is organized as it follows. First the components of the conceptual framework of the research are explored: the view of society traced by Habermas and refined by Laughlin (1987,1991) and by Broadbent and Laughlin (2005) and how MAS is implicated in organizational changes.

Afterwards, the context of the research in this study is described, i.e. the evolution of Italian and Tuscany Region healthcare sector and the need to diffuse MAS tools use.
Then the methodology and the method are explained and supported. The study has been carried within a broader research project, whose aim was to support the introduction of innovations in MAS used by LHAs.

The first part of the broad research project dealt with the exploration of the current situation in terms of use of managerial tools by physicians and main problems faced. This research describes the findings of this first part of the broad research project. The adopted qualitative interpretative approach is documented by data collected with interviews, questionnaires and documents analysis. This research involved all LHAs and THs of the Tuscany regional healthcare system. Results are not generalizable, and this was not the aim of this research, however this method allows for a broad and general investigation on how characteristics of organizations analyzed could impact on the result of changes within the same healthcare system. Then findings are described and linked to the theoretical framework explored in the first part. At the end discussion and final conclusions are provided.

In this paper, MAS is intended in a broad meaning, in terms of “collection of practices, such as Budgeting and Product Costing, whose systematic use supports the achievement of some goals” (Chenhall, 2003).

2. The theoretical model

Habermas’ social theory (1987), developed and refined by Broadbent et al. (1991), Laughlin (1987, 1991) and Broadbent and Laughlin (2005), represents a valuable contribution; it addresses the complexity of healthcare organisations in terms of its internal elements interaction and organisation and external environment interaction. If we combine Habermas (1987) with its refinements by Broadbent et al. (1991), Laughlin (1987, 1991) and Broadbent and Laughlin (2005) we obtain the model described in figure 1.

In this model we have a macro level (society) and a micro level (societal organizations). They are both composed of tangible and intangible elements.

Lifeworld, at societal level is the less tangible element. It is a cultural space that articulates the culture of individuals, society and personality. Culture is the stock of knowledge that individuals use to interpret and understand things in the world. Society concerns the order through which individuals regulate their membership in a social group. Personality concerns competencies that make a subject capable of speaking and acting and asserting his/her identity. Lifeworld is not static but evolves through time, according to culture, society, personality and to other external elements.
Systems of actions/societal organizations represent organizations working in society (e.g., corporations, local health authorities, schools and universities). They are basically the expression of the less tangible lifeworld.

Steering media/societal institutions, at societal level are mechanisms—such as power systems—that steer the communication and interaction between lifeworld and systems of action/societal organizations. The role of steering media/societal institutions is basically to assure a coherence between lifeworld and systems of action/societal organizations. Governments are examples of steering media/ societal institutions. In modern societies steering media/societal institutions, through laws try to influence societal organizations and their own lifeworld.

Also societal organizations have they own lifeworld, systems and steering media, called respectively interpretative scheme, subsystems and design archetype. When the interpretative scheme and subsystems are coherent each other the organization is in equilibrium (Miller and Friesen, 1984; Mintzberg, 1989), otherwise tensions could arise. The role of the design archetype is just to balance and make coherent interpretative schemes and subsystems. MAS is an examples of design archetypes. In healthcare sector, for example, the interpretative scheme could be the clinicians’ culture; the design archetype could be represented by MAS, rules and system of responsibilities; subsystems would be represented by behaviours, actions, spaces, technologies etc.

When This model is useful to trace the relations between societal institutions and societal organisations.

**Figure 1-** Interaction between external environment and internal elements of the organization [Adapted by Habermas’ framework of Society refined by Broadbent and Laughlin (2005) and Laughlin (1991)]
When there is an equilibrium between elements of the organization, the organisation tends toward inertia. This means that its internal arrangements tend to be stable and resistant to change (Laughlin, 1991, Miller and Friesen, 1984). This inertia can be interrupted only by environmental disturbances (Laughlin, 1991), which means some external uncontrollable factors that require a change in the organisation. In this perspective, the process of change in organizations is started by societal institutions (i.e., governments), which try to influence societal organisations, for example by introducing laws or reforms which impact on organizations. Usually, at first, the process of change affects subsystems: for example new procedures are introduced. Changes in the interpretative scheme are longer and more complex. This dynamic of change is typical of all public services, as well of healthcare services, where government continuously try to influence organizations.

Two kinds of changes can follow societal institutions’ attempts to influence the societal organisations: morphostasis (first-order change) and morphogenesis (second-order change) (Smith, 1982; Robb, 1988; Laughlin, 1991). Morphostatis occurs when the change in the organisation affects design archetype or subsystems but does not really affect the core of the organisation - the interpretative scheme. There is a reluctance of the organisation to accept the change and a tendency to return to the pre-existing situation. For example, in the healthcare sector, morphostatis could occur when the government (societal institutions) assigns to LHAs (societal organisations) goals that are politically oriented and that do not answer to real health requirements. The societal organisations could react by modifying subsystems, for example they can drive behaviours and actions by mean of new procedures. To influence and control actions, the organisation may then modify the design archetype MAS and in particular the budgetary system by introducing specific goals. Obviously, in this situation subsystems and design archetypes do not reflect the current culture (or interpretative scheme). The interpretative scheme reacts in a defensive manner and rejects the use of budgetary system or decides to apply this system in a different manner more aligned with its attitudes. At first, it could seem that there is an equilibrium, but, over time, we can expect a return to the previous organizational configuration and a rejection of change. The change wished by societal institutions does not provide expected results because the interpretative scheme drives the change in the opposite direction.

In contrast, morphogenesis (second-order change) is a change that penetrates deeply into the core of the organisation and brings a permanent modification of the organisation. This change affects the interpretative scheme of the organisation. Morphogenesis can occur through a (1) colonisation or (2) evolution. They both bring about deep change in the interpretative scheme but, whereas colonisation is a sort of forced change of individuals, evolution is chosen by individuals freely and
without compulsion (Laughlin, 1991). Colonisation is the more frequent phenomena compared to evolution.

In case of morphogenesis, societal institutions obtain changes wished in all the elements of the organisations, interpretative scheme included. In the healthcare sector, a coherence in the whole organisation is possible if the external environment is able to modify subsystems and, through design archetypes, also the interpretative scheme.

The study of the design archetype MAS—as an element able to absorb influences from the external environment and to transfer these external influences to other elements of the organization—is an interesting topic. While systems adapt to external environment and change more easily, the interpretative scheme is more resistant to change. In this picture the challenge for MAS is to be able to impact on the interpretative scheme. In this perspective MAS practices are not simply a technical work or a map of reality independent of the accountants: they are subjective practices opened to adjustments and negotiations needed in order to get organizational coherence.

The way in which knowledge is represented influences the mode of reasoning and controls the definition of social and organisational reality, making accounting able to create a new ontology of facts by reframing an organisation in economic terms (Power and Laughlin, 1992). This means that there is not independent reality that MAS simply represents: MAS can be implicated in creating this reality. For example, in defining objectives MAS, through the budgetary system, delineates “what you must be accountable for”, thus influencing broader questions of accountability and behaviours.

To describe the ability of MAS to influence the interpretative scheme/culture of an organisation, it is important to consider its role in supporting coherence between elements of the organisation and external environment.

To colonise the interpretative scheme, the controllers, in the definition of MAS tools, cannot be only “specialists without vision” but should instead extend their calculus beyond all phenomena of the organisation. For example, in healthcare accountants should find the way the represent all aspects of health services. For example, regarding a treatment they associate cost information and quality indicators, or they can map activities of a treatment and associate information and clinical activities. In other words, if MAS was able to capture clinical reality and to reframe it in managerial and economic terms it could influence and colonise clinical decisions. The context of HC has been an object of research in this respect and the evidence has shown the extent to which the domain of clinical action has become influenced by accounting initiatives despite complex forms of resistance (Preston et al., 1990).

In the light of the aforementioned framework and categories proposed the aim of this paper it to interpret the role of the design archetype MAS within the context of the Italian HC. In this respect,
previous studies have analyzed this topic within this framework (see for example Broadbent et al. (1991), Laughlin et al. (1992; 1994) Kurunmaki et al. (2003), Jacobs (1995) and Agrizzi (2009)). They analyze mainly how characteristics of reforms have affected changes in the interpretative scheme, but they did not look at how characteristics of organizations impact on the results of changes wished by reformers. The studies by Broadbent et al. (1991), Laughlin et al. (1992; 1994) Kurunmaki et al. (2003), Jacobs (1995) and Agrizzi (2009) specifically look at the impact of the so-called New Public Management Reforms on the interpretative scheme. They analyze in depth the attempt of governments to influence organizations by means of steering mechanisms, such as laws and reforms. Their analysis is focused on characteristics of reforms and if these characteristics have influenced their success in terms of results expected by reformers. In particular Broadbent et al. (1991) and Laughlin et al. (1992) examine and collect information and documents about reforms. On the other side, Laughlin et al. (1994), Kurunmaki et al. (2003), Jacobs (1995) and Agrizzi (2009) use case studies to analyze how clinicians reacted to NPM reforms but they do not analyze if some characteristics of organizations, such as approach to the introduction of MAS or characteristics of MAS, could have impacted on results expected by reformers.

Greenwood et al. (1988) relates in general to factors able to support morphogenesis. They add to the external context other organizational factors whose occurrence could facilitate morphogenetic changes, but these factors have not been explored yet empirically. Moreover these factors are mainly related to characteristics of organizational culture, while aspects related to more tangible aspects, such as MAS tools, are not mentioned.

Greenwood et al. (1988) address five specific factors:
- the strength of the constraints and pressures on change, which destabilise the organisation
- the level of commitment to the existent interpretative scheme held by participants, which affects the attitudes to promote alternative interpretative schemes or inertia toward changes
- the power dependencies that affect structural changes to the extent to which the dominant coalition is dissatisfied with the accommodation of its interests, and therefore agrees to a destabilising process
- the interests of individuals, affecting their willingness to change depending on the level of satisfaction with a particular arrangement compared with their own interests
- the organisational competences and capabilities

Regarding the first factor - constraints – they are related to particular contingencies that modify situational circumstances/contexts and which create pressure for a change in the organization. Typical circumstances/contexts considered are the environment, technology and size. When this circumstances/contexts change, they create pressure on the organization and produce a need for a
response by the organization. When contingencies create severe\textsuperscript{2} contradictions between circumstances / context and organization there is a need for a change to occur. Severe contingencies create higher contradictions between the organization and circumstances/context, thus bringing to a greater change. On the other hand, when contingencies do not create contradictions between contingencies/context and organization, inertia is most likely to occur. Regarding the second factor – the level of commitment held by participants – it relates to attitudes of individuals to promote alternative interpretative schemes or their inertia versus changes. As underlined previously, systems are the expression of interpretative scheme, so the higher is the commitment to the existent interpretative scheme the lower is the possibility for change. Regarding the third factor – the power of dependencies – Greenwood et al. (1988)) started by arguing that the organizational design serves the interests of some groups of individuals and acts as delineator of advantages and privileges. Organizational arrangements are typically in accordance with a dominant coalition’s interpretative scheme. Structural changes are affected by the extent to which the dominant coalition is dissatisfied with the accommodation of their interests, and by the ability of this coalition to protect and express its interests. In authors’ view, if the dominant coalition is satisfied with its arrangement of interests, organization will tend to inertia, vice-versa, if the dominant coalition is not satisfied with its arrangement of interests, it can operate as a destabilising element. Regarding the fourth factor – interests of individuals– they argue that the higher is the level of satisfaction of a group of individuals with a particular arrangement compared with its own interests, the lower is their will to change, and the lower is the level of satisfaction of a group about the present arrangement, the higher is their will to change. Regarding the last factor – the competences and capabilities – the authors underlined the role of senior managers of the organization in promoting changes. Senior managers are in a position where they are responsible for the evolution of the interpretative scheme. As the culture of the senior managers makes him/her willing and able to change he/she becomes a leader of the change. In order to become leader also skills and knowledge are required. Concluding the greater are competences and capabilities (made of culture, skills and knowledge) the greater is the potential for change.

Other researches by Dunphy and Doug (1988) and by Smith (1982) found that a morphogenetic change is favoured when it occurs through a collaborative approach between individuals in order to facilitate a common organizational vision based on shared values.

The described framework provides the opportunity to study MAS using a complex approach, by looking at many elements at the same time: the external context and the organizational environment

\textsuperscript{2} With severe contingencies they mean that there are multiple contingencies that bring to different directions
and how they affect changes in organizations. In this respect previous researches have not exploit completely potentialities of this approach. This research is based on the assumption that changes should be located in a specific historical context, but that characteristics of organization can influence changes as well.

3. The research context

The health care sector in Italy

The Italian national health system (*Servizio Sanitario Nazionale*: SSN) was issued by the the law n. 833/1978 named “Institution of the National Health Care Service Act” (Marcon and Panozzo, 1998; Jacobs et al, 2004). The previous health system was quite fragmented with a number of providers and a number of mutual funds. Health services were provided by a number of independent and autonomous agencies. Moreover a number of heterogeneous mutual insurance associations covered only people employed and not all citizens. Services financing was based on single contractual arrangements between providers and agencies and this contributed to a continues increase in debt for agencies. In this scenario law 833/1978 introduced a regulation in healthcare sector whose main points were (1) greater State involvement and (2) “health as a universal right” with equal access for all citizens to healthcare service. Regarding the governance structure of SSN, law 833/1978 defined a structure based on three levels with decentralization of responsibility : the national, the regional and the local. The national and the regional level had a role of coordination and planning, while the operational part was demanded to the local level. At the national level the Ministry of Health, through the National Health Plan and the National Health Fund, exercised a central regulation of the SSN. In this role the Ministry of Health had constraints defined by politicians, in this case by the Parliament and by the Treasure for decision regarding the National Health Found. At the regional level a politically elected body, through the Regional Health Plan, coordinated the provision of services. Services were then provided by Local Health Units (LHUs) (Unità Sanitarie Locali USL) which were managed by another political level, the Council. The decentralization aimed at promoting a policy of diffused supply of health services but, despite decentralization, the management of health services has continued to be much influenced by politicians. In this context, funding was essentially based on demand-oriented criteria (such as capitation) and not on activities performed (Fattore and Torbica, 2006) and ex post arrangements were used to cover systematic deficits (such as ex post actual expenditure). LHU used a financial accounting in order to register expenditure and ask for funding. In this context there was no role for cost accounting – if
implemented - as an instrument for the management of services, but only as an instrument for funding requirement.

In 1990 the Italian government faced a growing public deficit, rising to a large extent from health care system. This debt was influenced by many factors (Hanau and Muraro, 1987): decrease in working population and increase in elder population; use of technological innovations, increase in hospitals and institutional apparatus devoted to running the healthcare system; increase in healthcare expenditure. In this condition the government moved towards different policies in order to reduce expenditures. Most important law was the law n. 502/1992 and its further revisions. This law attempted to subordinate the public sector to the private sector operational models in order to guarantee greater efficiency of services providers (Kurunmaki, 1999).

Law n. 502/1992 introduced a set of reforms, commonly known as New Public Management Reforms (NPM Reforms). Main elements introduced by this law were: the abolition of the central political planning, a confirmation of regions’ responsibility over planning and LHUs responsibility for operations. These reforms put higher emphasis on performances and results and created also a sort of internal market (Lapsley, 1994) where citizens could exercise their choice within all providers both in terms of hospital care and outpatient care (Marconi, 1997). The introduction of an internal market aimed and increasing competition between providers and was linked to the reorganization of LHUs as autonomous firms (Autorità Sanitarie Locali, Local Health Authorities (LHAs). The concept of autonomous firms was linked to two main aspects: greater delegation for the organization and the provision of health services and responsibility for results. LHAs assumed a legal personality as firm and acquires autonomy in all the administrative aspects such as organization, assets, legal aspects (Libro bianco sui principi fondamentali del servizio sanitario nazionale, 2008) The aim was to confirm the entrepreneurial nature of LHAs in order to sustain a more efficient use of resources.

Within LHAs these responsibility were delegated to doctors by mean of clinical budgeting. Clinical budget where assigned to doctors in charge of a department or of a unit and was based mainly on financial measures on resource consumption. The aim of clinical budgeting was to contain cost of LHA by mean of a tight control on doctors’ resource consumption.

While, previously the emphasis was on political compliance, reforms of the nineties put emphasis on performance and results. A fundamental distinction of responsibility was set: politicians were responsible for policies and goal setting while managers were responsible for the administration and accountable for achieving results. Under this scheme salary of managers should vary according to performance (Marconi, 1997).
Law 502/1992 introduced also the use of accrual accounting (revenues and costs) which substituted the previous financial accounting (income and outcome). Moreover with this law the use of MAS tools and the establishment of a specific office (*Controllo di Gestione* - Controller office) dedicated to the elaboration of MAS information become compulsory.

Reforms of ‘90 introduced a method of financing based on population adjusted for demographic and epidemiological characteristics of the region, with a full compensation for patients’ mobility both active (inwards) and passive (outwards). Even if this was a perspective approach, like DRGs (*Diagnosis Related Groups*), further funding could be provided to adjust systematic deficits. Evidently this approach did not create high pressure on cost containment.

At the end of ’90 law 42/1999 introduced a radical change in the financing system. The new financing system, which has been applied only recently, is based on a per-capita standard cost for each kind of service. Standard cost is determined as the average cost of the three best performing regions in Italy. Under this system, regions that will be able to provide services within standard cost can retain savings. These saving can be employed in further investments. Regions that will be in deficit will be punished and further measures will be taken. As DRG, this prospective payment shifts substantial cost risk to hospitals (Evans et al., 1997), thus it requires more sophisticated approaches to hospital budgeting and costing (Kerschner, Rooney, 1987). Evidently this approach requires more efficient behaviours. In this context efforts for cost containment involve all individuals: the introduction of clinical budgeting is no more sufficient, if its use is not embedded in clinicians’ culture.

In the Italian Healthcare System there are twenty-one Italian regions - and therefore 21 HC regional systems,- while at the local level there are the 228 LHAs with a relatively high level of decentralization to the regional and to the local level: the state still maintains a predominant role in the provision of health care and continues to provide a coordination of all 21 Regional Healthcare Systems, but within National direction, Regions are quite free to choose the organizations of their services and are accountable for the efficiency and for the effectiveness of the health care delivery (Abernethy, Vagnoni, 2004).

Since ’90 these firms are run by a General Manager. The General Manager is appointed by the Regional Government, according to specific requirements, and his/her work is regulated by a public regulated contract. The political appointment guarantees coherence between the regional and the local planning but the evaluation of the General Manager is based only on results of his/her firm in terms of ability to stay within the assigned budget and to get assigned goals. Responsibility concerned with his/her capacity to run the organization with efficiency and effectiveness and stood in his/her capacity to stay within assigned resources. Also his/her eventual dismissal is regulated by
the contract. The General Manager is supported by the Financial and the Sanitary Managers. The General Manager appoints the Administrative and the Sanitary Manager and all middle managers. Each LHA runs three kind of services - acute care (Hospital), primary care (Cure primarie) and public health (Prevenzione) – as a unique trust. There are also teaching hospitals which are independent. All services are characterised by a high level of delegation of the decisional power. Hospitals are usually managed by a Hospital Manager, and Public Health Services have their own manager: both are doctors. At the primary-care level, there is the highest level of decentralisation because these kinds of services require a finely divided distribution over a given territory. LHAs are grouped into districts (on average, each LHA has three districts), each with its own responsible person (who is also a doctor).

The Tuscan Health Care Regional System

This study has been developed in one Italian Region (Tuscany) and it analyses all LHAs and all THs of this region. This study has been undertaken within a broader research project aiming at introducing managerial innovations in MAS tools. In the Tuscany Region, there are 12 LHAs and 4 THs (we will use the term LHA for both when speaking in general terms).

In our research setting, accountability is usually organised as it follows. The lower level of accountability is represented by a medical doctor in charge of units/specialities, e.g., gynaecology or orthopaedics. These units/specialities are then grouped into departments based on their natures, i.e., surgical specialities or medical specialities. Every department is managed by a medical doctor who coordinates all units within the department and who is accountable for the performance of the whole department. Head of department has broader goals, whereas heads of unit have more specific goals related to the general goals assigned to their head of department. Both heads of department and of unit must achieve both managerial and clinical goals; therefore, they are “managers” and they are responsible for the performance of their whole department/unit.

The controllers' office is usually composed by two or three people with specific competencies: there are usually controllers who are dedicated to the budgetary system and controllers dedicated to the accounting system. In each LHA, there is one controller’s office that supports all the LHAs (Hospital, Primary Care and Public Health). Their rise is quite recent in the Tuscany Region; their average age is around 10 years.

The Regional Government is supported by several institutions in the management of all LHAs: the Management and Health Laboratory, belonging to a public university (Scuola Superiore Sant’Anna - Pisa), which provides support in performance evaluation and improvement; the Regional Health
Agency, which provides mainly epidemiological indications; and other specific institutions or groups of professionals, i.e., groups supporting the quality of public health activities.

Within the framework of the aforementioned national reforms, the Tuscan Regional Authority has introduced reforms and innovations oriented toward the promotion of higher efficiency, effectiveness and quality over the whole system. The Tuscany Health System has consequently shifted from an annual operating loss of about 25 million euro to a savings of 96 million euro from 2000 to 2010. Considering that health expenses represent 70% of the entire regional budget, an efficient management of healthcare services influences the economy of the whole region.

Main interventions in that direction have been: (1) performance evaluation and (2) accountability for the economic impact of decisions. Regarding the first point, performance evaluation, a Regional Performance Measurement System (PMS) was designed and implemented through a joint venture with the Management and Health Laboratory (Nuti et. al 2009). The system is similar to the star rating systems introduced in UK (see Agrizzi, 2008). It evaluates and compare the performances of all activities performed by LHAs (Hospital, Primary Care and Public Health), with a 1-5 scale, over five dimensions of analysis: population health, regional policy targets, quality of care, patient satisfaction, staff/employee satisfaction, efficiency and financial performance. The Regional PMS is also linked to a reward system for General Managers. For public health a specific system – Sistema Prodotti Finiti - was also set to measure the resources consumption, in terms of time spent by personnel in performing activities (Cinquini et al. 2009).

Regarding the second point, accountability for the economic impact of decisions, a limit was set for LHAs annual budget increases: limitations in the availability of additional funding were introduced and, according to the decentralization introduced by reforms of ’90, these limitations were translated to all lower levels of accountability (the heads of hospitals, departments and units). In the pursuit of higher efficiency for all administrative activities, the Regional Government also grouped LHAs into networks called Area Vasta (Vainieri et al. 2009) and introduced organizational innovations in hospitals (Campanale et.al. 2011), primary care (Cinquini and Vainieri, 2008) and public health with the aim to promote a more efficient use of available resources. Regarding organizational innovations the Regional Government emanated some guidelines, then LHAs decided their most suitable asset.

Moreover, to promote higher conscience about management issues, specific recurrent education courses for clinicians have been instituted by the Regional Government. Their attendance is compulsory during the career of doctors in charge of units or departments in their LHA. In this way, there is the possibility to integrate clinical culture with a certain degree of financial competence and
accountability and to combine accounting skills with clinical knowledge (Kurunmaki, 2004); in Tuscany, this process has been gradual and it is still in progress. According with the previously described scheme of Laughlin (1991) this set of reforms have constituted “disturbances”, that have required a change in the organisations. If we look to the impact of disturbances on organization we can see that these disturbances have impacted directly on subsystems in terms of: different organization of work for all services towards more efficient organizations and in terms of different organization of responsibility over results. In response to these disturbances, introduced by the policy makers at national and regional level, LHA have worked on the alignment of the design archetype MAS, to the new organization of work and to the growing need to increase accountability and responsibility for clinicians’ results. In this scenario a change in the interpretative scheme was required to get a new organizational equilibrium by mean of morphogenetic change. In fact in situation of morphostatis the risk of resistances and attempt to reject change is possible. This situation is not wished, if the aim of reformers, want be reached. For this reason LHA has worked on MAS in order to support its ability to influence the clinical decision making process and thus influencing the interpretative scheme. In this respect the process and the result of change of MAS and its impact on the interpretative scheme is the central issue of this paper.

4. The research methodology

The study has been carried out during nine months in twelve LHAs and four THs (we will use LHA for both when speaking in general terms), with a close examination in one department of one LHA (Surgical Department in LHA12) within Tuscany Region in Italy. The study has been carried on within a broader research project, carried on by the Management and Health Laboratory, whose aim was to support the introduction of innovations in MAS used by LHAs. The first part of the project dealt with the study of the current situation in terms of use of managerial tools by doctors and changes faced by MAS. The research we are going to describe is based on interviews and documental sources. We developed semi-structured interviews carried out on two distinct groups: (a) clinical staff at different decision making levels, (b) controllers. Findings are therefore based on the perception of clinicians and controllers. Regarding the first group, we analyzed clinicians at all hierarchical levels: sanitary managers, department managers, unit managers and nurses not in charge a specific unit. We interviewed clinicians to different levels in order to understand if changes in MAS affected clinicians at different positions with different degree.
Interviews were conducted on a set of specific topics regarding MAS. The objective was to understand if and how MAS has changed, the result of changes and if changes in MAS driven by the external context, has been internalized by clinicians’ culture. In particular we asked about the approach used in the adaptation of tools and control processes to the changing environment and about the promotion of an higher integration of these tools with the clinicians requirements. Particular attention has been put in understanding the approach used to increase the clinicians’ awareness of managerial concern and to promote changes in the culture of clinicians toward a more managerial approach to the daily decision making. These aspects have been examined considering the perspective of clinicians (the users of information) and the perspective of controllers (the providers of information) (Appendix 1 provides a sample questions relevant for this paper).


About one month before the beginning of the study a first presentation of the research project took place and participants and top managers were invited. In that meeting the objectives of the project were presented and the arranged plan for the following months shared.

Each interview lasted on average from forty minutes to one hour and forty minutes. All interviews were audio taped and transcribed.

In total, 19 clinicians and 23 controllers were interviewed. Interviews with clinicians covered 10 LHAs, while interviews with controllers covered all LHAs. Clinicians comprises 5 sanitary managers or heads of hospitals, 2 heads of departments, 4 clinical controllers, 3 heads of units, in charge of a speciality (i.e.: orthopaedics, geneecology, internal medicine etc.) and 5 nurses with managerial responsibility (for more details about interviewees see Appendix 2), but without a specific unit assigned. Nurses are responsible for the quality of assistance provided to patients, but not for resources consumption because they have not formally assigned resources, even if they actually manage low cost drugs, consumables etc. In this way we collected information both from the higher levels and from the lower levels of the LHA organizations. Interviews with head of units and nurses were performed in a subsequent moment because, during our research we realized that there was a need of a deeper investigation. In particular, during interviews with heads of departments and heads of hospitals, we realized that perhaps they were the “less problematic” in terms of acceptance of new principles proposed by MAS. They seemed quite happy with the current situation and this sounded strange. For this reason, in a subsequent moment, we asked for a deeper investigation. Unfortunately these additional interviews were out of the scheduling and were made two months after the conclusion of other interviews. For this reason we had the opportunity to explore in dept this topic only in LHA 12 with which we had a strict collaboration. We decided to
do a collective interview in order to get more interesting insights from discussions between interviewees.

All interviews were audio taped and transcribed.

Results were presented and shared during a workshop where participants had the opportunity to discuss and validate findings (Ryan et al., 2002).

Timing and description of steps are shown in Figure 3.

**Figure 2 – Development of the research**

Data from interviews were supplemented by other sources collected. Results of interviews, in some cases, could be explained by considering also some peculiarities emerging from the other sources. In other cases additional information could allow a better understanding of insights coming from interviews and were important to assess the validity of results (Ryan et al., 2002). Moreover these data gained before interviews gave some useful insights for the conduction of interviews.

A brief description of the additional sources follows.

The first source came from short questionnaires sent to controllers. The objective of questionnaires was to gain a general overview about the position of controller’s office within the organization and about principal activities they perform.

The second source came from documents analysis and concerned organizational charts, reports currently in use and examples of budget sheets.

Table 1 summarizes the sources used in the research.
Table 4 – Source of research data collected

<table>
<thead>
<tr>
<th>Source</th>
<th>Number of Evidences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interviews to Clinicians</td>
<td>19*</td>
</tr>
<tr>
<td>Sanitary Managers (different hospitals)</td>
<td>5</td>
</tr>
<tr>
<td>Head of Department (different hospitals)</td>
<td>2</td>
</tr>
<tr>
<td>Clinical controller</td>
<td>4</td>
</tr>
<tr>
<td>Head of Units (Hospital 12 – Department 1)**</td>
<td>3</td>
</tr>
<tr>
<td>Nurses (Hospital 12 – Department 1)**</td>
<td>5</td>
</tr>
<tr>
<td>Interviews to Controllers</td>
<td>23* (16 controller offices)</td>
</tr>
<tr>
<td>Organization Chart</td>
<td>13</td>
</tr>
<tr>
<td>Reports (sample)</td>
<td>46</td>
</tr>
<tr>
<td>Budget sheet (sample)</td>
<td>21</td>
</tr>
<tr>
<td>Budget rules</td>
<td>7</td>
</tr>
<tr>
<td>Cost accounting rules</td>
<td>3</td>
</tr>
<tr>
<td>Other documents</td>
<td>6</td>
</tr>
</tbody>
</table>

* Duration: 1 hour on average each
** Collective interview

5. Findings

In our research context, MAS comprises two main tools: the budgetary system and the accounting system used for the evaluation of the cost of services.

All MAS tools are tightly integrated to provide a broad picture of performances. They also integrate data from the clinical information system that provides information about clinical activities (e.g., number of surgeries, number of treatments and number of exams). The budgetary system for example is a complex and interactive system that integrates indicators about the quality and the efficiency of activities, provided by the clinical information system, and information about resource consumption provided by accounting system.

Budgetary system aims at driving all the organisation towards the achievement of defined goals. Data are expressed both in absolute and in relative terms (i.e., indicators). The budget consists of: (a) a document at the beginning of the year where goals—both in terms of resources and
activities—are assigned to all individuals in charge of a department or a unit and of (b) periodic reports during the year and at the end of the year, where the achievement of objectives is verified. “Ad hoc” reports are also provided on the basis of specific information requirements. Accounting tools are specifically dedicated to the elaboration of cost information. This information feeds the budgetary system and addresses specific information requirements that support certain decisions, such as new investments. According to the theoretical framework findings of the current study are described in this section with respect to the following topics:

a) The process of change of MAS - The integrative-interactive model
b) The impact of the integrative-interactive model on MAS characteristics
c) The role of MAS in driving changes in the interpretative scheme

The topics are analysed considering the perceptions of both controllers and clinicians. While the interviews were conducted separately (except in two cases), we found a congruence between the two perspectives. This finding suggests the existence of a systematic flow of communication between the two parties in all the hospitals of the Regional system. Most relevant and meaningful quotations are reported to support our statements.

a) The process of change of MAS – The integrative-interactive model

The third paragraph describes disturbances introduced by societal institutions – National and Regional Government - to influence societal organizations - LHAs - and in particular their interpretative scheme, by mean of several steering media, such laws, reforms, organizational innovations and regional measurement systems. Aims of these attempts were: higher efficiency by mean of better organization of work; higher regional control over results, higher accountability for clinicians’ decisions. Within LHAs these attempts have directly influenced tangible elements – subsystems. Even if this paper is not focused on changes in subsystems we can recall reorganizations of spaces and work towards more efficient arrangements, more effective and efficient procedures etc. Disturbances has been then absorbed by the design archetype MAS. In particular clinical budgeting has been introduced with a tight control on results. The aim was to answer to political requirements by mean of MAS. However high attention has been put on clinicians’ attitudes in order to support also changes in the interpretative scheme and bring to morphogenetic changes towards new organizational equilibrium.
In this section we will analyze the process and the model of change of MAS as described by actors of this change: controllers and clinicians.

The model of change of MAS, as anticipated in the first paragraph, could be defined as an *integrative-interactive model*.

The *integrative interactive model* could be described as a model of change based on a collaboration between clinicians (the user of information) and controllers (the providers of information). This collaboration operates at all levels of the organisation (sanitary manager, head of the hospital, department head, unit head, nurses and other doctors) and allows for an integration of different knowledge in the process of change of MAS. The *integrative interactive model* works also in the use of MAS. This means that, after changes, the analysis and interpretation of information provided by MAS and the individuation of possible ways to improve performances is done within a collaboration between controllers and clinicians. Within this collaboration controllers support clinicians in these activities.

This collaboration in three cases (LHA 4, LHA 5 and TH 1), consists in a full-time involvement of a clinician as a permanent member of the controllers’ office, in this case clinicians became “clinical controllers”. This appears to be a “good practice”.

The *integrative interactive model* impacts on two aspects: tools and working environment.

Regarding the first aspect, tools, the *integrative interactive model* could allow the adaptation of managerial tools to clinicians’ attitudes, thus favouring the use of these tools and the association of managerial and clinical cultures. Integration is pursued through a communicative process, which involves both clinicians and administrative, to yield a final result negotiated through a mutual adjustment (Pettersen, 1995).

The following quotation describes this concept:

“*The most important issue is a relationship made of alliance with clinicians....the composition of our group has allowed the development of a new manner of negotiation of budget objectives...in fact negotiation of resources starts from the analysis of clinical activities and objectives are often defined in terms of clinical output.... the discussion is based mainly on clinical consideration, then the linkage with resource consumption and costs is elaborated...because we realized that it is difficult for clinicians to understand economic language*” (Controller, LHA 4).

“We are working on the internal processes......in interaction between controllers and clinicians we are mapping all clinical pathways, activities are associated with information related to their
resource consumption and to their results....the objective is to guarantee both the appropriateness of pathways and their efficiency in terms of costs....the objective is not only the quantity but also the quality ...to do the right things in the right time.” (Clinician, LHA 4)

“I have been working as a controller for three years. This role have favoured an higher integration between controllers and medical doctors and higher trust in controllers, because of my link with other medical doctors. The Budget negotiation has improved and now it is an in-pair negotiation. Moreover this relationship have favoured a better individuation of goals and of people able to influence these goals, thus improving performance. (Clinical-Controller, LHA 4).

Since 1995, we (Sanitary Direction) are working with controllers to the structure of reports. The aim is to produce information more clinical oriented. These reports are used both to evaluate results and for the taking decisions (Sanitary Manager LH 2).

We have started to work on a sort of bill of material for services. We started with the surgical department and we worked with dott. XXX (the head of department). Together we mapped costs for a certain number of surgeries. Next step will be to use that information to build a budget, we are moving in that direction… (Controller LHA10)

Regarding the second aspect, working environment, the integrative interactive model facilitates the development of confidence and trust in controllers and reinforces their role of supporters. Trust in controllers feeds their relationship with clinicians and could indirectly impact on perceived trust on MAS.
This finding is also supported by Dunphy and Doug (1988) and Smith (1982), who argue that a collaborative approach favours a change in the interpretative scheme.

My clinical nature favours the process of negotiation and the acceptance of the budgetary system by other clinicians: now they perceive the negotiation not only as a simple process of sharing resources but as the moment that gives them the opportunity to do something new and to improve” (Clinical-Controller, LHA 4).

“The real budgetary process is when we (accountants and clinicians) meet around a table and discuss about objectives. I’m developing an integration with clinicians, because this integration allows the attainment of efficacy, effectiveness, quality and appropriateness of pathways. My idea is
that the budgetary process is not only a formality carried out by administrative. My slogan is “All people make a program, shall we make it together?”....If everyone collaborates in an integrate strong action we can be able to make clinicians more responsible and conscious of budget. Moreover this integration allows the underlining of a set of clinical small peculiarities that, at first glance, are not evident” (Controller, LHA 2)

“.....Budget is communication” (Controller, LHA 12)

“Doctor XXX, before working with us as a controller, was a medical doctor. Certainly a medical doctor with both economic and clinical knowledge can better understand the complexity of healthcare services. For example she can understand if an high expense on a certain drug is appropriate or not. Dott. XXX have favoured also the improvement of the relationship with other clinicians” (Controller, Teaching Hospital 1)

The integrative interactive model and a greater involvement of clinicians in MAS change and use, has been supported by training and education programs for clinicians: the objective of these programs is to transfer economic knowledge to clinicians and some notions of clinical knowledge to administrators. These initiatives are appreciated both by clinicians and by administrators. A clinician had this to say about these initiatives:

“When budget negotiation is concluded, objectives and resources are written in a document (the budget sheet) and in signing this document you become accountable for the attainment of goals. Now, thanks to training and education, it’s easier to understand this document and what we have to do the next year” (Clinical Head of Department, Teaching Hospital 4)

 Administrative personnel appreciate these initiatives:

“These (with reference to training programmes) allow to make them (clinicians) aware that the budgetary system is a useful system: they understand that its objective is not only the control of clinicians’ behaviours. They understand that they can use information from the budgetary system to orient daily decision making and that the negotiation is an important phase that allows the exposition of their planned activities and the requirement of the necessary resources” (LHA 12)
The acquisition of financial and economic skills by professionals is a fundamental step in allowing the penetration of economic considerations into clinical discourse. These conditions create the grounds for organisational learning developed not only by education but also by history and by communication.

b) The impact of the integrative-interactive model on MAS characteristics

MAS has changed, by mean of the integrative-interactive model, mainly in terms of information produced, even if there are still problems linked to the process of individuation of goals.

In terms information produced by MAS it relates to: relevancy and simplicity of information and typology of information. Regarding the first aspect, relevancy and simplicity of information, reports are currently simpler and more synthetic than they were several years ago: they provide only relevant information, a limited number of performance indicators and a growing number of clinical measures. In TH 4, a particular report for heads of unit is now currently produced: it contains a limited number of clinical objectives controllable by recipients. Clinicians appreciate these initiatives because they feel able to control these measures.

“…..Now they feel that they can control these measures……Last year budget sheets were about ten pages of indicators that were not understood by clinicians…they see that document as an imposition….this year with this new structure composed by a limited number of economic indicators and an high number of clinical indicator clinicians understand what we talk about” (Controller, Teaching Hospital 4)

This change intervened because controllers realized that complicated or long reports risk to remain unread. Consequently they worked on their simplification. This behaviours demonstrates a sensibilities of controllers to clinicians’ attitudes. This sensibility is probably a consequence of the integrative interactive model.

If we look to the typology of information we can recall the possibility to associate financial and non financial information and the possibility to associate information to the clinical pathway. Power and Laughlin (1992) argue that association of financial and non financial information allows the “capturing and reframing of clinical activities in economic terms”. Consequently this approach could support clinicians in understanding financial information.
Currently, there is high attention to the association of financial and non-financial information. This assumption is supported by interviews, documents analysis and questionnaires.

“Budget sheet are simpler, there is a limited set of indicators with 90% of clinical indicators and 10% of economic indicators. (Clinician, LHA 4)

Table 5 elaborated considering documents and questionnaires shows that the budgetary system provides different kinds of objectives; at the department and unit levels there are goals in terms of level of activity, i.e., an increase or reduction of a certain treatment, and in terms of costs and resource consumption. This shows the linkage between activities and costs, thus allowing for an understanding of costs and their containment through the management of activities. Other objectives can be linked to the management of resources; for example, regarding human resources an objective, goals could include a reduction of the absenteeism rate and, regarding instrumental and sanitary technologies, the objective could be an increase of the utilisation rate. There can also be objectives in terms of coordination and integration. This is particularly important in the healthcare sector where the clinical pathway is made of activities provided by several actors. For example in a surgical pathway there are many different activities performed by different actors: a blood tests, made by a laboratory, a visit with the anaesthetist, a visit with the cardiologist and the surgery performed by a surgeon. Before and after the surgical operation there are also activities performed by the family doctor. In this respect coordination is verified by assigning the same objective or part of it to more than one person: this highlights the plural contribution to the final result.

<table>
<thead>
<tr>
<th>Goals related to:</th>
<th>Number of evidences</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activities</td>
<td>14</td>
<td>100</td>
</tr>
<tr>
<td>Cost</td>
<td>14</td>
<td>100</td>
</tr>
<tr>
<td>Human resources</td>
<td>9</td>
<td>64</td>
</tr>
<tr>
<td>Instrumental resources</td>
<td>7</td>
<td>50</td>
</tr>
<tr>
<td>Sanitary technologies</td>
<td>8</td>
<td>57</td>
</tr>
<tr>
<td>Coordination and integration</td>
<td>12</td>
<td>86</td>
</tr>
<tr>
<td>Others</td>
<td>3</td>
<td>21</td>
</tr>
</tbody>
</table>

Number of questionnaires: 14
The overall difficulty in “measuring clinical activities” can be partially overcome if financial measures are associated with non financial measures:

“It is very difficult to measure professional activity, but if we can measure, for example, the number of people re-hospitalized for the same pathology in a short period of time, we can say that there is a problem of quality. Moreover for example we can measure if the medical doctor takes care that his patients correctly follow the prescribed treatment; in fact, if the patient starts a treatment but he does not conclude it, we have a waste of resources and a damage of his health, and this is also a responsibility of the medical doctor” (Sanitary Manager, LHA 1)

Another interesting aspects, in terms of information produced by MAS, consists in the introduction of clinical pathway analysis where costs and performances are evaluated according to activities performed for patients. This language is clearly clinical-oriented and it represents the actual work of the organisation and the complexity of healthcare services (Mintzberg, 1983). Consequently, it can attain a higher congruence between objectives within the organisation, but also a distribution of resources more coherent with activities performed and resource consumption for that activities.

As shown in Table 6, decision making is supported by other measurement and related tools. Information from MAS is supported by other tools for measuring the productivity of employees and the quality of care or patients’ satisfaction. All instruments are integrated with each other and are available at all levels: LHA, department and unit.

Table 6 –Measurements used in the decision making process: typology and frequency

<table>
<thead>
<tr>
<th>Analysis and tools used in decision making process</th>
<th>Number of evidences</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Productivity</td>
<td>12</td>
<td>85.71</td>
</tr>
<tr>
<td>Quality measurement</td>
<td>10</td>
<td>71.43</td>
</tr>
<tr>
<td>Efficiency measures</td>
<td>11</td>
<td>78.57</td>
</tr>
<tr>
<td>Human resources management</td>
<td>5</td>
<td>35.71</td>
</tr>
<tr>
<td>Customer satisfaction</td>
<td>4</td>
<td>28.57</td>
</tr>
<tr>
<td>Others</td>
<td>2</td>
<td>14.29</td>
</tr>
</tbody>
</table>
Despite the *integrative interactive model* has acted on the structure of MAS, the individuation of goals and resources continue to limited by regional constraints in terms of total resources and strategic goals. However, despite these limitations, the process of identification of resources and goals for each department and unit tries to be as participative as possible.

A set of questions were addressed specifically trace a description of the process of definition of goals and resources within the annual budget setting.

The budgetary process is generally a bidirectional, top-down/bottom-up process; it is quite participative in terms of communication between the top management and the department heads, who in turn distribute goals to heads of unit. A deeper description of the process follows. This process is in two steps: negotiation between General Manager and Heads of Department; communication and sharing of goals between Heads of Department and Heads of Unit.

Regarding the first step, the General Manager together with the staff of controllers, prepares a proposal containing budget goals and available resources. This proposal is usually based on a study of historic data and on regional recommendations in terms of both available resources and epidemiological and clinical orientations. There can be goals that address specific local needs, which are completely defined by LHAs, and goals that mainly satisfy Regional requirements. Examples of regional constraints could be the requirement of a reduction of the number of hospitalisation days or an increase in investments in primary care.

The proposal contains goals for all heads of department. Due to the large number of units, the General Manager contracts budget goals directly with heads of department rather than with heads of unit. The General Manager usually meets, together with controllers, only heads of department to discuss goals for the department. During the budget negotiations, there is the possibility to discuss budget indicators and to obtain a partial modification of the targets to achieve and the amount of resources assigned. The possibility to modify budget indicators is limited by the boundaries set by the national and regional requirements; in general, goals expressing hospital needs are more negotiable than goals expressing regional requirements. Consequently, the former allows a real negotiation with the possibility to significantly impact on indicators and make a proposal, while the latter provides only a limited space for negotiation. The following sentence, by a controller, refers to local goals negotiation.

“....Nobody acts as a follower and accepts everything....there is a real negotiation, usually there is harmony on the 90% of objectives, while in the remaining 10% long negotiations allow to get shared objectives through a mutual adjustment...even if in this way (the process of budget) requires
much time this process allows the attainment of shared objectives....usually we are not able to conclude in one meeting, two meetings are required, if we are lucky....” (Controller, LHA 7)

In the second step of budget negotiation, heads of department delegate subsidiary goals to all heads of unit. Other individuals belonging to departments (heads of unit, nurses and other doctors) can meet the General Manager only in a wide meetings where strategic and broad goals of the whole LHA and of all departments are shared and discussed in general terms. The objective is to make the lower levels aware of the goals towards which the organisation is moving and the importance of the contribution of all individuals in the achievement of these goals.

After this wide meetings, more detailed meetings can be organised between heads of department, heads of unit and controllers. The aim of these meetings is to elucidate in depth the goals assigned to the departments and to decide how to assign the goals to each unit. These meetings are not a real negotiation, in many cases in these meetings heads of departments simply provide goals to units.

If we look at the way in which goals are defined there are some positive aspects.

As it emerged both from interviews and from the documents of the reporting system for budget rules and procedures, the definition of budget goals in Tuscan LHAs is usually based not only on adjusted historical results but also on a provision regarding activities for the following year. Within strategic regional and local orientations, clinicians estimate activities they expect to perform the following year (i.e., number of treatments and number of surgeries) and consequently the necessary resources. This “exercise” requires clinicians to deal with budget language and with managerial activities. This process makes the definition of budget goals the results of an effort in analysing past and expected activities (March and Olsen, 1989). The most important consequence is that, in this way, clinicians can formalise their “personal program and goals” in a written document that is within the budgetary system. The result is that clinicians are driven by the approved budget and not by their own private “shadow budget” (Pettersen, 1995). The following sentence describes the process of target definition.

“Until last year budget sheet was defined on a historical base, while this year requirements about future activities have been taken into account. For example, in these last two years we have seen a reduction of traditional treatments for wrist fracture and to an increase of number of surgeries. We ask to clinicians how many patients do they think to assist, what kind of clinical pathways their patients will be submitted to (traditional or surgery), how many hospitalization days in the case of surgery. This process includes expectations at the base of the budget. We realized that the use of historical data brings to distortions and to the daily need to adjust objectives because they were not
adequate. This new process makes also clinicians more accountable for their activities and encourage them to introduce also forecast into their decision making process.” (Controller, LHA 10)

The identification of goals and resources at the beginning of the year is associated with the provision of information regarding goals achievement. This information is provided, by mean of reports, at the end of the year but also during the year (every month or every two months).

In particular, reports at the end of the year underline the achievement of goals assigned at the beginning, while periodic reports underline the trend. Periodic reports consider performances at certain times, thus they can support forecasting performances achievable by the end of the year. Consequently periodic reports are useful for managerial purposes because they suggest adjustments required to meet the assigned goals; these are linked to assigned resources and the achievement of goals is also verified with respect to resource consumption. Periodic and final reports are discussed during specific meetings in which both controllers and clinicians participate; the objective is to discuss the results and understand if there is a need to adjust behaviours.

There is high pressure upon the achievement of goals and bad performance can bring negative consequences: loss of a manager’s reputation, the possibility of shifting a manager to another position or a lack of economic incentives. All employees must achieve their assigned goals and they cannot spend more than the allocated resources: a revision of goals or an increase of the assigned resources is possible only if there are valid justifications; otherwise, managers must find ways to adjust their behaviour. For example, there is the possibility of asking for additional funding if the possibility to invest money in new technologies or personnel might contribute to improvements in the quality and the efficiency of treatments (for example, saving time or other resources). Every new investment must be deeply documented and a list of possible providers must be assembled.

In the Tuscany Region, there is also a strong pressure by the Regional Government for the containment of expenses. In a context of limited resources, it is not possible to cover a budget deficit with additional resources: LHAs must perform ordinary activities with the available resources, while additional resources could be requested if new investments are justified and documented.

The increasing requirement for a higher accountability among clinicians has been a strong cultural change, but it has been characterised by gradualism in implementation. First, during recent years, there has been a gradual increase in accountability at all levels (from department heads to of unit heads) and now the involvement of nurses is also in progress. Second, goal achievement is required for more than one year, with the possibility of verifying the trend at the end of every year; third,
low-level constraints have been imposed in the first years of the implementation of the budgetary system. Gradualism fits well with the complexity of these settings, and this approach could allow great acceptance by clinicians (Kurumaki et al., 2003).

c) The role of MAS in driving changes in the interpretative scheme

In this section we will analyze if changes faced by MAS, by mean of the integrative interactive model, have impacted on LHAs’ interpretative scheme. As we described, MAS is the mean by which principles proposed by the external environment could be transferred to the current interpretative scheme. In our research context MAS is changed to follow national and regional requirements. The change of MAS is based on the integrative interactive model and the aim of this model has been to develop MAS tools more suitable for clinicians attitudes, even if principles embedded in MAS are those proposed by the government. The aim has been to favour the acceptance of principles embedded in MAS and proposed by the government by mean of a more participative approach and by mean of tools more aligned with clinicians’ attitudes.

In our research context, we can argue that a change in the interpretative scheme has happened if principles proposed by MAS are accepted and applied in decision making.

In our research setting MAS is used by all individuals but its use is imposed by the context. Consequently the use of MAS by all individuals, does not mean that the interpretative scheme is changed. The interpretative scheme is changed if these principles are also accepted and embedded in clinicians’ reasoning and if clinicians’ perceive these principles are right and necessary.

This change in the interpretative scheme is required in order to have an equilibrium in LHAs. Otherwise, resistances and attempts to come back to the pre-existent situation is willing to happen. This possibility is not wished in a research context were national and regional reforms wish for increasing efficiency in resource usage and require to clinicians increasing accountability for their actions.

If we look at the use of MAS, we can observe that all individuals use MAS, but at the same time MAS introduction is not accepted and perceived as important by all individuals.

Results suggest that the interpretative scheme is changed only in a part of LHA. In particular sanitary managers, hospital managers and clinical heads of department have faced a cultural change and MAS language is part of their culture.

For example Sanitary managers use cost information to support daily decisions about assigning resources and improving the efficiency of clinical pathways. An example of is quoted in the following comment.
“Our controllers provide us all information we need in our decision making process. We know exactly what a department does and how much it consumes, or the opening and the closing hours of the operation room... we use (that information) for resource assignment ... to separate wheat from the chaff ... I decide also the resource consumption on the base of how a department works: for example my surgical department works very well and if it asked me a flying camel I would buy it...” (Sanitary Manager, LHA 1)

In some cases, cost information also supports strategic decisions. An example is the opening or the closing of a ward. This decision requires the estimation of the bed-utilisation rate to determine if there is an unused capacity. When this rate is quite high it may be necessary, for the efficiency of the whole hospital, to close that ward even if this decision, at first glance, might create some resistances in the clinical managers.

Another interesting analysis is linked to the evaluation of the cost of ancillary services and the opportunity to buy them from external providers (i.e., make or buy). Examples here include laboratory exams or the transport of the patient within the structure. From the interviews, it emerged that this kind of evaluation is quite rare; however, these are appreciated when developed in a collaboration between clinicians and accountants. A clinician’s comment describes this situation:

“This year we will close a ward because there is a low occupancy rate of beds... this will allow to use these beds for other objectives... This has been possible, because a deep analysis has been developed within a team composed by clinicians and controllers” (Sanitary Manager, LHA 1)

For sanitary managers and heads of department, the attention to costs in the recent years has been increasing. The cost of treatment is not a limitation if the treatment is really necessary for the health of the patient, but the attention on the organisational aspects is high, so the appropriateness of treatments and consequently the possible reduction of waste are considered. The following sentences support this perception.

“When we have to decide about a treatment we consider both clinical and economic issues. However if the treatment is actually necessary even if expensive, we usually decide to buy it. Then, in order to save money we try to manage other costs, for example a reduction of the length of stay to the number of day actually necessary, or we try to increase the productivity of personnel and machineries”. (Sanitary Manager, LHA 12)
“I do not consider the cost for single patient. For each patient I do everything is necessary for his health and costs do not influence my decision. Also my superior has never limited my decisions in this sense. Costs are perceived important at organizational level, and as a part of the whole chain. For example I put attention to other organizational aspects, for example: support services, correct use of medical and surgical devices and appropriate requirement of diagnostic treatments.” (Clinical Head of Department, LHA 12)

Also lower levels of the organization use MAS information. These sentences, by controllers, refers to all clinicians.

“….They try to understand what it is wrong….where and when they can improve, they do not act only in a defensively manner. They work hardly in order to improve their performance. They usually ask suggestions to controllers in order to understand data and how they can improve” (Controller, Teaching Hospital 1)

“During the year the periodic reports are analyzed, underlining gaps between actual results and budget goals: usually we (controllers) analyze results together with medical doctors and try to understand why we have got a certain result, for example if we see that there is an higher cost of a certain drug, he (the medical doctor) has to explain why he is using a certain drug and not another.” (Controller, LHA 11)

These sentences reveal the existence of the integrative interactive model in the use of MAS information. The integrative interactive model in the use of MAS sees controllers as supporters of clinicians in the interpretation of information and in the individuations of actions and works to all organizational levels.

If we look to the acceptance of MAS, deeper insights emerge from clinicians’ interviews. They perceived that a change in the interpretative scheme is happening, but they argue that there are some classes of clinicians that have not yet perceived the potential of using MAS information in decision making. They argue that MAS is completely disseminated and accepted by heads of department but not by heads of unit or other doctors and nurses without organisational responsibility, who had some concerns about the importance of MAS.

The likely reason is the limited involvement of heads of unit and nurses in the negotiation of departmental goals and the absence of a direct relationship with the top management in budget
negotiations. The following comments by the sanitary manager of Teaching Hospital 4 introduces this problem.

“The budgetary tool arrives to the Head of Departments, because they negotiate resources directly with the CEO and the CFO, but not to heads of units and other medical doctors and nurses. Even if the head of department, before negotiation of departmental goals, should share goals with his collaborators, this practice is not compulsory and the way in which it is done depends on personal attitudes of heads of department. They (collaborators) do not really participate to the negotiation with the top management, so they are not completely involved yet. As they do not feel involved they are sceptical of budget” (Sanitary Manager, Teaching hospital 4)

If we look within LHA12, where head of department involve his/her collaborators, the situation is different. Heads of unit and nurses clearly speak a managerial language and wish for a systematic evaluation of results. In this respect it seems that a process of change of the interpretative scheme is in course. However heads of unit have some concerns about the approach government use to the evaluation of performances and they often do not agree with regional goals. They also wish for a greater recognition of their work. On the other side nurses do not care about the approach to reforms and wish for a formalization of their responsibility. These aspects could create tensions and hinder changes in the interpretative scheme.

Heads of unit use MAS tools and speak a managerial language, but they feel frustrated about many goals assigned, because they do not agree with them.

The following sentences by a head of unit in LHA 12 supports these conclusions.

“We feel responsible for the cost of our activities, but we are not able to understand the utility of this pressure on cost containment. I work hard for the containment of costs of my unit, but at the end, the Regional Government or the National Government appreciate the whole results of our LHA, and our specific efforts are not enough enhanced. We would like for example a comparison with similar units of other LHAs. We would like more incentives for units performing well. Moreover many elements on the consideration of cost sustained by Units are not taken into account. The focus in on expenses and on direct costs, but indirect cost and saving are not considered. For example, how many days do patients need to go back to work, or come back in a routinely life”(Clinical Head of Unit1, LHA 12)
“We perceive the Budgetary Process as a top down process. We can not say that goals are imposed, but we perceive that some goals, especially goals based on Regional Government requirements, are inadequate to support the improvement of our activity. Sometimes goals are focused on issues that are not relevant for the improvement of the core activity of our unit, and other more relevant problems are missed” (Clinical Head of Unit2, LHA 12)

Nurses, on the other side, do not criticize goals assigned but wish a formalization of their responsibility. Nurses are not directly involved in negotiation because they are not in charge of a specific unit. However, they actually have a relevant managerial and clinical role: they manage drugs and consumables to maintain the cost at a low level and contribute to the quality of treatment and assistance and to the overall performance of their unit. They significantly impact efficiency and resource consumption and consequently on the cost of their unit, even if their role is not recognised. This could create tensions and consequently could negatively affect performance. The introduction of responsibility for nurses is also required. Moreover, they constantly exercise managerial tasks and often seem to be more oriented toward a managerial role if compared to doctors. They are aware of this condition, and desire for a different role in the context of MAS.

“We completely influence the quality of assistance and the resource consumption and we actively contribute to the performance of our unit but, we are not directly evaluated on this aspect. We would like to be evaluated and compared with nurses of other departments and of other LHAs, as it is for doctors. This possibility would be a stimulus to research and study to find out solutions for the improvement of performance. We would be happy to provide a higher contribution. (Nurse, LHA 12)

In some LHAs, a reorganisation of responsibility among doctors and nurses is in progress, but the process is neither homogeneous nor completed.

In a situation where only the head of department negotiates goals with the top management, while heads of unit negotiate goals within the department without a direct involvement with top management, the head of department should play the role of the promoter of the transmission of the budget goals. For example he can increase the involvement of heads of unit in the decisions concerning the whole department can organize frequent meetings with all individuals in the department. The superior in this situation should overcome the involvement problems derived from the absence of a direct participation of heads of unit and nurses in the negotiations with the top management.
However also in other LHAs, some initiatives aimed at increasing involvement at all levels can be addressed. For example, the top management of LHA 7 requires the organisation of almost four meetings per year between the head of the department and his staff for the discussion of budget objectives. Other initiatives are on promoting the dissemination of the budgetary system goals. For example, an intensification of communication and the promotion of a direct involvement of all individuals at all levels is in process in LHA9.

“We are aware that the instrument (budget) is already diffused within heads of department, while we are working on the intensification of the flow of communication between the head of department and his collaborators. The objective is to make all clinicians aware that the budgetary system has to be used to all level of the organization. In order to promote this process, from 2009 we negotiate objectives not only with the head of department but also with head of unit, so there is a process of negotiation also with heads of unit. We planned more than 200 meeting. We can say that this initiative has brought to strong improvements if we look to how clinicians see the budget. Next step is to involve other clinicians without a formal responsibility “(Controller, LHA 9)

The role of the superior could partially overcome possible tensions resulting from the limited involvement of heads of unit and the insufficient acknowledgement of the role of nurses. Their involvement in the discussion and identification of indicators of the budgetary system and their greater involvement in managerial decisions (i.e., new investments) could favour a better environment and promote higher attention to performance management.

In LHA 12, the head of department focuses particular attention on the involvement of all individuals, and in her departments, economic considerations are also assuming a growing importance for nurses. In this respect, we found that when the department head involves unit heads and nurses in the budget negotiations and in decision making, these two groups start to speak a more managerial language. In this way, all individuals within the organisation feel involved in the definition and achievement of goals, thus increasing their trust in MAS.

“I involved all Head of Units, all Manager Nurses and also all other doctors. I think that their involvement is important in order to promote a good mood within my Department, thus influencing performance. They are actively involved in the attainment of results and I think that for this reason they have to know what the Region and the Organization require and what we have to do in order to satisfy requirements. For example we (doctors and nurses) have worked on the identification of protocols for the correct use of pharmaceutics....every requirement of particular and high cost
pharmaceutics has to be justified by a written demand signed by the doctor. In this way the doctor makes himself responsible for clinical output and for consequent costs.” (Clinical Head of Department, LHA 12)

“However our superior involved us and make us aware of the performance of our unit and this had stimulated us to put high attention on cost control. For example she has proposed for next year the introduction of budget indicators specific for nurses. In the limits of our possibility we try to improve performance and efficiency in resource consumption.” (Nurse1, LHA 12)

“However, before the administration of every treatment, we evaluate the patient in order to give only what is necessary and avoiding inappropriate treatments and wastes. For example we evaluate also the personal situation of the patient, for example his family, in order to determine the more appropriate way to provide the treatment. We put high attention to adequacy and to appropriateness of clinical pathway, for example we try to avoid unnecessary exams..... in this way there is the possibility to manage costs and save money. We give only what is really necessary.” (Nurse2, LHA 12)

If these initiatives will continue and will extend to all LHAs we can expect that they will be able to bring to more diffused changes in culture.

However, as suggested by heads of unit and nurses of LHA12, the way in which the government impose its goals and the way in which responsibilities are organized, could make more difficult changes in the interpretative scheme.

6. Discussion and concluding remarks

This study has aimed at analysing the way MAS is implicated in broader organizational changes. Organisational changes were considered within the model of society outlined by Habermas (1987) and further developed and refined by Broadbent and Laughlin (2005) and by Laughlin (1987, 1991). This model describes how internal elements of societal organisations (interpretative scheme, subsystems and design archetype) interact both internally and with societal institutions. The study of internal and external interactions could thus be useful in studying changing organisations.

In our research societal organizations are represented by LHAs working in Tuscany Regional Healthcare Sector and societal institutions are represented by regional and national government.
Within societal organizations we have subsystems, represented by behaviours, actions, spaces, procedures; design archetype represented by MAS and its tools; interpretative scheme represented by clinicians’ culture.

This paper has analyzed how MAS has changed over years in order to absorb new principles proposed by governments and impact on the interpretative scheme at the same time. In particular this paper has analyzed three aspects: the way MAS has changed over years in order to absorb external requirements; how the approach to change have impacted on MAS characteristics; if principles proposed by MAS have influenced the interpretative scheme thus generating morphogenetic changes in organizations.

Regional and national reforms introduced new principles in the management of healthcare organizations. We can summarize these principles as: higher efficiency in resource usage, higher emphasis on results evaluation and analysis. These principles are both linked with higher accountability for clinicians actions and with the consequent introduction of clinical budget for head of units and head of departments. Clinical budget introduced a responsibility for both clinical and economic results. Clinicians with budget responsibility have become “clinical managers”.

The model of change of MAS can be named integrative interactive model. The integrative interactive model is based on a collaboration between controllers and clinicians and works with all levels of the organization. The integrative interactive model supposes the integration of knowledge and allows for the individuation of integrate tools. Integrate tools are tools that include national and regional requirements but their configuration is aligned with clinicians’ attitudes. In fact, the controller-clinician relationship favours the “reframing of clinical activities in accounting terms”. This creates the opportunity for MAS to assume a positive role of “coloniser” of clinical decisions and actions and further favours the individuation of the most suitable way to represent clinical activities in accounting terms.

For example, changes introduced with this aim are: simplification and reduction in the number of information provided, introduction of clinical pathway analysis, increasing association of financial and non financial information. These aspects of MAS relate mainly to tangible characteristics of MAS.

The integrative interactive model works also in the use of MAS. The use of MAS relates to the analysis of reports produced by MAS and the individuation of subsequent actions. Using MAS by mean of the integrative interactive model means that controllers support and advice clinicians in that activities. This aspect of the use of MAS relate to more relational characteristics of MAS, that is the approach to MAS.
The following sentence expresses in general the concept of integrative interactive model both in MAS change and in MAS use.

“Controllers become in some way more “clinical” in the information they elaborate, but also clinicians understand and use economic language and thinking as well as the clinical one.”
(Controller, LHA 1)

The integrative interactive model could be addressed within Dunphy and Doug (1988) and Smith (1982) framework. Within this framework they argue that morphogenetic change is favoured when developed through a participative approach.

This integration allows a somewhat integrated way of thinking: controllers start to think about what information is important for clinicians, thus acquiring the capacity to understand clinicians’ needs and elaborate information suitable for supporting clinicians’ requirements. Complementing this, the dialogue between clinicians and controllers allows clinicians to acquire and understand some managerial concerns.

Moreover controllers have the technical knowledge on aspects such as cost control and efficiency. A participative approach favours the development of trust in controllers and the acceptance of their role within the organisation. An organisation may perceive controllers as supporters and allies if controllers are able to develop a direct communication with other individuals and if they are open to suggestions from doctors. Trust in controllers creates the ground for a higher trust in managerial tools and it is the first step in obtaining the acceptance of managerial issues by clinicians.

Controllers and clinicians still maintain their autonomous spheres of work but the integrative interactive model supports both changes in tools and the use tools.

If we look to the impact of MAS on the interpretative scheme, we can argue that changes in the interpretative scheme emerge if the following behaviour occur: use of MAS and acceptance of MAS importance at the same time. If clinicians use MAS because they are obliged, but they do not accept it we can expect possible tensions and rejections.

Results suggest that MAS has influenced part of the organization interpretative scheme. Consequently a process of morphogeneitic change is in course, but it is not completed. In particular the change has interested only head of departments but not lower levels of the organization, such as head of units, other doctors and nurses without budget.

The problem stands on their limited involvement in budget negotiation and in decision making in general. In fact the involvement is higher for head of departments who have a direct relationship with the top management. Consequently they have higher possibility to understand problems behind
the introduction of MAS and appreciate the importance of MAS. They have also higher possibilities to influence decision making and budget negotiation.

Evidently, in complex settings, where there are many decisional levels and decentralised responsibilities top managements’ effort alone is not sufficient for promoting cultural changes. There is the need to introduce mechanisms to support wider diffusion of MAS principles and to introduce also more shared and diffused decision making. In this way all employees can have the possibility to appreciate the importance of principles proposed by MAS. Also, giving clinicians the possibility to have their say in decision making could be important. In this respect, top management should act together with heads of department and involve them in the promotion of cultural change. On their own, the head of department should play a role in promoting cultural changes at lower levels, which they are able to reach. The example of LHA12 emphasises that the capacity of the head of one department in involving all levels in the department has promoted a managerial culture and language and stimulated the attention to cost control and efficiency, even for individuals who are not directly in charge of a unit (e.g., nurses). Where there is a lack in the department head’s capabilities, *morphogenesis* is able to operate only for heads of department, but it does not pervade the lower levels.

However some incontrollable problems could interfere in the process of change: manner of implementation of reforms (see also Kurunmaki et al., 2003) and wrong organization of responsibility.

Change in LHA operates differently if we compare nurses and heads of unit because they are in different positions. Heads of unit in LHA12, feel involved and speak a managerial language, they accept their responsibility but they contest national and regional requirements and wish for a recognition of their work. In this respect we do not know if these concerns increase so much that future rejection of change will occur. Nurses feel involved and speak a managerial language but they wish a formalization of their responsibility. In this respect, at this moment, a reorganization of responsibility could drive permanent change for clinicians. However we do not know if, after the reorganization of responsibility, other concerns will occur to prejudice change.

This paper suggests that studying changes in organizations involve both external context aspects but also organizational aspects.

If we look to the external context, this research provides a picture where reforms introduced *disturbances* and initiated the process of change in organizations which usually tend to *inertia* (Laughlin, 1991; Miller and Friesen, 1984).

Studying changes in organizations need to be located in a specific historical context. In this respect Greenwood et al. (1988) refers to constraints and pressure on change as factors able to favour
morphogenesis. This factor is related to particular contingencies that modify situational circumstances/contexts and create pressure for a change in the organisation. When contingencies do not create contradictions between context and organisation, inertia is most likely to occur. This suggests that the higher is pressure toward changes the higher is the possibility that organization moves towards radial change. In our research context, laws and reforms introduced by national and regional governments, represent disturbances which initiate the process of change. The studies by Broadbent et al. (1991), Laughlin et al. (1992; 1994) Kurunmaki et al. (2003), Jacobs (1995) and Agrizzi (2009) specifically look at the impact of the so called New Public Management Reforms on the interpretative scheme. They analyzed in dept the attempt of governments to influence organizations by mean of steering mechanisms, such as laws and reforms. Their analysis is focused on characteristics of reforms and if these characteristics have influenced their success in terms of results expected by reformers. Their researches are documented by collection of documents and by case studies, but they did not analyze if some characteristics of organizations, such as approach to the introduction of MAS or characteristics of MAS, could have impacted on results expected by reformers. In their research they criticize the manner of implementation of reforms. In fact in their research context, the nature of reforms, compulsory, harsh and sweeping, has prejudiced the result expected by reformers, in terms of change in the interpretative scheme. Often, in our research context goals assigned by government are imposed and not aligned with clinicians’ attitudes. However this approach has not prevented changes in the interpretative scheme. This is particularly true for sanitary managers and heads of department, probably because they are in a high managerial position, and for nurses because they are in a lower position and their first look at a recognition of their responsibility. On the other side, heads of unit, who are in a middle position and who have a responsibility for their results, have some concerns about the approach to reforms and they criticize goals imposed by government. At this moment they do not reject change, but we are not able to assert if these concerns will create future rejections. If we look to the organizational context, in our research, two aspects has been analyzed: approach to MAS and characteristics of MAS and they are linked each other. The approach to MAS is an integrative-interactive approach. However problems in the process of communication of MAS information has limited the result in terms of changes in the interpretative scheme. These problems are linked to the limited involvement of heads of unit and nurses in decision making. Other factors addressed by Greenwood et al. (1988) could be addressed to our research. Greenwood et al. (1988) suggests four organizational factors whose occurrence could support
morphogenesis. These factors has been proposed by authors but not analyzed through empirical researches.

- the level of commitment to the existent interpretative scheme held by participants, which affects the attitudes to promote alternative interpretative schemes or inertia toward changes
- the power dependencies that affect structural changes to the extent to which the dominant coalition is dissatisfied with the accommodation of its interests, and therefore agrees to a destabilising process
- the interests of individuals, affecting their willingness to change depending on the level of satisfaction with a particular arrangement compared with their own interests
- the organisational competences and capabilities

All these factors relate to the commitment of individuals to the pre-existing interpretative scheme and deals with characteristics of organizational culture. Characteristics of tools are not taken into account.

Considering our evidence, we are not able to assert the existence of a high or low commitment to the pre-existing scheme or the level of satisfaction of dominant groups regarding the scheme. Interpretations of these attitudes are not readily applicable to the healthcare sector. It is likely that clinicians preferred their previous autonomy and tend to avoid constraints imposed by managerial tools. Changes coming from the external environment have forced their culture to adjust to a changing society. However, the “integrative-interactive management and control model” made this change less invasive because it favoured the meeting and the integration of clinical and economic knowledge, thus allowing the development of tools suitable for managing overall performance with an economic “language” but in a way compatible with clinicians’ attitudes.

Regarding the last factor, the competences and capabilities, Greenwood et al. (1988) underlined the role of senior managers in the organisation in promoting changes. This factor, in our research could be addressed to the role of superior in the promotion of changes in the interpretative scheme. In our research the absence of this factor has limited the impact of change.

If we look to characteristics of tools this research underline that they have been influenced by the approach to MAS – the integrative interactive model. At the same time, characteristics of tools, together with the approach could have an impact on changes in the interpretative scheme. Characteristics of tools influenced by the integrative interactive model relates to a revision of information provided, towards configurations more aligned with clinicians attitudes.

This research aims to contribute to literature about MAS changes and changes in organizations. Its contribution stands in the fact that, using a complex approach and analyzing both characteristics of
organizations and characteristics of the external context, could support the achievement of deeper insights.

Summarizing, MAS has been able to impact on the interpretative scheme an in particular on the highest level of the organization (sanitary managers and head of department). In this process an important role has been played by the integrative interactive approach to MAS. This approach has created a positive environment and has supported refinements of MAS towards configuration more aligned with clinicians attitudes. If we look to lower levels (heads of unit, other doctors and nurses) the integrative interactive approach is able to support changes when it is associated by a promotion of cultural change done by superior against his/her subordinates and by a reorganization of responsibility. This practices is not diffused yet and it operates only in certain LHAs. We can expect that if this increase a complete morphogenetic change will occur. However the impact of the integrative interactive model and of the role of superior will always be limited by a research context were changes are always imposed.

The findings of this research, even if not generalisable and context-dependent, emphasise that cooperation and trust between individuals of different professional cultures and careful identification of the process of communication of MAS principles can help in the achievement of an overall advantage in facing continuous pressure from the external environment and related changes.
Appendix 1

Sample of relevant interview questions

Interviews to clinicians

1. Do you feel involved in budget process? In which steps (identification of goals, identification of resources, analysis of data)?
2. Are you able to understand information provided by MAS? Would you like other kind of information?
3. Do you use MAS information in decision making? Do you think MAS information are useful in decision making?
4. Would you like an higher involvement in budget negotiation?
5. Would you like to work in team with administrative personnel for the development of tools and for decision making?
6. Would you be interested in acquiring economic knowledge and combine it with clinical knowledge in your decision making?
7. Which tools are used to evaluate your activity? Do you think this instruments are useful? Why?
8. Are you integrate with administrative personnel? Do you interact with it?

Interviews to controllers

1. Do clinicians usually ask particular kind of information? Do clinicians ask suggestions or advices about their performances?
2. In your opinion, during budget negotiation, when the involvement of clinician is wished?
3. Do you think information you provide are adequate to user of information? Which kind of improvement to MAS information have you applied and how?
# Appendix 2 – Interviewees, details

<table>
<thead>
<tr>
<th>Health Organizations</th>
<th>Controllers (Number of people)</th>
<th>Clinicians (Number of people and position)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LHA 1</td>
<td>1</td>
<td>1 Sanitary Manager</td>
</tr>
<tr>
<td>LHA 2</td>
<td>1</td>
<td>1 Sanitary Manager</td>
</tr>
<tr>
<td>LHA 3</td>
<td>1</td>
<td>1 Sanitary Manager</td>
</tr>
<tr>
<td>LHA 4</td>
<td>3</td>
<td>2 Clinical controller</td>
</tr>
<tr>
<td>LHA 5</td>
<td>2</td>
<td>1 Clinical controller</td>
</tr>
<tr>
<td>LHA 6</td>
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<tr>
<td>LHA 7</td>
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<td></td>
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<tr>
<td>LHA 8</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>LHA 9</td>
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<td>1 Sanitary Manager</td>
</tr>
<tr>
<td>LHA 10</td>
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<tr>
<td>LHA 11</td>
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<td>1 Sanitary Manager</td>
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<tr>
<td></td>
<td></td>
<td>1 Physicians working with Sanitary Manager</td>
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<tr>
<td>LHA 12*</td>
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<td>1 Sanitary Manager</td>
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<tr>
<td></td>
<td></td>
<td>1 Head of Department</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 Heads of Unit (Department 1)</td>
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<tr>
<td></td>
<td></td>
<td>5 Nurses (Department 1)</td>
</tr>
<tr>
<td>TH 1</td>
<td>1</td>
<td>1 Clinical controller</td>
</tr>
<tr>
<td>TH 2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>TH 3</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>TH 4</td>
<td>2</td>
<td>1 Head of Department</td>
</tr>
<tr>
<td><strong>Total (LHA12 not included)</strong></td>
<td><strong>22</strong></td>
<td><strong>10</strong></td>
</tr>
<tr>
<td><strong>Total (LHA 12 included)</strong></td>
<td><strong>23</strong></td>
<td><strong>20</strong></td>
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</table>

* LHA closely examined
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126
Do management accounting systems influence organizational change or vice-versa? Evidence from a case of constructive research in the Healthcare Sector

Table of contents

1. Introduction

2. Background

3. Theoretical framework

4. Changes occurred in Healthcare Sector, of Tuscany Region and the contextualization of the theoretical model

5. Method, development of the research and outcomes

5.1 The change in the budget structure

5.2 The change in the cost accounting system: towards a TDABC approach

6. Findings

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1 This paper is co-authored with Lino Cinquini and Andrea Tenucci
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ABSTRACT

The paper aims to analyze the process of change of management accounting system (MAS) as a consequence of changes in the complexity of organizational structure in healthcare. It analyzes the process of change of MAS according with the theoretical frameworks of Habermas (1987) and Laughlin (1991). In this organizational changes are seen as the consequence of the interaction between tangible and intangible elements of the organization and between the organization and the external environment.

The process of change was not studied from an external standpoint, but through an active participation and contribution of the researchers in the process of change itself. Using a constructive approach, the researchers were actively involved with the actors of the change in developing the process of change, and in facilitating the overcoming of some cultural gaps and resistance which could arise in professional organization.

The paper provides empirical insights of the characteristics of the process of change of MAS in a Heath Care setting with a particular focus on aspects characterizing the process of change itself. Finding suggests the importance of putting high attention in the development of the process of change and underlines how the attention to peculiarities of the organization, in to this phase, could make the MAS able to impact on the behaviours and culture of professionals.

Keywords – Management Accounting Change, Organizational changes, Morphogenesis

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1. Introduction

The aim of this study is to analyze the process of change of management accounting system related to changes in organizational structure, by developing the research in the healthcare (HC) sector. Healthcare organizations are particularly complex and characterized by a duality: a clinical staff that demands services and an administrative staff that provides support services to the clinical staff (Harris and West 1925; Jacobs et al., 2004). Clinicians and administrative belong to two different dimensions that are loosely coupled (Weick, 1976): they are linked each other but each retains their own identity and they have few elements in common. They represent different blocks in a complex organization.

This situation impacts also on the tools used to measure results and performance of these organizations. Clinicians work on their experience and expertise and their activities are difficult to be measured by formal systems, while accounting measures reflect efficiency objectives derived from the private sector principles, which answer to the requirements of government and that are not aligned with core activities. The role of accounting in this situation may become problematic, with the risk of shifting from informative support for decision making process to a mere formality.

The study, in these settings, of the dynamic of change in accounting considering its linkage with organizational transformation is therefore particularly interesting: the pathways of change in HC organizations find a further element of difficulty in their professional nature and the aforementioned duality. According with the organizational paths of transformation (Laughlin, 1991; Grenwood and Hinings, 1988) a substantial change modify the “genetic code” of organization and finds reflections in all the future generations (Smith, 1982): this process in a professional settings needs specific care and support in design and management.

In studying the process of change we were interested not only from an external standpoint. As we will describe in the paper, we were interested in participating and giving a contribution in the process of change, through an internal perspective and a participative approach. Specifically we were interested in describing the characteristics of the process of change of MAS which make the new MAS able to impact on behaviours and culture of individuals, so developing a substantial change. The research questions we are going to answer are: “Does a change in the management accounting system could favour a change in the interpretative scheme, thus bringing to a substantial transformation (morphogenesis)?” and “How the process of change should be developed, considering the role of clinicians?”. In doing so, we aim to contribute in providing a framework for understanding and analysing a situation of major transformation in a highly professionalised setting, like HC organizations.
The paper is organized as follows. The first section will provide a literary background. In the second section the theoretical model will be explained and adapted to HC context: in particular we use the Habermasian theory of society in the analysis of changes in organization. The subsequent section will provide a brief description of the Italian healthcare sector and of the specific regional HC system (Tuscany) where this study has been developed: we focus in the organizational change occurred in this region and problems this arose. The fifth section explains the methodology applied to the research setting. In particular we use a constructive approach (Kasanen et al., 1993). Findings will be explained in the sixth session and discussion and conclusion will be developed in the last session.

2. Background

The issue of changes in Management Accounting System (MAS) and their relations with the Organizational Structure has been a topic in research agenda for long time. In 1981 Miller (1981) emphasized that a complementary alignment among MAS and Organizational Structure is an important factor in determining performance.

Several studies have analyzed the link between MAS and organizational structure both in the private and in the public sector. Cassia et al. (2005) studied the relationship between organization configuration and MAS in 501 Italian companies through a quantitative analysis. They put in relation a set of attributes of the MAS (i.e. kinds of used techniques, function of accounting etc.) with a set of attributes of the organizational structure (i.e. size, level of delegation, characteristics of the production system etc.). They tried to analyze the process of change, but they didn’t observe how changes happened; they observed companies in a specific moment, but in the meanwhile the large sample allowed them to point out the position of companies in a stage of their life cycle: birth, growth and maturity. They found that the greater is the organizational complexity, the higher is the MAS evolution.

Another research by Mooree and Yuen (2001) empirically verified the relationship between MAS and Organization Configuration in the Australian clothing and footwear industry. They analyzed the relationship between evolution of organization configurations and MAS. Firms were divided in five clusters representing the life cycle stages (birth, growth, maturity, revival and decline). The assignment to a specific cluster was based on age, sales growth rate and strategic, structural and managerial characteristics. Then attributes of MAS were analyzed. Some example of attributes were: criteria for performance evaluation, mode of aggregation of data, scope of information, timeliness of information etc. They found an internal consistence between stage of the life cycle of
the organization and complexity of the MAS, in particular the MAS was found to be more complex and rich of information in the growth stage.

These two studies analyzed, through a contingency framework, the evolution of the MAS in a life-cycle perspective. These studies analyzed changes collecting data from several firms and dividing them in clusters correspondent to the stage of the life cycle and put these clusters in relationship with characteristics of the MAS, but they didn’t analyze the process of change.

Another study by Jones and Dewing (1997), through a longitudinal analysis in a large acute British hospital, analyzed changes in MAS and its use after the conversion of the organizational structure from a functional structure to a divisional structure based on clinical directors, service managers, operational managers and finance staff. This reform delegated the responsibility as close as possible to the point of delivery (doctors) with the objective to improve performance. The MAS changed in order to represent this different distribution of responsibility. However, this attempt, to make doctors more responsible for costs failed, because the MAS was defined and imposed by the central management in order to exercise a crude control on costs. Moreover doctors were not really involved in the individuation of a system that could have been able to support the system of internal responsibility. Some consequences were a lack of link between financial and non financial information and the production of late and inaccurate reports.

Another study by Chenhall and Langfield-Smith (1998) analyzed the role of the MAS within organizational change programs in three manufacturing firms. In particular they studied the adaptation of the management accounting system and the role of accountants following changes in the organizational structure. An example of organizational change they described was the introduction of work based teams and changes needed in the management accounting system in order to analyze performance. The aim of the introduction of the work based teams was to improve quality, customers’ satisfaction and efficiency. The authors of this study found that the development of a performance measurement system was more successful in firms where it was designed through integration between manufactures and management accountants. In these firms such integration allowed the alignment between quality and cost control and improved the credibility and trust of management accountants. This finding suggests the importance of integration of users of the systems and their managers, i.e. the management accountants.

In general, findings of these researches support the importance of considering many issues in analyzing the relationship between MAS and organizational structure and changes in MAS: (1) the process of change as an elements of the change itself (Laughlin, 1991); (2) the importance of the involvement of users of the system in the process of change, especially in professional organization;
(3) the need of a collaboration between users of the system and management accountants in the process of change (Cinquini and Campanale, 2010).

An important factor, which needs to be taken into account in the process of change, is the professional bureaucracy which characterises healthcare organizations.

According to Brunsson (1985), changes in organization and MAS usually require a strong effort in order to overcome problems that arise when an organization is characterized by a strong culture. These problems are of particular interests in healthcare organizations where management and decision making process (and performance accordingly) are strongly influenced by professionals that are used to work in complete autonomy.

Empirical research demonstrated that formal control is perceived as the most offensive of autonomy of professionals while it is privileged an environment which emphasizes self control and social control, standardization of skills and group co-ordination mechanism (Abernethy and Stoelwinder, 1990; Abernethy and Vagnoni, 2004).

Moreover Mintzberg (1989) argues that traditional forms of control, such as budget, are ineffective for controlling the work of professionals because they are not able to represent the complexity in the tasks performed.

There is the necessity to build a system which represent the complex tasks performed by professionals (according to Mintzberg argument) and to build it trough the involvement of the same professionals who perform activities; in fact, according to Abernethy and Stoelwinder (1990), professionals accept a system based on standardisation when the system and the supervising originate from their expertise.

3. Theoretical framework

The following elements need to be taken into account in studying and understanding organizational and accounting change: (1) how organizational and accounting changes relate and interact each other; (2) what is the nature and the process of organizational change; (3) what is the nature of the organization (Broadbent and Laughlin, 2005).

The third point, the nature of the organization, is of fundamental importance in studying and understanding the process of change. The complexity of organization influences the process of change, the interaction of elements of the organization and the result of the process itself. Habermas’ theory about society (1987), developed and refined by Broadbent and Laughlin (2005), suits our study about the nature of organization and the process of change in healthcare sector. Habermas traced the society as the combination of three elements: lifeworld, systems and steering media.
Habermas (1987) defined the lifeworld as a cultural space which articulates culture of individuals, society and personality. Culture is the stock of knowledge which individuals use in order to interpret and understand something in the world. Society concerns with some order through which individuals regulate their membership in a social group. Personality concerns with competencies that make a subject capable of speaking and acting and asserting his/her identity. Lifeworld is not static but it evolves according to culture, society and personality.

Systems, such as organizations, are the tangible expressions of the less tangible lifeworld and are guided by the lifeworld itself. Systems emerge when the lifeworld becomes more and more complex and starts to need a tangible expression.

In this context Habermas introduced the third element, the steering media, which are mechanisms – such as power, money, law - steering the communication and interaction between lifeworld and systems. Steering media plays a role in assuring that systems reflect lifeworld. But, when systems grow in complexity (due, for example, to capitalism growth) there is the risk that lifeworld and systems become differentiated and decoupled. In this situation there is the possibility that steering media starts to follow the systems and not the lifeworld, thus bringing the systems to influence or colonize the lifeworld.

Broadbent and Laughlin (2005) refined this model of society and adapted it to an organizational context. They argued that every organization has its own lifeworld, systems and steering media and called these elements respectively interpretative scheme, sub-systems and design archetype, where design archetype balances and makes coherent interpretative schemes and sub-systems. As suggested by Power and Laughlin (1992) accounting, within organizational context, is a steering media.

The coherence between elements of the organization and the external environment is required for the equilibrium of the whole organization (Miller and Friesen, 1984; Mintzberg, 1989).

When the equilibrium between these elements is reached, the organization tends to an inertia and its broad design tends to be stable and resistant to change (Laughlin, 1991; Miller and Friesen, 1984). This inertia could be interrupted only by an environmental disturbance (Laughlin, 1991), which means some external uncontrollable factors that require a change in the organization.

According to Smith (1982) and Robb (1988) two kinds of changes may occur: morphostasis (first order change) and morphogenesis (second order change).

Morphostasis occurs when the change in the organization does not really affect the core of the organization with a reluctance of the organization to accept the change and a tendency to come back to the pre-existent situation. This change does not affect the interpretative scheme of the organization. Morphostasis could act through two different tracks: (1) Rebuttal and (2)
Reorientation. Rebuttal occurs when an environmental disturbance is faced with some changes in the design archetype, but after that the disturbance has been rebutted, the design archetype come back to the previous one. Reorientation occurs when the environmental disturbance affects not only the design archetype, but also subsystems. The disturbance can not be rebutted but has to be accepted and internalized into the working of the organization, but the culture (the interpretative scheme) is not affected.

Morphogenesis is a change that penetrates deeply into the core of the organization and brings to permanent modification of the organization. This change affects the interpretative scheme of the organization. Morphogenesis could occur through a (1) colonization or (2) evolution. They both bring to a deep change in the interpretative scheme, but while colonization is a sort of forced change of individuals, evolution is chosen by individuals freely and without compulsion (Laughlin, 1991). Colonization is a more frequent phenomena if compared to evolution.

Many factors could affect the nature of change: morphogenetic or morphostatic. For example Brunsson (1985) identified ideology as a factor affecting change. Ideologies, as a part of the interpretative scheme, could be weak or strong. Weak ideologies are inconsistent, simple and inclusive, while strong ideologies are consistent, complex and inclusive. Brunsson (1985) argued that organizations with strong ideologies are resistant to fundamental changes in ideologies and therefore to changes in the interpretative scheme. Organizations with weak ideologies are more opened to manipulation and fundamental changes in ideologies and thus in interpretative scheme.

Grenwood and Hinings (1988) analyzed why organizations follow particular tracks in the process of change They found four elements affecting inertia or change: the strength of the constraints and pressures upon change which destabilize the organization; the level of commitment held by participants; the power dependencies; the interests of individuals and the organizational competences and capabilities. Regarding the first factor - constraints – they are related to particular contingencies that modify situational circumstances/contexts which create pressure for a change in the organization. Typical circumstances/contexts considered are environment, technology and size. When this circumstances/contexts change, they create pressure on the organization and produce a need for a response . When contingencies create severe contradictions between circumstances / context and organization a need for a change occurs. Severe contingencies create higher contradictions between the organization and circumstances/context, thus bringing to a greater change. On the other hand, when contingencies do not create contradictions between contingencies/context and organization, inertia is most likely to occur. Regarding the second factor – the level of commitment held by participants – it relates to the attitudes of individuals to promote

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2 Severe contingencies mean that there are multiple contingencies that bring to different directions.
alternative interpretative schemes or their inertia versus changes. As underlined previously, systems are the expression of interpretative scheme, so the higher is the commitment to the existent interpretative scheme the lower is the possibility for change. Regarding the third factor – the power of dependencies – Grenwood and Hinings (1988) started by arguing that the organizational design serves the interests of some groups of individuals and acts as delineator of advantages and privileges. Organizational arrangements are typically in accordance with a dominant coalition’s interpretative scheme. Structural changes are affected by the extent to which the dominant coalition is dissatisfied with the accommodation of its interests, and by the ability of this coalition to protect and express them. In the authors’ view, if the dominant coalition is satisfied with its arrangement of interests, organization will tend to inertia, vice-versa, if the dominant coalition is not satisfied with its arrangement of interests, it can operate as a destabilising element. Regarding the fourth factor – interests of individuals– they argue that the higher is the level of satisfaction of a group of individuals with a particular arrangement compared with its own interests, the lower is their will to change, and the lower is the level of satisfaction of a group about the present arrangement, the higher is their will to change. Regarding the last factor – the competences and capabilities – the authors underline the role of top managers of the organization in promoting changes. Senior managers are in a position where they are responsible for the evolution of interpretative scheme. As the culture of the senior managers makes him willing and able to change he/she becomes a leader of the change. In order to become leader also skills and knowledge are required. In conclusion, the greater are competences and capabilities (made of culture, skills and knowledge) the greater is the potential for change.

Dunphy and Doug (1988) and Smith (1982) found also that a morphogenetic change is favoured when it occurs through a collaborative approach between individuals in order to facilitate a common organizational vision based on shared values. Laughlin (1991) made a comparison between the European Railways and the Church of England and found the occurrence of a morphogenetic change in the European Railways and of a morphostatic change in the Church of England. Even if the author didn’t go deep in the individuation of factors affecting results, he concluded that perhaps church of England could be characterized by a culture similar to the culture of University and Health Authorities. In fact this kind of institution tends to maintain them protected from unnecessary and unwanted intrusion and tend to reject change. A recent research by Cinquini and Campanale (2010) studied the role of the management accounting system in healthcare sector and found that the integration and the collaboration between clinicians and controllers in the development of management accounting systems could allow an higher alignment between sub-
systems and lifeworld. In this research alignment means mutual adjustment between lifeworld and sub-systems.

Another important factor affecting change is the role of researcher as a supporter in the attainment of a new equilibrium in the elements of the organizations. This is required when a disturbance modifies previous arrangements of the organizations. In fact the researched (employees, doctors, managers etc, who are actors of changes) often need an external support because they could lack of the necessary competencies needed to promote changes. In this respect researcher develops an interaction with researched. This interaction is made of communication and aims at identifying problems to be faced and how to face these problems.

In the Habermasian research, the language is a key element. The language is seen as a discursive process made of actions that researcher has to carry on in order to support the process of change. The process of language between researcher and researched is made of four interconnected stages describing different levels of knowledge about problems to be faced during the process of change: quasi-ignorance stage, critical theorems stage, enlightenment stage and selection of strategies stage.

In the quasi ignorance stage both the researcher and the researched have few concerns about any issue regarding current or potential conflicts between the social and the technical elements. In this stage they begin a discursive process about the nature of important variables and connection between the two worlds. In the following stage – the critical theorems stage – the researcher begins to explore more about the functioning of the accounting system and the relationship between social and technical elements. The third stage – the enlightenment stage – both researcher and researched develop some common understanding. In this stage the researcher, usually through a kind of action research, identifies all technical and social roots. Then researcher tries to provide deep explanations that should be useful in driving the change. The last stage – the selection of strategies – deals with the individuation of how the change should occur. Strategies could be three: a change in the social aspects, a change in the technical elements or a mutual adjustment between the two elements.

We are interested in studying the process of change of elements within healthcare organization, process of change that has been triggered by a strong external disturbance coming by the regional level. As described in the following session, the process of change is still in course: the external disturbance has created a sort of confusion in organizations that face difficulties in finding a new equilibrium between internal elements (management accounting system, organizational structure and culture).
4. Changes occurred in Healthcare Sector, of Tuscany Region and the contextualization of the theoretical model

The Italian national health system (Servizio Sanitario Nazionale: SSN) traces its origins in the “Institution of the National Health Care Service Act” of 1978 (Marcon and Panozzo, 1998; Jacobs et al., 2004). Reforms faced by the Italian Healthcare Sector have seen a progressive decentralization of power to the regional and to the local level (Local Health Authorities – LHAs), the promotion of a policy of diffused services, the introduction of patients’ freedom of choice of their healthcare (HC) providers with a creation of a sort of internal market competition and a distinction between hospital care and outpatient care (Marconi, 1997). Also a perspective method of payment was adopted: the DRGs (Diagnosis Related Groups). It was based on a fixed perspective payment and shifted substantial cost risk to hospitals (Evans et al., 1997) creating the need for more sophisticated approaches to hospital budgeting and costing (Kerschner and Rooney, 1987). Moreover, while previously the emphasis was on political compliance, reforms of the nineties put emphasis on performance and results. A fundamental distinction of responsibility was highlighted: politicians are responsible for policies and goals setting while managers are responsible for the administration and accountable for achieving results. Under this scheme salary of managers should vary according to performance (Marconi, 1997).

The objective of these reforms was to improve the efficiency and the accountability of local and regional governments, as well as healthcare, school and university by subordinating the public sector to the private sector operational models in order to guarantee greater efficiency of services providers (Kurunmaki, 1999).

The actual Italian HC System is organized in twenty-one regions (and therefore 21 HC regional systems), while at the local level there are 228 Local Health Authorities (Aziende Sanitarie Locali, LHAs) with a relatively high level of decentralization from the regional level. The local level is accountable for the efficiency and the effectiveness of the health care delivery (Abernethy and Vagnoni, 2004) even if the State still maintains a predominant role in the provision of health care.

Each LHA runs three kind of services (acute care - Hospital-, primary care - Cure primarie - and public health - Prevenzione) as a unique trust. There are also the teaching hospitals (THs) which are independent.

This study has been developed in one Italian Region, Tuscany, and it has been conducted at the LHA level. In Tuscany region there are 12 LHAs and 4 teaching hospitals.

Within the framework of the aforementioned National reforms, the Tuscan Regional authority has introduced innovations in tools and control procedures, now more oriented to the promotion of efficiency and effectiveness. We can recall: the introduction of a Regional Performance
Measurement System, the promotion of primary care, the introduction of a new organizational structure based on intensity/severity of care.

The focus of this research is on the organizational structure changes incurred. They have been introduced about in 2006 with the objective to promote visibility of actions, better organization of work and higher efficiency in healthcare sector.

In particular the Regional Government decided that the traditional vertical structure based on units and department had to be re-organized in a horizontal organization based on clinical pathways.

In vertical organization arrangement hospitals were divided in units and departments. Units corresponded to clinical specialities (i.e. orthopaedics, gynaecology, nose and throat speciality) and were grouped in departments such as medicine and surgery.

Every department and unit had its own manager (a medical doctor). There were three levels of accountability: unit manager, department manager and hospital manager.

- Unit managers were responsible for performance and resource consumption in their units. Recourses assigned were personnel (other medical doctors and nurses), beds in their ward, drugs, prosthesis and consumables. They were assigned to both managerial and clinical goals in terms of resource consumption, efficiency and quality in their units. Unit managers answered for the correct management of personnel (i.e. shift, holiday), but were not accountable for the cost of the personnel because they were not really able to influence them. They could only require additional personnel if they demonstrated a real necessity.

- Department managers were responsible for the resource distribution within their departments, but not for resource consumption in units belonging to the department. They dealt with the integration of the units belonging to their departments. They were assigned to more general goals depending on goals assigned to units.

- Hospital manager was responsible for the performance of the whole hospital. He/she had to combine the strategy of the hospital with the goals assigned to departments and units and had to decide the right distribution of resources.

This organizational structure was represented by an accounting system based on cost centres. This system produced reports underlying costs and performance indicators for units, departments and for the whole hospitals. Performance indicators were mainly indicators in terms of output (i.e. number of surgeries, number of treatments, number of hospitalizations) and in terms of efficiency.

The vertical organizational structure presented three problems. First, the defined level of accountability didn’t represent the actual distribution of responsibility and the integration between units/specialities/professional in providing healthcare services. In fact nurses play both managerial and clinical tasks: in fact they have to manage a set of resources (consumable, generic drugs and
other nurses) and they provide assistance to patients during their stay in hospital. This role was not clear looking at the previous organizational structure. Consequently nurses were not able to perceive completely the importance of their role and on the other side doctors have never accepted the importance of the role played by nurses. Moreover healthcare services are the result of many activities carried out by many units/specialities/professionals. This organizational structure didn’t underline this integration and possible problems in the process of services providing. Moreover doctors, proud of their autonomy, often didn’t recognize or see the importance of integration and communication about the health of their patients: for example every doctor knows treatments he/she has administered to his/her patient, but he/she does not know treatments administered by other doctors. Secondly, the vertical organization was not able to underline causes of outputs and consequently it was not really able to promote improvements of performance and higher efficiency. Thirdly, it was not able to represent the work flow of professional activities and the complexity of healthcare services and treatments.

The accounting system used to support the vertical organization was based on cost centres and presented similar problems with the further problem of producing distorted information for the improvement of performance. First of all, this system defined accountable for costs and goals achievement individuals who were not completely able to influence them and didn’t underline the interaction of individuals, thus making unclear the responsibility for results. Secondly, it underlined only the output (in terms of costs or of activities) and not the causes, thus making difficult the individuation of behaviours needed in order to act on final output. Thirdly, the cost due to the complexity of health services provided was not represented, thus making medical doctors not able to use the system for managerial purposes (Mintzberg, 1983).

It is evident that the vertical organizational structure and the relative accounting system were not able to impact significantly on the improvement of efficiency and of performance.

In a context of limited resources the pressure for a greater efficiency has been growing and the Regional level decided to give LHAs the objective to move toward a horizontal organizational structure based on processes, where the patient is put in the centre of the organization. The criteria chosen by the Regional level for the reconversion of the organizational structure was the intensity of care required by patients and no longer specialities. Four levels of intensity of care have been defined: low intensity, medium intensity, high intensity and very high intensity. Above them there are the medicine and surgery departments, each of them has the four levels of intensity. Within each level of intensity every speciality provides its services, depending on the level of care provided by patient. The structure is like a matrix: the rows indicate level of intensity and the columns the speciality. Within the level of intensity doctors are responsible for patients they threat. There are
four levels of accountability: the Nurse Manager, the Specialist (ex managers of units), the Head of the Department and the Manager of the Hospital.

The Nurse Manager has a managerial responsibility for his/her level of intensity. There is a Nurse Manager for each level of intensity of care. He/she is accountable for the right management of beds in his/her level, low cost drugs and of consumables. He/she has to manage available beds in order to answer to what clinicians require for their patients.

Every Speciality has its own responsible (the Specialist). The Specialist has a clinical responsibility for clinical results of his/her patients and for the quality of the treatment he/she provides. In terms of resource consumption, the Specialist is accountable for high costs drugs and prosthesis. He/she has to negotiate beds with nurses on the base of their patient’s requirements. Both Nurse Manager and Specialists are accountable for the right management of their personnel (i.e., shift, holiday ect.) in order to guarantee services to patients, but are not accountable for the cost of the personnel because they are not really able to influence it. They can only require additional personnel if they demonstrate a real necessity. The Head of the Department deals with the integration of goals within doctors and nurses. The Manager of the Hospital has the same goals of the previous vertical structure.

Figure 1 provides an exemplification of how the organizational structure has changed.
Figure 1 – Vertical vs. Horizontal Organizational Structure
The attempt of this organizational structure change is to promote efficiency. In fact it provides the actual representation of responsibility and accountability lines within the organization, put the patient at the centre of the organization and favours a more efficient use of resources.

Regarding the first concern – the actual representation of responsibility – the horizontal organization puts on evidence the role of nurses in the management of beds and consumables in wards. This role, which has ever been played by nurses, in the vertical organization was not recognized by the responsibility accounting, with the consequence that medical doctors were considered accountable for resources that they weren’t managing, thus making difficult the improvement of efficiency in their use.

Regarding the second concern – the possibility to put the patient at the centre of the organization - the new organizational structure is based on clinical pathway and the minimum unit of analysis is the patient and his/her pathway. This allows underlining also the integration between specialists and professional and their shared contribution in the care of patient, thus favouring the possibility to effectively act on the quality of care.

The third concern – a more efficient use of resources, which is a further consequence of the change in the levels of accountability - also depends on a better management of beds and on an optimization of resources around specific levels of severity of care. In the previous vertical organization each specialist/unit manger had his/her beds and there could be period in which beds and resources were not completely used, thus generating quite high percentage of unused capacity.

In the horizontal organization specialists share beds, common drugs and consumables into a certain level of intensity. The sharing of these resources is based on demands for treatments and surgeries. Nurses tend to take up all spaces and to optimize all common resources, with a lower probability of occurrence of unused capacity and supply. Moreover resources are specialized for intensity of care, thus favouring a more correct use of them and avoiding wastes.

In vertical organization variable costs could decrease but fixed costs could remain the same, until a big restructuring or the closing of the ward occurred. It is possible to imagine the reaction of specialists/unit mangers in seeing their ward closed or reduced. On the other side doctors were not really able to influence the demands of treatments or surgeries; they could only act on quality in order to attract patients to their hospital.

The Regional Level, in 2006, started this process of organizational re-engineering. Within general rules provide by the Regional Level, every LHA has started this process of adaptation of the old structure. Every LHA has actuated its own arrangements and modality of application; the process is at an advanced phase, even if many aspects are still to be clarified.
The main problem is the adaptation of management accounting systems, in fact while the organizational structure change has been concluded in many LHAs, the management accounting system still represents the vertical organizational structure. This situation produces incongruence between the work organization and the information provided, making really difficult the decision making process and the evaluation of performance. Moreover the Regional Government had started to ask for information based on the new organizational structure and specific incentives have been established for LHAs that are in a more advanced step of their process of change.

According to the theoretical framework recalled in the previous section (Broadbent and Laughlin, 2005; Habermas, 1987), we considered specific interpretative scheme, sub-systems, design archetypes working in the context of Tuscany HC system and the process of language between researcher and the researched. The specific sub-system we considered is the “Physical organization of space” which means the logistics of the hospital, i.e. where patients are hospitalized, where materials are stored etc. The specific archetypes we considered are the “Management accounting system” (MAS), the “Organization of responsibility” and the “Organization of work”. The “Organization of responsibility” includes the levels of accountability for performances in the hospital. The “Organization of work” represents the unit of analysis in the organization of work and in the evaluation of results, i.e. the speciality, the patient, the department, the whole hospital etc.

The disturbance has come by the Regional Government and stands in a law which aims to modify the organization of work and responsibility within healthcare organization. This disturbance has provoked a change in the structure of the organization, from a structure at the time t0 (before the disturbance) to the structure at the time t1(after the disturbance)(Figure 2).

**Figure 2 – The theoretical framework contextualized**
More specifically, today the disturbance has modified two archetypes: the “Organization of responsibility” and the “Organization of work” (but not the Management Accounting System) and the subsystem “Physical organization of space”. The Organization of responsibility has shifted from the “Organization of Responsibility t0”, with three levels of accountability (Unit Manager, Department Manager and Hospital Manager), to the “Organization or Responsibility t1”, with four levels of accountability (Nurse Manager, the Specialist (ex managers of units), the Head of the Department and the Manager of the Hospital). The “Organization of work” has shifted from the “Organization of work” t0, where the unit of analysis is the speciality (orthopaedics, genecology etc), to the “Organization of work” t1, where the unit of analysis is the clinical pathway and the patient.

The subsystem “Physical organization” of space has shifted from the “Physical organization of space t0”, with a physical organization of hospital per specialities, to the “Physical organization of space t1”, with a physical organization of hospital per level of severity of patients treated.

The Management Accounting System has not changed (it is still at point 0) and continue to reflect previous arrangements.

The interpretative scheme at this moment seems unchanged: more specifically the perception of individuals about the organization of responsibility and accountability is the same as before the external disturbance (it is still at the point t0). The clear evidence is the resistance, showed by clinicians, with respect to the new organization of responsibility. This resistance has been showed by clinicians in many occasions like formal meetings with the regional government and in many meetings and informal talks we have had with them in occasion of education courses or other projects. This resistance is due to a cultural problem. Many controllers told us that clinicians saw these change as a limitation of their responsibility and as a decrease in their power, in favour of an increase in the power and responsibility for nurses. This resistance has also created many tensions within the organizations.

In this situation morphostasis is working: two design archetypes and the subsystem “physical organization of space” have changed with incoherencies and tensions. Also a change in the interpretative scheme is required, because this is the new model imposed by the regional government and because the impact on culture affect the behaviour of individuals, thus affecting performance (Miller, 1981). Moreover the imposed changes represent the actual organization of work and do not answer to political requirements.

The main problem is that a penetration of change in the interpretative scheme requires a change in all the design archetypes mentioned: the management accounting system, the organization of responsibility and the organization of work. In fact clinicians are not able to accept and understand
how their responsibility has changed because they can not perceive, in terms of numbers, documents, information etc, the change. Moreover managers, and the regional level are not able to understand performance of hospitals and units.

Considering the two design archetypes already changed, we should underline that, while the new organization of responsibility is completely different from the old one, the organization of work, in the mind of clinicians, has ever been based on patient and clinical pathways; the reform has simply formalized this concept.

With MAS we mean both the budgetary system with its indicators and the cost accounting system with costs of activities, resources etc. These two elements need to change.

Considering the theoretical framework, the following section analyzes the process of change of the design archetype of management accounting system in healthcare sector. This change is made necessary after changes occurred in the design archetypes “organization of responsibility”, “organization of work” and in the subsystem “organization of space”. In particular we are interested in studying the characteristics of the process of change affecting the possibility of the design archetype MAS, together with the other design archetypes considered, to impact on the interpretative scheme. We are particularly interested in observing the process of change from an internal point of view and in supporting changes using the potentialities of the process of language described by Habermas.

5. Method, development of the research and outcomes

Several authors found that a collaborative approach, based on shared meanings, favours the process of change of the interpretative scheme (Dunphy and Doug, 1988; Smith, 1982; Cinquini and Campanale, 2010). The design archetype “Management Accounting System” is an important element in providing the alignment between sub-systems and interpretative schemes: in this respect the design of the MAS is a critical process. Cinquini and Campanale (2010) found that the equilibrium of the organization can be supported if the design archetype “Management accounting system” is developed within a collaboration and integration between clinicians and accountants. In particular they underlined the importance of the sharing of knowledge among actors.

Considering this, the constructive approach (Kasanen et al., 1993) suits well our purpose. Kasanen et al. (1993) defined the constructive approach “A research procedure for producing construction, where in the management accounting this research approach is intended to produce managerial construction”. In their model a new budgeting system or a new method of supporting capital budgeting provide concrete examples of managerial constructions. In their view, accounting is seen
as a language and the idea of language fits well with our idea of accounting as a design archetype, that is a process of language used to provide equilibrium within the whole organization.

The constructive approach is characterized by five elements: (1) a problem of practical relevance; (2) a theoretical connection with the problem; (3) the construction of a solution; (4) the demonstration of the practical functioning of the solution; (5) a research contribution to theory. The construction of the solution has to be done within collaboration between users of data, providers of data and researchers. Considering the any complex organization has a tendency to resistance and inertia, the demonstration of the applicability of the solution is the most important factor, together with the innovation to be constructed.

Figure 3 provide an adaptation of the model to our setting.

Figure 3 – Adaptation of Kasanen et al. (1993)

Regarding the application of the constructive approach to our setting, we are able to find all the required elements.

The problem of practical relevance (1), described deeper in the fourth section, stands on the necessity to adapt the design archetype “Management Accounting System” to changes occurred in the design archetypes, “Organization of Responsibility” and “Organization of work” and to changes occurred in the subsystem “Organization of physical space”. The theoretical connection (2) stands on: (a) the theory of society and organization developed by Habermas and deployed by
Laughlin –described in the third section - which underlines the complexity of organizations and the necessity to have an equilibrium between all elements of the organization. Particular attention has also to be put in the theory about participative approach in the process of change. In the section we will describe more in deep the other three elements of the approach: (3) the construction of a solution; (4) the demonstration of the practical functioning of the solution; (5) the research contribution to theory.

The construction of the solution (3) has been developed through a collaboration between clinicians and controllers, both belonging to 11 LHAs and 4 THs, and researchers. The demonstration of the practical functioning of the solution (4) is an element working on our model, because the theoretical model has been tested and the availability of instruments and information verified.

The contribution to theory (5) will be about factors affecting changes in interpretative scheme and able to determine a morphogenetic change. This element of the constructive approach will be discussed in the final section.

We consider also of particular importance the role of researcher as mediator in the process of change and in the adaptation of elements of the organization. In this respect the steps of the process of language will be described and developed, reminding the four interconnected stages of language (Habermas, 1987): quasi-ignorance stage, critical theorems stage, enlightenment stage and selection of strategies stage. The last three stages have been developed within the steps of the constructive approach. The first stage – the quasi ignorance stage – has been our starting point, because, before the beginning of the research, we already had some concerns about the problem. We learnt these concerns from publications in newspapers, rumours and informal talks.

Element 1 of the approach (individuation of a problem of practical relevance) has dealt with the individuation and the study of the practical problem described in second section. Previously we had some concerns but we needed a shared understanding of the current situation. It comes by interviews with clinicians and controllers of all LHAs and THs and by informal conversations with clinicians. In particular we interviewed 16 controllers and 8 medical doctors. During interviews and informal conversation we shared with participants the views of the problem and started to develop a common language, typical of the critical theorems stage describe by Habermas.

The construction of the solution (element 2) has taken about one year. It has been developed within a mixed group composed by LHAs, THs and researchers. LHAs and THs were represented by both clinicians and controllers. Participation was voluntary. Eleven LHAs and all THs decided to participate, this could be an evidence of the high importance attributed to the problem by organizations. Group meetings were organized about once a month. The group was composed by 35
individuals and coordinated by a controller belonging to a LHA and by researchers. In this step, top managers has not been involved.

In the first five months the group had two main goals: going in dept of the problem and sharing a common language. In first meetings of the group participants shared experiences and problems faced by their organizations and discussed official regional documents. The main objective was to focus on difficulties they found in the adaptation of the MAS to the new organizational structure. Considering implication of the new organizational structure the group planned to focus the attention on two main issues regarding the MAS: (1) how the budget structure should have changed; (2) how the cost accounting system should have changed.

For both issues the group identified some critical aspects to be faced in the definition of the system: (1) Resources managed by nurses (beds in his/her level, low cost drugs and consumables) are shared by many specialists; (2) the same specialist could act on different levels of intensity of care; (3) how to assign resources to the different levels of intensity; (4) nurses deal both with assistance to patient and with a managerial role; (5) how to map all activities which determine costs and performance. These critical aspects will be described more in dept in the following sessions.

In this step we tried also to trace a set of problems which could cause these difficulties and tried to make some explanations. We identified several factors: (1) a sort of inertia of the organization, (2) a lack of competencies and capabilities of individuals, (3) the availability of dedicated resources, (4) the availability of technologies.

Regarding the inertia - typical of every organization - it seems that these organizations had tried to make some small changes in their MAS, but without investing in technologies and human resources. They made some adjustments to their reports but an effective change in MAS requires to act deep in informative system and an high commitment of people. A deep change requires a group of people dedicated to this task in a full time commitment, while these small adjustments were made by controllers and technicians during their daily work, on a voluntary base. The absence of adequate investments determined all problems linked to the lack of competencies and capabilities (2), and to the lack of resources and technologies (3-4). These experiences however were useful in order to share a common understanding of problems and a common language.

We were not able to act on investments, but we tried to stimulate change and to integrate the lack of technical competencies and capabilities. We tried to reach this goal in several ways: presenting other national or international similar experiences, making proposal, underlying benefits of a possible change. We used a communicative approach with participants in order to gain on trust and create the feeling that we were part of the group. Also our role as members of an external
institutions, a university which usually works with the regional HC sector, has been an important factor in determining trust.

In this phase, as researchers, we took notes and started to plan a proposal to be presented to the group, facing the approach of the enlightenment stage of the language described by Habermas.

Next sessions will describe the two relevant issues we faced and how we faced them. Considering the phases of language the identification of solutions traces the phase “Selection of Strategies”. The strategy that seems to be chosen is an adaptation of the interpretative scheme. Actually, even if it seems that only the interpretative scheme is adapting to changes in subsystems, the collaborative approach had, in some ways, favoured also the introduction of the culture of individuals in some elements of the MAS developed, described in the following two subsections. This issue will be further developed in the sixth Session.

5.1. The change in the budget structure

The discussion about changes in the budget structure took about 1 year and finished with a written document shared by all participants. The most important questions were: “Which are the required behaviours of individuals at the different levels of accountability?”, “How can we measure their performance?”; “How the process of negotiation should be?”.

Considering these main issues a scheme of document was prepared and then participants started to compile the document. In order to make the process more efficient, usually the coordinator of the group, together with researchers, prepared a proposal to be discussed within the group.

Firstly the group discussed about problems and opportunities of the new budgetary structure and of the new budgetary negotiation. The budget comprises the assignment of resources and of objectives to be measured with performance indicators.

Table 1 summarize problems and opportunities in building a new Budgetary System.
Table 1 – *Opportunities and Problems in the new Budgetary Process*

<table>
<thead>
<tr>
<th>OPPORTUNITIES</th>
<th>PROBLEMS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recognition of the role of nurses</td>
<td>Different role of specialists</td>
</tr>
<tr>
<td>Separation between accountability for management of resources and accountability for use of resources</td>
<td>How evaluate performances</td>
</tr>
<tr>
<td>More accurate negotiation</td>
<td>More complex negotiation</td>
</tr>
<tr>
<td>Possibility to analyze clinical pathways (pathway indicators)</td>
<td>Investments in the study and analysis of clinical pathways</td>
</tr>
<tr>
<td>Higher visibility of actions</td>
<td></td>
</tr>
</tbody>
</table>

We remind that in the new organizational structure beds, low cost drugs, nurses and consumables are assigned to the Nurse Manager who manages them. As a consequence, several aspects have to be considered.

Nurse Manager acquires a new managerial role, he/she negotiates beds, low cost drugs, other nurses and consumable with his/her superior. On the other side Specialist negotiates the assignment of personnel (medical doctors), high cost drugs with his/her superior and negotiates his/her use of resources with the Nurse Manager. Both Specialist and Nurse Manager should be involved in the budgetary negotiation with an increasing complexity in the budgetary negotiation. Nurses are accountable for the management of resources assigned to the level of intensity, while Specialists are accountable for the use of those resources. This means that clear roles about the management of resources should be identified and that specific performance indicators, also in terms of efficiency, should be defined at both levels.

Both Specialist and Nurse Manager have to be involved in the budgetary negotiation: the negotiation has to be more accurate in terms of deeper discussions and more documented information for the requirements of resources assignment, but at the same time more complex.

A quite interesting opportunity could be to negotiate resources on the base of patients and clinical pathway. This could favour a higher alignment between activities and necessary resources and could also promote a higher visibility of actions. At the same time investments are needed in order to collect and analyze such more complex information.

These critical aspects were faced by clearly identified actors, behaviours, rules, indicators and time. Together with the coordinator of the group, a table was prepared to be compiled by the group during the meeting. Table 2 summarize such results.
Regardless the indicators addressed, what it is interesting is to put attention in the change that seems to be in course.

We simply provided an empty table and the group was able to compile it. They wrote exactly the way behaviours were required to change with the new organizational structure. It seems that some changes in the interpretative scheme are in progress here, because they were able to recognize what the new organizational structure required in terms of levels of accountability.
The group wrote also a document describing how the budget negotiation should be articulated. They identify for each step time, activities and individuals involved. The process of budget they identified was quite articulated and comprised several interactions between Controller, Doctors, Nurses, Head of Department, General Manager of the LHA. For shortness we do not report this document.

5.2. The change in the cost accounting system: towards a TDABC approach

The discussion about changes in the cost accounting system required about 13 months. In order to guarantee the practical functioning of the new cost accounting system, the development of the theoretical model has been contextual to its application in the Teaching Hospital that offered its availability to test the model in its organization (we will call it TO1).

The most important questions were: “How do the new organization of work is represented?”, “How do the costs per level of accountability are individuated?”, “How the cost information should be organized in order to favour a better informed budget negotiation?”.

First of all the group discussed about problems and opportunities of the new budgetary structure and the new budgetary negotiation required.

Table 3 summarizes problems and opportunities in building a new Budgetary System.

Table 3 - Opportunities and Problems in the new Accounting System

<table>
<thead>
<tr>
<th>OPPORTUNITIES</th>
<th>PROBLEMS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Availability of an organization of cost information coherent with the new organizational structure</td>
<td>Cultural difficulties in starting to see cost in multiple perspectives: nurses, specialists, patients</td>
</tr>
<tr>
<td>Possibility to have the cost of activities performed by both specialists and nurses</td>
<td>Necessity of time, capabilities, investments in order to implement a new system</td>
</tr>
<tr>
<td>Opportunity to have a better resource assignment</td>
<td></td>
</tr>
<tr>
<td>Higher responsibility for all individuals which could bring to an higher control on costs</td>
<td>Higher visibility of action which could bring to resistance</td>
</tr>
<tr>
<td>Possibility to develop a new system based mainly on clinicians requirements and more understandable by them</td>
<td>Necessity of clinicians available to spend time in the development of the system, with a partial limitation of time devoted to the care of patients</td>
</tr>
</tbody>
</table>

The table underlines the potentiality that a new system could bring to the management of resources within the organization, but also difficulties to be faced. Firstly, there is the opportunity to produce cost information aligned with the new organizational structure and with the actual work flow developed. Discussion of the group suggested the requirement to move from cost per unit to cost
per patient. In fact cost per patient is the base for determining cost per unit and per level of intensity. A system based on patient and clinical pathways could favour also a better distribution of resources, in fact, it allows the distribution of resources based on the number and on the complexity of clinical pathways. However, higher investments in terms of training and education, people and technologies are required. Moreover cultural resistance could arise. In fact the new system could generate a shift of power within the organization and there is the risk of a non consonance with the local culture. Considering the nature of professional organizations such as hospitals (Mintzberg, 1983), behavioural and organization variables are key elements that influence the success of innovative technique (Shields and Young, 1989). Some examples are the support provided by the top management, the level of training and resources spent in the project, the clarity of objectives, the involvement in the process of implementation and an eventual link to performance evaluation (Shields, 1995; McGowan and Klammer, 1997).

Secondly, the promotion of responsibility at all levels, encourages an higher attention on costs, thus bringing to an expected higher efficiency. On the other side the higher visibility of action could create tensions (see Tuomela, 2005), because the visibility of actions limits the possibilities to protect themselves from scrutiny and questioning (Vaivio, 1999).

Thirdly, the possibility to start from a zero base is an incentive and a stimulus to avoid critical aspects of previous system. One of these critical aspects is the inability of a system based on cost centres to represent the work flow of the organization, thus making information unclear for clinicians. Building a new system gives the opportunity to start from clinicians information requirements. In this respect, the first important thing to consider is that the system has to provide a correct diagnosis of the situation (Malmi, 1997) and this implies that people involved in the development of the system must deeply know the operational context and the working environment, otherwise the model risks not to represent the organization reality.

All these critical aspects suggest the necessity of gradualism and involvement in the implementation of a new Accounting System.

Considering the analysed opportunities and problems, a system based on activities has been considered as the most suitable for this case. The most well known costing technique based on activities is Activity-based Costing (ABC). Issues related to ABC in healthcare have been studied for years in relation to questions such as its potential application and results in healthcare organizations.

According to Hilton (2005, p.786) "ABC is a two-stage procedure used to assign overhead costs to products and services produced. In the first stage, significant activities are identified, and overhead costs are assigned to activity cost pools in accordance with the way the resources are consumed by
the activities. In the second stage, the overhead costs are allocated from each activity cost pool to each product line in proportion to the amount of the cost driver consumed by the product line”.

Activity-based costing is founded on the assumption that resources (personnel, consumable, machineries etc) are required to perform activities and then the activities are used up by the cost objects (a product, a service, a customer, a patient etc).

Activity based costing application requires several steps: (1) definition of the activities; (2) overhead costs are assigned to the activities through “resource drivers” expressing how many resources are consumed in the development of activities. The cost of activities is defined; (3) the activity costs are then assigned to the cost objects through “activity drivers” expressing the frequency and the intensity of their demands for activities.

Among the advantages of an Activity Based Costing system in a health care setting, firstly it makes the patient care process more transparent and activity costs clearer for clinicians and administrative (Lawson, 1994; Udpa, 1996). In general, if activity costs become clearer, the employees’ cost awareness improves: in fact these techniques stimulate them to think about the work they do and about the level of efficiency they use (Lawson, 1994; Udpa, 1996). Secondly, ABC is helpful in supporting the budgeting management (King et al., 1994); ABC information helps in (a) assessing resource consumption accurately (also in a forward looking perspective), (b) allocating resources among organizational units, (c) realizing more detailed variance analysis and (4) helping in the production of a profile capacity usage (comparing available vs utilised levels of cost drivers). A third advantage linked to ABC is that it helps in an higher control of costs. For example Kirton and Hazlehurst (1991) claim that Activity Based Costing promotes a better understanding among accountant of how the service works, provides visibility on where and why the cost incurs, highlighting the potential cost of rework, and supports initiative for the quality improvement. They argue also that, if cost drivers are well defined, we could express the complexity of the case mix; in fact costs vary on the nature of the patient, on the type of examination, on the mix of the staff and appropriate cost divers can model the effective pattern of resource. A fourth point on Activity-based costing relates its presumed positive effect not only on managerial performance but also on financial performance as discussed in Antikainen et al. (2005). That paper describes a study performed in a Finnish hospital in which simulation of the profitability of an enlargement of a day surgery unit room and department and simulation of how changes in time and personnel influence the costs of activities and operations were performed by an ABC system. They found also interesting application in the evaluation of unused capacity, in fact they found that every minute of waiting in the operation room costed over 8 Euros/minute (Antikainen et al., 2005).
Despite the advantages many ABC applications failed because the benefits didn’t balanced the high costs incurred in implementing and maintaining the system. It has been observed that ABC application is often limited to specific departments, facilities or business. On this point Gosselin (2007) recalled the basic unsolved issue of the ABC paradox, which is that “…despite favourable context for the adoption and implementation of ABC and even though ABC exists since almost 20 years, survey have shown that the diffusion process of ABC has not been intense as it may have been expected.” (Gosselin, 2007: p.642). Such lack of ABC diffusion is also recalled in Kaplan and Anderson (2007) as a consequence of ABC pitfalls. They recognize that the interviewing and surveying process necessary for cost allocation in the ABC system is time consuming and costly. Furthermore the frequent estimates of the employees for resource allocation were subjective and difficult to validate. These considerations make the ABC system questionable in its accuracy of cost assignments. A second degree of inaccuracy comes out when it is clear that ABC ignores the potential for unused capacity. The employees’ estimates or the activity drivers are considered at 100% of use of capacity. The authors also noticed that in many companies where ABC is implemented it remains bounded in individual departments or businesses, not providing an integrated view of enterprisewide profitability opportunities. By the end of Kaplan and Anderson’ analysis Activity-based costing appears to be very costly both in implementation and updating and furthermore inaccurate in calculating the cost of the object. The next step in the evolution of ABC proposed by Kaplan and Anderson (2007) is Time-driven Activity-based Costing (TDABC). TDABC simplifies the costing process by eliminating the need to interview and survey employees for allocating resources costs to activities; the new system assigns resources costs directly to the cost object in two steps requiring only two estimates. In the first step TDABC calculates the cost of supplying resource capacity (personnel, equipment, technology etc) in a specific department or process. It divides this total cost by the capacity of the department or process (expressed in terms of time) to obtain the capacity cost rate. In the second step the capacity cost rate is used to allocate resource costs to cost object through their demand for resource capacity expressed in terms of time. The two recalled time estimates are: the total capacity of the department or process and the time required to perform an activity.

Considering the opportunities and the problems underlined by the group we proposed the application of TDABC; it is a techniques based on activities but simpler compared to ABC. TDABC seemingly provides many opportunities to design cost models in environments with complex activities, as in healthcare organizations, and service organizations, in general.

During a meeting of the group we presented the rationale of the technique and the recalled advantages in its application in healthcare sector by presenting the paper of Demeere et al. (2009).
The paper describes the development and application of a TDABC system for an outpatient clinic in Belgium and was very useful to demonstrate the potentialities of the costing system in such a setting.

We underlined the importance to test the model in an organization in order to link the discussion about the theoretical model to the possibility to see results and understand potentialities. In particular a Teaching Hospital (TO1) demonstrated its availability to test the model. This hospital some years before started a project where all the clinical pathways were mapped, but the project was interrupted after the change of the general director. For this reason, this hospital had a strong motivation in seeing its previous effort re-paid in some ways. This past work permitted to shorten the time of mapping the activities of the pathways and so to concentrate on the other steps of the methodology.

The test started with the application in one department, the department A. The work was organized as follows: within the mixed group, a smallest group was constituted. The smallest group was composed by cost managers and clinicians belonging to the department of experimentation and researchers. This group worked on the requirement of data for the development of the model. Its work consisted in: (1) mapping of processes, (2) identification of actors and other resources involved in the development of activities, (3) identification of time spent by personnel in the development of activities, (4) identification of the cost of resources, (5) collection of all data. Points (1), (2), (3) required the involvement of medical doctors and nurses belonging to the department. In order to obtain the time of each activity three types of resources were defined: medical doctors, nurses and surgery room. The activities and the related times performed by medical doctors were mapped through the interview methodology and they were therefore compared with standards available by professional association. The activities and the times performed by nurses and the usage of the surgery room were recovered by a software.

At every step the smallest (operational) group reported intermediate results to the whole group. Nine meetings with the whole group have been organized. Every meeting was organized as follows: the smallest group reported the work done, underlying straightness and difficulties. The task of the whole group was to discuss the results and to give suggestions in order to continue the development of the model. The operational group, on the base of the suggestions coming by enlarged meeting, modified the model through following steps. These continuous interactions have been useful in order to favour the alignment between the two elements of the constructive approach: the theoretical model and the practical functioning.
At the end of the explanation of the research steps, we can now summarize in Figure 4 how the process of language described by Habermas in section 3 has been deployed during the process of change.
**Figure 4 – The process of change and the process of language**

<table>
<thead>
<tr>
<th>Steps of change</th>
<th>Accounting system change: Application of the Theoretical Model defined for the MAS</th>
<th>Discussion about the evolution of MAS</th>
<th>Budgetary system change: Writing of a final document about the budget process</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steps of the research</td>
<td></td>
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<tr>
<td>Analysis of publication in newspapers, informal talks, rumors</td>
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<tr>
<td>Interviews and informal conversation</td>
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<tr>
<td>Sharing of objectives and of the way of work</td>
<td></td>
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<td>Sharing of experiences</td>
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<tr>
<td>Search for a common language</td>
<td></td>
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<tr>
<td>Discussion about changes in the budgetary process</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Months</td>
<td>January</td>
<td>February</td>
<td>March</td>
</tr>
<tr>
<td>Year</td>
<td>2009</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stage of language (Habermas)</td>
<td>Quasi-Ignorance stage</td>
<td>Critical theorems stage</td>
<td>Enlightenment stage</td>
</tr>
</tbody>
</table>
6. Findings

The new system and reports provided by this system were presented to clinicians in several occasions, both in non formal and in formal ways: meetings of the mixed group that has worked on the definition of the system, meetings with a larger group of people working on management and control issues, training sessions for clinicians, other informal meetings and talks with clinicians. Even if we think that changes in the interpretative scheme could be observed in two or three years, first evidences suggest that the approach adopted in the process of change could help clinicians to accept and understand organization archetype and organization sub-system changes and could also bring to cultural changes.

First changes in the interpretative scheme could be observed in many steps of the project: the discussion about the practical problem, the development of the system and the discussion about output.

Clinicians demonstrated a great interest in the discussion of problems linked to the alignment of the management accounting system. Cinquini and Campanale (2010) in a previous research found that, in recent years, the penetration of calculative processes and the attention to cost control, has been affecting deeply the culture of clinicians who started to use cost information to improve performance. This growing culture is in contradiction with the difficult to have information organized on the base of the new organization of responsibility. Clinicians were worried about their inability to have right information for the decision making process. They felt they were losing the control of their performance. In the “Discussion about the practical problem” they were active participants in the definition of problems and relate consequences and gave support in the planning of points to be faced during the project.

In the “Development of the system” phase clinicians gave the highest support: they individuated activities within clinical pathways, personnel and time spent in the development of activities, linkages between activities, pathways and individuals. They also gave useful suggestions in the individuation of how organize information and reports. We, as researchers, only put data into a database in order to elaborate reports.

In the “Discussion about the output” clinicians provided support in the interpretation of results, such as the individuation of the suitable percentage of unused capacity. They also analyze reports in order to compare performance of the units represented, thus providing information about how to interpret differences.

Both clinicians belonging to the group and clinicians who had the opportunity to observe reports were enthusiastic to have information representing their actual work flow, and were happy about the
possibility to have deeper information to use in the decision making process, in the evaluation of results and in the budget negotiation.

The possibility to have information about the cost of clinical pathways and about used capacity was particularly appreciated as a tool for the budget negotiation and recourses distribution arrangements. This could allow a higher coherence between activities and necessary resources.

The possibility to have a system able to represent, in terms of numbers, clinical activities could have given an advantage in the possibility of influencing the clinical culture. In fact, as underlined by literature about the professional organizations, systems able to represent complexity of activities are preferred by individuals, particularly by clinicians (Jacobs et al., 2004). Moreover also the collaborative approach could have favoured this result, because professionals are more likely to accept a system based on standardisation when the system and the supervising derive from their expertise (Abernethy and Stoelwinder, 1990).

7. Discussion and Conclusions

This research was developed within the framework of the theory of society and organizations originally developed by Habermas and further developed by Broadbent and Laughlin. Its objective, contextualised in the healthcare sector, was to study the process of change of MAS. Considering previous research (Dunphy and Doug, 1988), Smith (1982), Cinquini and Campanale (2010) we decided to apply a constructive approach (Kasanen et al., 1993) in the development of the new system. We also deployed all phases of language described by Habermas.

In our research context an external disturbance modified the sub-system “Organization of space”, thus interrupting the inertia and the equilibrium of the organization. While the archetypes “Organization of Responsibility” and “Organization of Work” changed, MAS had some difficulties, and this created obstacles in the obtainment of an impact in the interpretative scheme, the core of the organization, and thus in generating a morphogenetic, rather than a morphostatic, change. In fact the ability of MAS information to support the representation of responsibility constitute a factor affecting the impact on the interpretative scheme. A morphogenetic change represents a desirable output in our setting, because it could bring to the results expected by regional reforms: higher efficiency, better organization of work and reduction of wastes.

Several elements of the process of change affect this result: (1) the collaborative approach; (2) the role of researchers as promoter of changes, (3) the trust in researchers, (4) the role of researchers as members of a third party legitimated to work in the healthcare sector, (5) good informative systems, (6) the possibility to see tangible results and, according to Grenwood and Hinings (1988), (7) the strength of the contingencies, (8) the level of commitment held by participants, (9) the
interests of individuals, (10) the dependences of power, (11) the organizational competences and capabilities of top managers.

Regarding the first factor, a collaborative approach, it is particularly useful in traditional professional organization where traditional forms of control are usually rejected, according to Dunphy and Doug, (1988), Smith (1982), Cinquini and Campanale (2010). It could favour the adaptation of the new system to professionals’ requirements and could avoid the perception of an imposed tool, thus avoiding resistance. Brunson (1985) argued that weak ideologies favour the process of change, while strong ideologies make the change more difficulties. He argue that strong efforts are required in order to overcome problems that could occur in organization with strong ideologies and that a collaborative approach could be useful in overcoming difficulties usually faced in the promotion of changes in organizations with strong ideologies (Brunson, 1985).

Our setting is not characterized by weak ideologies in the sense proposed by Brunson (1985) (where weak ideologies mean inconsistent, simple and inclusive ideologies), on the contrary ideologies are strong. The strengthens of ideologies were evident in the construction of the solution. In fact the group discussed and developed the system considering also its needs and culture. Evidence is the choice to use an Accounting System based on clinical pathways or the choice to develop quality indicators, rather than only efficiency indicators in the Budgetary System. Perhaps the research approach, with the aim to overcome problems traditionally faced in professional organization, has favoured a process of change despite strong ideologies. The approach in fact gives the idea of a voluntary and non imposed change.

Regarding the second factor, the role of researchers as promoters of changes, its effectiveness can help organizations to overcome inertia. In fact researchers could make proposals and could help in the application of proposals, thus overcoming partially the lack of competencies, which is a typical factor limiting morphogenetic changes. Also the trust in researchers, the third factor, is an important element. If researchers are perceived as collaborators and not simply as external consultants, there is the possibility to gain high collaboration and thus acquire more information about the problem and be able to propose good solutions. With high trust in researchers there is the possibility that individuals accept and appreciate proposals made by researchers. Trust is favoured also by the membership of researchers to a third party (fourth factor) which traditionally has worked with LHAs and TOs in problem solving.

Regarding the fifth factor, even if the application of TDABC is quite simple, there is the need of instruments and good information in order to process and elaborate data. Moreover the possibility to develop the model and contextually be able to apply it and see some results is a good stimulus to go through next steps of the research and find new results (sixth factor).
The strength of the contingencies (sixth factor) in our setting is evident: the change in the organization of responsibility has created severe contradictions within the organization (between elements of the organization) and between the organization and the external environment. Regarding this last issue, in fact, the Regional Government had started to ask information based on the new organizational structure and specific incentives have been established for organizations able to manage this change, but organizations in that moment were not able to provide information with available MAS.

Regarding the level of commitment of participants, we found low level of commitment with the previous arrangements. This has been evident both during the construction of the solution and both in previous stage of language (the critical theorems stage). During these phases it emerged that individuals where not satisfied with the present arrangement and were willing to a change. Low commitment to the previous arrangement was also evident in efforts put in the process of development of the new system. Regarding dependences of power, we have not empirically data to demonstrate that all groups who have the power were not satisfied with the present system. We could only imagine that top managers and middle managers were not satisfied because they were not able to analyze and improve performance before the solution proposed. If we consider also medical doctor as a power group (as they are the group that in HC settings most of all influence decisions and performances) we can certainly say that they were not satisfied with the previous arrangement and that they were willing to change.

Finally, regarding competencies and capabilities of top managers, we have something different. We are not able to evaluate competencies and capabilities of top managers and their role as promoters of changes because in this phase of the research they have not been involved yet. In fact in the first step of the constructive approach we used in this research, we developed the new Management Accounting System with the contribution of the users of the system. The involvement of the top manager is planned in a second step of the research, in order to implement the new Management Accounting System on a large scale. In this phase a role in the promotion of change has been played by researchers and by the coordinator of the group. Researchers put their skill and knowledge in the process of change. The coordinator was able to promote enthusiasm in the process of change. The group didn’t have technical competencies but, during the research, researchers had a role in overcome the lack of competencies.

Findings suggest that a morphogenesis is in course. We would observe results in some years but first impressions about the work of the group suggest that a change in the interpretative scheme is in course. Within morphogenetic changes, we should argue that this change is something in the middle between colonization and evolution. Within the phase of language “Selection of strategies” the
selected strategy, at first glance, seems a change in the interpretive scheme. However, at the end of the research, we realized that the process of change had resulted in a mutual adjustment between elements of the organizations. In fact the Management Accounting System reflects both the requirement of the Government, in terms of new organization of responsibility, and in part the pre-existent culture, in terms of centrality of the clinical pathway, as unit of analysis.

In session 4 we argued that integration of actors and actual distribution of responsibility were not accepted by doctors, proud of their autonomy, but the role of patient as the centre of the organization and the logic of clinical pathways, inside the new organization of work, were something inside the culture of the organization already, even if not formalized. The new interpretative scheme reflects in part something imposed (integration of actors and actual distribution of responsibility) and in part something (the centrality of patient) that was working also before the disturbance. We should argue that this change is something in the middle between colonization and evolution. In fact the disturbance has determined a change in subsystems, design archetypes and consequently in the interpretative scheme (regarding integration of actors and actual distribution of responsibility). At the same time a part of the interpretative scheme (the role of patient and clinical pathways) was already present but has been formalized only after the reform. It influenced the design archetype MAS, which has been defined with emphasis on clinical pathways, activities and clinical indicator.

The constructive approach we used in this research, in some ways, may attempt to make the change in the interpretative scheme less invasive and more aligned with the current culture. The idea of the research was to promote a change in the interpretative scheme by mean of the design archetype Management Accounting System. Findings suggest that, in a situation where individuals are obliged to change their culture, the possibility to use a participative approach, in the development of design archetypes, could favour an higher acceptance of individuals and could make easier the process of change towards a new equilibrium between elements of the organization. The constructive approach used has attempted to make the design archetype Management Accounting System reflecting in part the interpretative scheme and in part the Governmental requirements. The result is that the interpretative scheme can be able, through the Management Accounting System, to continue to influence and regulate the equilibrium between elements of the organization.
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165

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CONCLUSION

This thesis has analyzed, in the context of healthcare, how Management Accounting Systems (MAS) could be implicated in broader organizational changes, which means changes involving both tangible and intangible elements of the organization.

The approach used in this thesis has moved from a preliminary study of previous researches analyzing the role of MAS in healthcare sector. This review has shown some needs to be filled in approaching the study of the role of MAS in influencing healthcare organizations and in particular organizational culture. These can be summarized as needs: to use a complex and dynamic approach and to use an internal perspective.

Regarding the first need, complexity of the approach, this review underlines the need to consider the role of MAS in influencing organizational culture in the light of both the external context in which organizations operate and of the organizational context.

The consideration of the external context is particularly important, specially in the public sector which is continuously subject to several influences coming from the government. In particular, the healthcare sector, has been subject to many reforms, commonly known as New Public Management reforms (NPM reforms). These reforms, introduced since ’90, came after a long period of clinicians’ autonomy and power over decision making. These reforms were implemented in all European countries and attempted to subordinate the public sector to the private sector operational models and practices, with the aim to increase efficiency and cost control in a context of limited resources. To this aim they introduced a growing accountability and responsibility over clinicians’ action, by mean of clinical budgeting. Evidently, these reforms attempted to influence healthcare organizations and to move clinicians’ to a more managerial decision making.

The consideration of the organizational context, on the other side, requires the study of the organizational culture and of managerial tools used. Managerial tools should be analyzed in terms of their technical characteristics and in terms of the approach used in their introduction and use. Many studies shown that the organizational context could influence the way in which MAS is applied and managerial principles introduced (see for example, Broadbent et al. (1991), Laughlin et al. (1992; 1994) Kurunmaki et al. (2003), Jacobs (1995) and Agrizzi (2009)).

Regarding the second aspects, dynamicity of the approach, it particularly suits the study of settings which are in continuous evolution. Using a dynamic approach means to provide a picture of the
organization in subsequent moments in the light of the interaction between external and organizational context. Evolution is determined by continuous interactions between external environment and organizations. On the other side a more static approach provides a picture of the organization in a certain moment in the light of certain aspects analyzed.

Regarding the third aspects, the use of an internal perspective, it relates to the possibility for researchers to be part of the process of change or to develop trust within the organization in order to get deeper insights.

Considering these preliminary considerations, we used Habermas’ framework (1987) integrated by Broadbent et al. (1991), Laughlin (1991) and Broadbent and Laughlin (2005) refinements. In fact this approach particularly emphasizes the interaction between the external environment (macro level) and the organizational environment (micro level) in the dynamic of change and the complexity of the macro and the micro level. The complexity of the micro and of the macro level is determined by their composition. In fact, they are both composed by tangible elements (respectively systems of action/subsystems), intangible elements (respectively lifeworld/interpretative scheme) ad steering mechanisms which drive the interaction between tangible and intangible elements. The equilibrium of the micro and the macro level requires that all elements are coherent each others. Within this model the macro level continuously (i.e. government) tries to influence organizations be means of several mechanisms, called disturbances, such as laws and reforms. These disturbances create disequilibrium in organizations and start a process of organizational change towards a new equilibrium.

After these disturbances, organizations could face two different change tracks: morphostasis (first-order change) and morphogenesis (second-order change) (Smith, 1982; Robb, 1988; Laughlin, 1991). Morphostasis occurs when the change in the organisation affects design archetype or subsystems but does not really affect the core of the organisation, the interpretative scheme. There is a reluctance of the organisation to accept the change and a tendency to return to the pre-existing situation. The change wished by the external environment doesn’t provide expected results, because the interpretative scheme drives the change in the opposite direction.

In contrast, morphogenesis (second-order change) is a change that penetrates deeply into the core of the organisation and brings a permanent modification of the organisation. This change affects the interpretative scheme of the organisation. Morphogenesis can occur through a (1) colonisation or (2) evolution. They both bring to a deep change in the interpretative scheme but, whereas
Colonisation is a sort of forced change of individuals, evolution is chosen by individuals freely and without compulsion (Laughlin, 1991). Colonisation is the more frequent phenomena, if compared to evolution.

Usually, at first, the process of change affects subsystems: for example new procedures are introduced. Changes in the interpretative scheme are longer and more complex. Within this model MAS, as an example of steering mechanism at organizational level, has a role in supporting a coherence between tangible and intangible elements. In particular MAS is the tool used by organizations to drive changes the interpretative scheme, after that external environment has introduced disturbances which require a change in organization.

This thesis has analyzed this topic in Tuscany Region using a two stages research. The first stage is based on a qualitative approach documented by interviews. The second stage is more action oriented and it is based on a constructive approach (Kasanen et al., 1993). Both stages have involved all Local Health Authorities and all Teaching Hospitals of this region. The first stage has aimed at understanding how MAS has changed and how it works in healthcare organizations. The first stage has supported the individuation of criticisms, in terms of inability of MAS to support changes in the interpretative scheme. In the second stage, moving from criticisms found in the first stage, we have developed a constructive approach (Kasanen et al., 1993) to support improvements of MAS towards approaches able to support changes in the interpretative scheme.

This thesis has found that the ability of MAS to influence broader changes in the organization, and in particular in the interpretative scheme, is influenced by several aspects. These aspects could be related both to the organizational and to the external context.

In particular if we look to the organizational context many elements should be taken into account. We can recall: individuals’ attitudes, approach to MAS and characteristics of MAS. In particular, if we focus on the organizational context, we can find that MAS could support changes in the interpretative scheme when its use and its design are based on a collaboration between controllers and clinicians. This approach could support a positive environment and could develop trust in managerial tools. At the same time this approach impacts on tools. Tools developed by mean of a participative approach could be named integrated tools. Integrate tools means tools able to support the achievement of goals imposed by the external environment whose structure and approach suit clinicians’ attitudes. Here another interesting point emerges: the use of this approach has determined a particular situation: clinicians have not simply adapted to changes imposed by the
external context but, by mean of the collaborative approach, they have been able to partially influence managerial tools. In this respect the evolution of healthcare organizations can be located in the middle between evolution and colonization.

However, despite collaborative approaches to MAS, results suggest that MAS has influenced only a part of the organization interpretative scheme. Consequently the process of morphogenetic change is in course, but it is not completed. In fact, problems in the process of communication of MAS information have limited the result in terms of changes in the interpretative scheme. In particular the change has interested only clinical management (i.e. sanitary managers and heads of department) but not middle managers, such as heads of units, and lower levels of the organization, such as other doctors and nurses without budget responsibility.

The problem stands on their limited involvement in budget negotiation (budget is the main MA tool use in healthcare organizations) and in decision making in general. In fact the involvement is higher for heads of department who have a direct relationship with the top management. Consequently they have higher possibility to understand problems behind the introduction of MAS and appreciate the importance of MAS. They have also higher possibilities to influence decision making and budget negotiation.

Evidently, in complex settings, where there are many decisional levels and decentralised responsibilities, top managements’ effort alone is not sufficient for promoting cultural changes. There is the need to introduce mechanisms to support wider diffusion of MAS principles and to introduce also more shared and diffused decision making. In this way all employees can have the possibility to appreciate the importance of principles proposed by MAS. Also, giving clinicians the possibility to have their say in decision making could be important. In this respect, top management should act together with heads of department and involve them in the promotion of cultural changes. On their own, the head of department should play a role in promoting cultural changes at the lower levels, which they are able to reach.

If we look to the external context, other elements occur to complicate the picture. In particular, as suggested by the following scholars Broadbent et al. (1991), Laughlin et al. (1992; 1994) Kurunmaki et al. (2003), Jacobs (1995) and by Agrizzi (2009), the way in which reforms are applied could impact on the ability of clinicians to accept principles proposed by the government and embedded in MAS. These authors criticize the manner of implementation of reforms, irrespective of clinicians attitudes and of peculiarities of healthcare organizations. In this research,
heads of units feel frustrated and they have some concerns about the approach used by the government to the evaluation of performances and they often don’t agree with goals introduced by governments. They also wish for a greater recognition of own their work at a regional level, instead of an evaluation of the whole LHA.

Despite organization efforts to introduce collaborative approaches to the use and to the development of MAS, all these criticises, both related to the organizational and to the external context, could create tensions and bring to further changes of organizations towards configurations unexpected and unwished by reformers.

The contribution of this thesis stands in the complexity of its approach, because it has studied the role of MAS in driving changes in organizations in the light of several aspects. These aspects comprise both technical and cultural/processual issues which emerge in the organizational context and in the external environment. This research supports the idea that, using this approach could support the achievement of deeper insights.

In fact, previous studies have analyzed the same topic of this thesis within the same framework (see for example Broadbent et al. (1991), Laughlin et al. (1992; 1994) Kurunmaki et al. (2003), Jacobs (1995) and Agrizzi (2009)). They look mainly at the external context and in particular to how characteristics of reforms have affected changes in the interpretative scheme, but they did not look at how characteristics of organizations impact on the results of changes wished by reformers. On the other side the research by Greenwood et al. (1988) relates in general to factors able to support morphogenesis. They add to the external context other organizational factors whose occurrence could facilitate morphogenetic changes, but these factors have not been yet explored in the practices. Moreover these factors are mainly related to characteristics of organizational culture, while aspects related to more tangible aspects, such as MAS tools, are not mentioned.

However, future research could improve our findings. For example, an interesting research could analyze if, during time, criticises related ability of MAS to drive changes in the interpretative scheme, have brought the organization to reject changes and to come back to the pre-existent situation. Another interesting research could further elaborate on these findings by mean of deep case studies. This research has provided a broader picture of changes in healthcare organizations in Tuscany. With this aim this research has analyzed all Local Health Authorities and all Teaching Hospitals of this Region. This broad vision requires deeper investigations. In this respect single
deeper case studies could be able to get deeper insights and suggestions for future researches in MAS.
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