DESIGNING PERFORMANCE MEASUREMENT SYSTEMS IN HEALTH CARE: MULTIPLE ORGANIZATIONAL PLAYERS AND THEIR INTERACTION IN THE CASE OF THE PREVENTION SERVICES IN TUSCANY

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Abstract

The designing of a performance measurement system usually involves several players, the number and the role of the players in building new performance measurement tools depending on the features affecting the type of organization.

Among them, health care units can be considered as some of the most complex to manage ("Running even the most complicated corporation must sometimes seem like child’s play compared to trying to manage almost any hospital.", Mintzberg and Glouberman 2001), being based on professionals’ activity. Professionals play a wide span of autonomy and they can resist towards changes and control systems that do not involve them, thus implicating their deep involvement in designing and implementing effective management control devices.

Due to this characteristic, the decision makers about measurement systems in public health are not only the politics and top managers at different levels (national, regional and local) but also the professionals at their level. But which are the roles of these players at their organizational levels? Do they play a different role in design and implementation of a performance measurement system? And which are the interactions among them?

The aim of this paper is to answer at these questions through the experience of the design of the so-called Prodotti Finiti system for measuring output and performance of the prevention services in Tuscan health care system. The necessity of this performance measurement system rises from a lack that regards the primary care and the collective prevention services: while in the hospital services the DRGs system has been developed and used as a shared tool to measure output and performance, in the primary care and the collective prevention services there is no shared and uniform way to measure the services provided. The idea of using the Prodotti Finiti (Final Products) as objects of performance measurement of prevention services was born at a local level in 1998; then, in 2006, it was spread to all LHAs by the regional level in order to have a uniform and shared system.

The players involved in this initiative have been the local and regional levels as the promoter of the introduction of the Prodotti Finiti system and the groups of professionals as the decision-makers of what products and what elements should have to be measured.

In the experience of the design of this system the professionals seem to have been the strongest decisional level: they have decided what were the objects to be measured. The political levels (regionals and local) could choose to limit the analysis to some products (as key performance areas) or to some particular elements of the products but these were second hand
choices because strictly linked to the assumptions and the decisions already made by professionals. Although the choice of involving professionals in the design of the measurement system is fundamental for the consensus, it could lead to a limited power of the other decision makers, so confirming the strenght of professionals’ power in designing performance measurement systems in health care organizations.

**JEL Classification:** I10, I18  
**Keywords:** performance measurement, public health, multiple players
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Introduction

Since the birth of the Italian healthcare system in 1978, there have been three levels of competences in managing the healthcare system: the central, the regional and the local level. The reforms of 90s have increased the power and the accountability of the Local Health Authority (LHAs) while the reforms of the beginnings of 2000 have increased the decisional power of the regional level. To this extent the central level has changed its role: it stands for guarantee of the founding principles of Italian Health Service (universality, free of charge, solidarity and equity) across Italian regions. Indeed LHAs and Regions have been adopting several managerial tools (that spread from the ABM to BSC) in order to control quality of services and its costs; introducing accrual accounting and the performance measurement systems.

This need is linked to the passage from the Welfare State (where health is an absolute right) to the Services State (where health right is limited by available resources). The reforms put in evidence the need that health system has to take in account to provide services in an efficient and effective way (Casati, 1999).

The interest in monitoring costs and services provided has grown due to the increasing demand of services and the scarcity of resources.

Some studies try to identify the determinant factors that led to the crisis of the public health systems. There are lots of causes that have brought to a growth of the demand of services,

among these the most important are the technological progress and the changes in citizens’ needs (Ruta 1990, Santesso 1989); the growth of the average age that has been determining an increase of a big number of specific services especially for geriatric pathologies; the growth of the people’s culture that has been determining the spread of a modern medicine and new categories of services. They are not related to an health need but to an improvement of the quality of life or to a physiological and physic wellness (for instance beauty farm or aesthetic surgery (Lega, 1997).
The lack of funds and the increasing demand have imposed the need of an accurate planning and allocation of resources.

At the end of the 90s in Italy was introduced the DRGs system in order to provide answer to the controlling information needs of hospitals. It has been also used as an exchanging financial system among LHAs and among Regions. (Taroni and France, 2005).

In the recent years another change has been taking place: the allocation of resources among specific services.

To this aim the services provided by LHAs are grouped into three kinds: acute care (hospital), primary care (territory according to the literal translation) and public health (in Italy called “Prevention”).

These three tiers of services share the public resources of the health sector. In the recent years more emphasis has been giving to the non hospital services: funds for hospital have fallen from the 50% of the 2000 to the 43% of the 2007. This is linked with the shifting away of health activities from the acute care towards the primary care and the public health.

This changing paradigm poses new problems, in terms of management and measurement of the activities executed and of the outcomes.

Unlike the hospital, where output measurement was introduced using DRGs, (Fetter and Freeman 1986) non hospital activities are still being studied and analysed to identify and codify “products”.

Performance evaluation of territorial activities is felt to be one of the most crucial necessities for improving control of these services (Cifalinò, Bottone 2004).

Following table shows the allocation of public resources among the three tiers of health services from the 2000 to the 2007, according to the National Health Plans.
Table 1 – Allocation of resources among services’ levels from 2000 to 2007


The earmarked funds for public health have grown from the 3.6% of the 2000 to the 5% of the 2007. Even if the percentage is lower than the primary care (52%) and the acute care level (43%), it is increasing important to get a measurement system that allows to show how resources are used and which are the results achieved.

The design of PMS in non-hospital health activities opens a new research area. The paper aims to analyse who is in charge of designing the performance measurement system in a multiple organizational levels through the case study of Prodotti Finiti as a local and then regional initiative on measuring collective prevention departments.

The paper is structured in the following paragraphs:

- a theoretical framework on the relationships between professionals and measurement system in health sector;
- an introduction on the features of collective prevention services and the Italian background in measuring them;
- the description of the Prodotti Finiti system project;
- the analysis of roles in designing the Prodotti Finiti system and the methodological approach;
- concluding comments and further research questions.
The issue of measuring professionals in health care

Italian health reforms recognize three formal levels in charge of managing Italian NHS: the central, the regional and the local level.

Literature on healthcare management recognizes another level: professionals.

Professionals, in healthcare, could be considered as a well-known level, non-recognized by reforms. They are not officially mentioned in the reforms as centre of political power (such as the regional level) or managerial power (such as the CEO of LHAs that is the local level) but they strongly determine the application of a performance measurement system. This has been documented in researches dealing with the good acceptance of BSC (Aidemark, 2001) and the efficient use of resources (Abernethy and Lillis, 2001).

The strong power of professionals in healthcare makes the hospital the academic example for the so-called professional bureaucracy of Mintzberg (1983). Professionals’ autonomy is characterized by a little use of planning and control system. The coordination is achieved by standards (that is the reason of “bureocratic”) that are set by the professions involved and not by the technostructure.

The core process for coordination is the classification, pigeonholing where clients and cases are put in neat, predetermined categories (diagnosis) and programs of action for each category are then applied.

Planning and controlling systems are therefore difficult to be applied and managed in healthcare organizations in fact Glouberman and Mintzberg (2001) advocate that “Running even the most complicated corporation must sometimes seem like child’s play compared to trying to manage almost any hospital.”

Professionals involvement is considered as an assumption of the success in the use of managerial tools: experiences reported in literature show that professionals can resist towards changes and control systems that do not involve them (Abernethy and Stoelwinder, 1995, Jones and Dewing, 1997). Moreover one of the distinguishing
feature of the professional bureaucracy is the little use of planning and control system however a study on Italian hospitals reports that more delegation (formal authority) among professionals means more use of accounting information and more cost consciousness (Abernethy and Vagnoni 2004), so highlighting the importance of professionals involvement to obtain an effective employment of these tools. In this way the more professionals are delegated to use authority, the more attention will be given to the measures and performance measurement system.

In this context our research questions are: focusing on a regional initiative (the design of collective prevention measurement system) which is the role played by regional, local and professionals level? And which are the relationships within the three levels?

Studying the design of a Tuscan PMS initiative, we analyzed the role played by the three levels across two years of observation and observed the dynamic of interaction among them.

The research finds out how local and regional levels can sometimes overlapping their roles (as it happens with the transition from a local to a regional initiative) while the professionals level plays almost the same role.

**Measuring public health services in Italy**

In Italian health service the collective prevention deals with four areas of services:

- hygiene and public health, including infectious and parasitic disease prophylaxis, health promotion and education and preventing environmental hazards;
- food control (production, processing, preservation, commerce and transport), preventing food-related disease and nutritional surveillance (preventing obesity and malnutrition, etc.);
- preventing occupational diseases and accidents;
- veterinary medicine (surveillance of animal stock health, hygiene of food production and animal food safety and control).

WHO report on Italian reforms puts the collective prevention areas in the public health services paragraph (Donatini et al. 2001).

In 1998 the Institute of Medicine of U.S. defined the public health as “fulfilling society’s interests in assuring conditions in which people can be healthy”; in 2004 Turnok collected and showed the peculiarities of some definitions. The focuses of public health definitions are on: the system or enterprises, the professionals and workforce, the techniques and knowledge needed to prevent health problem, on specific threats provided to guarantee security and safety and finally on the output (that is the health of people).

In the Italian health system, public health services are managed by the local level: each LHA has one prevention departments that is in charge of providing services and managing resources.

The measurement of the efficiency and the effectiveness of the public health services is particularly difficult because of the features of the services.

The Italian experiences of measuring public health services are characterized by the local promotion and development as showed in the following cases: LHA of Benevento in the south of Italy (Maglione et al, 2001); LHA of Olbia in Sardinia, that had not been applied in all services of the collective prevention (Damiani et al. 1995) and the LHAs of Pisa and Lucca in 1998 (Contini et al. 2001). At the regional level the decisions related to the public health concern the revision of the fees paid for the services provided by the departments and random analysis of professionals workloads. Only in the last years, the Tuscany region, starting from the experience of Lucca and Pisa, has been developing a regional system, called “Prodotti Finiti”- final products- (from here mentioned as PF), in order to compare public health “products” of the LHAs. Instead at the national level, in 2003, a wide project has started focusing on the rebuilding of the national health information system.
called “Progetto Mattoni” (bricks project). As the name suggests, the health information system is seen as a wall in which each brick is a set of services involved in this renewal (from the hospital services to the cost information system). One of these bricks (the 15th) regards the collective prevention (public health). The aim of the 15th brick is to revise the list of public health services that belong to the essential level of services (from here mentioned as LEA) and to identify key performance indicators of effectiveness (ASSR, Monitor 2005).

Each of these cases analyses and tries to measure public health services in a different way but all of them underline the difficulty of finding a valid measurement system.

The main causes are brought through the comparison with the hospital measurement system: services are not standardized as the hospital ones and users usually do not correspond to the single patient who receives services (Maglione, 2001). The peculiarities of public health that hamper the measurement of the services can be listed below (Contini et al 2001, Maglione et al 2001, Hunter Dj, 1990):

- It is difficult to single out a specific customer, in fact even if services are usually addressed to a specific target they offer a benefit to all population (for instance the campaigns against smoke are addressed to smokers but they give also a benefit to non-smokers because they reduce the passive smoke)

- There is no explicit demand of population but LHA provides these services because they are considered essential for public health (for instance campaign of healthy life style).

- It is difficult to evaluate the effectiveness of these services above all in a short period

- There is no explicit connection between public health intervention and its result in term of health status because this kind of output comes from the interaction among several activities and several players. To this extent results are not valuable by the analysis of the single activity or by estimating the acts of the single players.
• There is no uniform way to interpret the goals of public health.

• There is no uniform way to answer to the needs. This is due to the span of autonomy of the professionals.

• There is a high level of professionalism of these services

• There are many heterogeneous laws.

• There is no clear indication of which are the priorities of action.

• Multiplicity of stakeholders involved in providing public health services (somewhat other authorities that do not belong to the health care systems).

Moreover public health services are supplied by a wide range of providers, while hospital services are concentrated in the same structure simplifying the control and the collection of data.

In our paper we focus the attention on the Tuscan experience and on the new performance measurement system of the public health that has been applying: the PF’s system. In particular we analyse the role played by the professionals, the local and the regional level in designing the system and the perspectives of their roles in its application.

The strengthens of the PF’s system is the attempt to standardize the “products” of public health setting up the “flow charts of activities” that build the service and the attempt to tie the products provided to the LEA, which represents the health needs of population to be served free of charge.

On the other side the PF’s system tries to standardize the services provided and to uniform the way of answer to needs. As a direct consequence this system could lead to a reduction of the variability in the kind of services provided responding the same need, but it also means a reduction of professionals span of autonomy. In order to create consensus, the flow charts of the products have to be shared
and shaped on the basis of the professionals experiences across all Tuscan LHAs.

**The ‘prodotti finiti system’: description of the project and its development**

PF’s system was born almost ten years ago (see figure 1). Its scope is to fill the gap of information in public services, in particular it aims to understand, as well as possible, the context of the public health, how to answer the LEA’s need and how many resources are consumed.

As for the DRGs in the hospital measurement system, PF’s system can be seen as a control tool that pigeonholes the outputs of the prevention departments: it tries to put in neat the products/outputs of the prevention department through a programs of action linked to each product. One of the most important feature of the PF’s system is that it worked on the standardization of procedures. Standardization could provide to the professionals the necessary guidelines which could help them to understand how to answer to a specific need of public health.

Moreover standardization could allow the benchmarking between different contexts and also the support for the improvement process.

Figure 1 shows the principal steps of the history of PF’s system. The evolution of PF’s system is characterized by a progressive increase of the number of players involved.

The breaking step has been the regional decision to adopt through a formal act (D.G.R. 7229/2005) the PF’s system for all LHAs in 2006. Since then there have been two boards whose aims have been to widespread the philosophy of this system, to adapt the system to all LHAs needs and to set a value (in terms of consumed resources) to each product. In particular, in 2006 the measurement system was adapted to all LHAs and then it was attached a valorisation to each product. in 2007 the measurement system and the valorisation have been improved using the feedback of professionals.
Four players have been involved in the PF’s system design since 2006 (see table 2):

1. The Region composed by the head of the regional health department and some managers of the regional public health departments (3 people)

2. The Valorisation Board composed by the head of LHAs public health departments or their delegated persons (8 people); they represent six LHA.

3. The Review Board composed by exponents of sectors coming from all twelve LHAs (14 people).

4. The Professionals: composed by about 180 professionals representing each sector of the twelve LHA

Table 2 – Players and decisions taken.
The regional level has been involved in two particular aspects of PF: it has given input to LHA for the building of a measurement system based on final products, starting from the experiences of the 6 LHA. In this situation only a regional input could give to the LHA the suitable impulse for implementing a performance measurement system of public health services. The Regional level has imposed to Departments of Prevention, through a formal act (D.G.R.7229/2005), to report their activities using PF’s system within the 2007. In front of the tightening necessity, LHAs and professionals have decided to work hard to implement an useful system.

The last aspect of the Regional level has linked to the regional definition of the LEA. They are defined in the Regional Health Plan.

The Valorisation Boards has dealt with the valorisation methodology.

Initially the Board has discussed about how to value activities (in particular it has opted for a valorisation based on working hours of the professional figures involved in the activities). After the first results of the valorisation phase, the valorisation board has developed useful considerations about these outputs: it argued on relevant questions concerning the to perform activities far from the department and it gave an interpretation to doubtful results. The valuation process has been characterized by several steps which have generated several outputs. Everyone of them has been analyzed and discussed before defining the complete final product’s weight.

The Review Board has dealt with the PF’s architecture represented principally by flow charts and glossaries. Figure 2 shows an example of flow chart used in the version 1.0 and 2.0.
The original flow charts have been modified in order to answer to the new regional context (taking into account the different way of working of the LHAs) and in order to answer to the changed requirement of the laws. On the basis of the pre-existent flow charts designed by the previous experiences, the review board verified the need to updating a new standardized flow chart.

The review board has also defined a Glossary for the final products and for the Activities. Glossary contents a reference number, for each product and for each activity and a description and eventually some notes usable to clarify a possible doubt. A first step was to elaborate Activity Glossary while Product Glossary has been defined in a second step. Description of products and activities is principally based on reference rules and on experience of professional. These two instruments are fundamental to correctly understand flow charts (and then to value products) and their meaning.

The Professional level was representative of all zones of the twelve LHAs. They estimated which professional figures are involved in each activity of the flow charts in carrying out activities and how much time they spend in performing them. In particular they filled a structured sheet (see figure 3) for every product.
Figure 3 – an example of the evaluation sheet of the final product number 1

Sheets contains all activities of the product to be valued; for every activity of the product, there is a specific table with the required information: the kind and the number of involved figures among six kinds of figure (Physician, Veterinary, Administrative, Engineer, Technical Operator, Other Manager, Nurse), the time spent in carrying out activities and eventually some notes.

Professionals could follow a list of instructions which could help them in filling the sheet.

The valorisation of the 70 Final Product of the version 1.0 was equally assigned to the professionals so they didn’t have to valorise every product, but only a set of them.

In this phase the Flow Charts (that show the logical sequence of activities and all decisional articulations) and the Activity Glossary (that contains the definitions of the activities) helped professionals to give their most suitable valorisation.
The analysis of the role played in designing the ‘prodotti finiti system’

Methodological approach.

In this paper we analyse the role played by the regional, local and professionals level in the design of the PF system project described in the previous paragraph.

The comments and findings are based on the analysis of the available documents collected and above all on observation of the last two years development of the design of PF’s system.

The PF’s system has been studying in its development in these last two years through an “interventionist-research approach”. This approach aims to solve problems through the construction of models, diagrams, plans, organizations, etc. through a direct involvement of researchers with the actors in a “participant observation” in the field (Jönsson and Lukka, 2006).

In 2006 and 2007 the project has based on a networking process whose purpose has been to increase integration among different professionals and actors. It was pursued through the experience of working together for the same objectives. This method is considered a valid tool to stimulate acceptance and compliance and to create a network perspective crossing over the professional or organisational boundaries (van Wijngaarden J., et al. 2006).

Using this process network, taking notes of every comments and opinions emerging from the observation of behaviours of PF’s players and their interaction, we have deduced many features of the taken decisions and the role of the studied levels.

2006 and 2007 have been characterised by a continuous interaction among professionals and all actors that participated at the project.
Observation period goes from November 2005 to June 2007. In these 18 months have been taken place: 1 introducing workshop; 6 seminars and 30 meetings (almost one meeting per two weeks).

Furthermore there had an important tool of communication and sharing information available through a web portal called “Virtual Room”. Access to this web room were admitted only to whom that have got the username and password. Here participants could find all documents, outputs of the project, the last updated proposals. From this virtual room they could download and upload documents, comments and considerations.

We analyzed roles played by the three levels (regional, local and professionals) on the basis of decision taken. In particular we have considered on the high-medium-low intensity of the following three factors affecting decisions:

1. the degree of freedom: represented by the level of freedom given to the players in order to make choices. The degree of freedom is constrained by the rules that are in the system. It could be referred to the limitation and complexity that is one of the distinguishing features outlined by Anthony to differentiate strategic planning from management control (Anthony, 1967). In the intensity setting we have followed the taxonomy of Gorry and Scott Morton (1971) of the structured, semi-structured and unstructured decisions.

   o Low intensity decisions limited by a large number of rules, they generally refer to operational aspects and regard structured decisions;

   o Medium intensity decisions limited by principles, guidelines and strategies applied by management; they generally refer to the definition of the methods and the rules of the system and regard semi-structured decisions;

   o High intensity decisions limited only by principles of the health system. It refers to strategic aspects and regard unstructured decisions.
2. Impact of actors’ choices on the PF’s measurement system design: represented by the type of contribution given by the players.

- **Low intensity** when the contribution of the player does not determine the architecture of the measurement system. In this extent the contribution is an opinion or a general guideline rather than a decision.

- **Medium intensity** Decisions that set the methods and rules to be applied in the definition of the architecture of the system or the indicators.

- **High intensity** Decisions related to the architecture of the system or the choices of the area and function to be monitored.

3. Number of people involved that expresses the level of participation in the decision making high number of people involved in the design process means more participation in the decision making but also more complexity in finding an agreement.

- **Few number** when people involved are less than 5;

- **Medium number** when people involved are between 5 and 30;

- **High number** when people involved are more than 30.

**Players’ roles in the PF’s system design.**

We analyze the roles of PF’s players according to the variables described in the paragraph of methodological approach: we attach the intensity level of the three variables to the players.

The positioning of the PF’s players within the intensity of the variables has been carried out through the observation of the design of the PF’s measurement system and the previous analysis of the project.
On the basis of the observation of players’ behaviours and the decisions they have been taken during two years, 2006 and 2007, we have pooled the intensity of the variables to the players who design PF’s system.

We observed that the Region played:

- High degree of freedom because it had to respect only general principle of Italian Health Service;
- Few number of people involved in the decisions (the head of the regional department of health and some other managers of public health department of the region) less equal than 5 people;
- Medium impact on the system because it provided the LEA but also the model of the measurement system. Region supported the development of the PF’s system, it decided to extend the architecture of PF’s system to all LHAs asking them to adapt it on the basis of their needs.

The valorisation board plays:

- Medium degree of freedom because at this level there were laws, guidelines and the architecture of the system as constraints of choices;
- Medium number of people involved (between 5 and 30 people)
- Medium impact on the system because they defined the methods on how to measure the resources taken over by the activities of the products.

The review board, played:

- Medium degree of freedom because of the same reasons of the valorisation board;
- Medium number of people involved (14 people) moreover they took into account the suggestions made by the professionals during the valorization phase and the suggestions of professionals of their LHAs.
• High impact on the system because they defined or re-defined the contents of the system: number of products, their linkage with the LEA and the number of activities that make up the product. Their decisions had a strong impact both on the measurement system and the performance measurement system. This level affected the resources taken over (the more activities, the more resources will be applied a value)

The professionals level played:

• Low degree of freedom because it had to respect the strictly rules given by the valorisation board in a limited context: the flow charts

• High number of people involved (180 people)

• Medium impact on the system because they determined the “weight” of the products in terms of resources and time consumed during the activities. Moreover they gave suggestions on how to improve the flow charts and the definition of the activities in order to make the PF’s system much alike to their way of working in prevention.

The results of the analysis.

Fig.4 shows a chart of the roles played by actors that design the PF’s system. The number of people involved in each level is depicted by the bubble dimension.
Figure 4 – The roles of PF’s players.

Bubble chart shows that even if there are different degree of freedom within the four players all of them play a medium impact in designing the measurement system. The review board has played a predominant role. In fact review board finally decided the product to be measured and the process that had to be considered as the procedure of providing services and the meaning of each activity and product.

But where are the three levels: Regional, local and professionals we considered accordingly with the decision model of the Tuscan healthcare system?

While the regional level is clear, some considerations have to be done for the other levels, in particular about who represents the local level in the PF project.

Professionals are represented both by 180 heads of all zones of public health services and by the review board. In fact the review board members are first of all professionals. They should represent both the way of working of their LHAs and the professions (in order to represent the four areas of services described in the paragraph 3), so it could be considered as that they located in the local level. But, by observing their behaviour, we note that at the end they act only as representatives of their area they are used to report only the experiences of their area and not of their LHA. Professionals play a key role in the PF’s system
design, because, review board that now we can address in the Professional has defined the structure of PF’s system.

The local level could be represented only by the valorisation board. Members of valorisation board were 8. They come from 6 LHAs on 12 LHAs (that are the whole Tuscan LHAs). In particular the 6 LHAs are composed by: 3 “pioneers” LHAs (they already participated in the first stage of the PF’s system design - before 2006) and 3 “followers” LHAs involved only in the second stage. It seems that the valorisation board partially represents the local level because 3 LHAs have never been involved. The lower number of LHAs represented could be interpreted as a lower power of the local level (see figure 5).

![Figure 5](image.png)

**Figure 5 – Regional, Local and Professionals level in the PF’s system design.**

**Discussion and concluding comments.**

The PF’s system puts in evidence a different impact and role played by the three analyzed levels: while the local and regional levels have a medium impact on the design of the PF’s system, the professionals have the strongest impact even if it has a lower or equal degree of freedom than the others two level.
Analyzing the PF’s history of the last 2 years, at a first sight it seems that Region has imposed a top down measurement system but after a deepen study it emerges that other players had a major role in building the system deciding which activities they want to measure (through the flow chart definition) and how to measure them (through the definition of the activities value).

Following these consideration, in the experience of PF’s measurement system, professionals (in particular professionals of review board) seem to have been the strongest decisional level in terms of impact: they decided what were the objects to be measured. This confirms the strength of professionals' power in designing performance measurement systems in health care organizations.

As consequence, although the choice of involving professionals in the design of the measurement system is fundamental for the consensus, it could lead to a limited power of the other decision makers.

The large involvement of professionals in the PF’s measurement system; the strong support of the regional level and the values and architecture of the PF’s system seem to set the basis of a successful performance measurement system. But what is in doubt is the local level support. Lots of studies report that the success of managerial tools are linked to several factors, one of the most important is the key role of managers in supporting them (Cinquini and Mitchell, 2005).

What we notice is a change in the relationship of the levels comparing the role played by the three levels before and after 2006.

The role played by the local level is critical across the two stages of the design of Prodotti Finiti system: the first stage where Prodotti Finiti was a local initiative, before 2006, and the second stage, since 2006, where the Prodotti Finiti has become a regional initiative.

In the first stage LHA supported and promoted the design of the PF’s measurement system. When Region decided to extend this system to all LHAs then the LHAs lost their original functions.
Pioneer LHAs of the PF’s system probably keep on supporting the PF’s system but what about the non-represented LHAs followers?

There could be some differences within LHAs in the further use of the PF’s system. In fact the absence of some public health departments in the design of the PF’s system could be interpreted as a negative signal: the non-represented newcomers LHAs, whose head of public health departments never participated in the story of PF’s system design, could not use effectively the PF’s system.

When regional level imposes analytic managerial tools it reduces the autonomy of the managers of LHAs. It seems that Region and LHAs act as if they were a holding. In fact Regional level has a role both of strategic planning and management control concerning LHAs of its territory while Local level plays the same roles concerning control and management of resources consumed by its responsibility centres and their output by using tools built by the professional. In this way, looking at the PF’s system design, the local level loses its role because most of strategic decisions are already taken by Region while the contents of the measurement system are set by professionals.

During this breaking change, professionals have increased their role because they decided the contents both of the flow charts and the weights of each activity; local level has decreased its role because of the presence of the region and the higher role of professionals.

Moreover, in PF’s system design we can distinguish the role played into the two tiers: the pioneers LHAs where local level played an autonomous role with full-power and the followers LHAs where the local level had a limited role, it had to accept and adapt the PF’s system design to its needs respecting some rules. For the followers, the Region played as the head of the holding.

Even if the involvement of several levels can be considered as a need to obtain an effective use of the managerial tools, this experience shows that it could lead to a non clear relationships among players: local and regional levels assumed an overlapping role (as it happened with the transition from 2005 to 2006 for the pioneer LHAs) or an
ambiguous role (as it happened with the pioneer LHAs and followers where the local level is almost absent) while the professionals level played the same role. So in a multiple level players the professionals did not risk a reduction of their role confirming their streghtness. Further analysis could be done in order to support the reduced role played by the local levels comparing the design phase and the implementation phase of the PF’s system in all Tuscan LHAs that is expected at the end of 2007.
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