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The Italian University reform
impact on management systems
of each individual University

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The impact of the Italian University reform on management systems of each individual University¹

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Introduction

Since the end of the eighties, the Italian University system has been undergoing an unprecedented change.

In order to bring our system up to European standards, legislators have introduced a large number of innovative factors which have caused a reconsideration of “consolidated University management procedures” both at local and systems levels.

The legislative changes headed towards:

- a) a stronger local autonomy;
- b) the diffusion of the *evaluation culture*;
- c) the introduction of the *planning and control logic* that can be applied to the planning of public intervention as well as to the management of each individual university.

However, laws and regulations alone are proving to be inadequate for complying with the reform, resulting in a need to deal with problems which are more specifically management-related in order to improve competitiveness in our system. This means that organisational principles must be created with a view to introducing effective management mechanisms aimed at greater autonomy, at the evaluation culture and the planning and control logic from a business perspective that disassociates itself from the typical bureaucratic model of public administration.

During recent years, some scholars of Business Economics and Management have paid particular attention to the Universities and, more generally, to the public administration system.

¹ Paper presentato al Workshop internazionale organizzato in Siena da EIASM (European Institute for Advanced Studies in Management) nei giorni 24-25-26 maggio 2004 dal titolo “THE PROCESS OF REFORM UNIVERSITY ACROSS EUROPE”

New studies researching *cost accounting and budgeting systems structures supporting university management* have been made as well as studies focusing on *accounting system analysis and possible budget structures* that each university can adopt in accordance with the uniformity requirements imposed on the University system.

These studies have frequently reached a *severe diagnosis of the gaps to be filled*, particularly showing how our universities are still lacking in the area of *cost accounting and managerial control* systems. The universities that have introduced managerial control systems are rare and recent occurrences.

The situation abroad is different, however, and in the context of a *culture of the economic responsibility decentralisation*, a large number of universities have tested and are now using *budgeting and cost accounting systems* in order to achieve economic control in the whole institution as well as each individual economic responsibility centre (departments, research centres, training centres, centralised service units etc.), and the procedures related to didactics, research and the functioning of centralised structures.

The goal of this report is to go beyond a simple analysis of the available research and of examples in Italian and foreign universities in order to suggest some *principles for the planning and the effectiveness of performance measurement systems related to economic university management*.

This goal is pursued through the development of five steps:

- 1) *Looking over* the latest evolution of the laws related to the Italian university system, paying particular attention to those rules that, due to their implication for *autonomy, evaluation and planning* of the activities, have considerable impact on the *information needs* of the Institutions that can be partly satisfied by the economic measurement system we intend to deal with.
- 2) *Facing* the problem of *the division of university global outcomes into partial outcomes (departments, faculties, degree courses etc.)*, with the aim of appreciating the economic conditions of individual partial productive combinations and *economic responsibility centres* (cost, profit and investment centres). These are an indispensable condition for the dissemination of the *accountability culture* at several management levels, in the context of overcoming the *cost centres authorisation and financial logic*.
- 3) *Suggesting* integration between the traditional systems of *Responsibility Accounting and Budgeting* using activities-based evaluation systems i.e. *-Activity Based Costing and Activity Based Management-* as well as procedure related systems i.e. *-Activity Based Budgeting*. It may be useful to introduce *cost strategic management* tools aimed at *cost reducing and qualitative improvement of the services*.
- 4) *Completing* the view of the steps outlined above through the definition of some *reporting structures* able to support systematic *monitoring procedures* of the Institutions' global and partial outcomes (departments, faculties, research and training centres, degree courses etc), with the aim of outlining the view of *an ideal management control system* which every Institution should rely on in order to provide the governing bodies with the knowledge they require about economic choices, according to the autonomy they have been granted.
- 5) *Comparing*, finally, *control and management systems of some Italian universities*, paying attention, both to *financial and cost accounting systems and managerial control systems*.

The proposals contained in this report are based on the belief that the introduction of an economic management approach and method in universities can not be delayed any

longer, not only to evaluate the efficiency of central and devolved choices with which public investments are concerned, but also, primarily, to drive each individual university towards a competitive spirit aimed at improving the whole system's performance.

1. The ongoing changes in the University system and their impact on internal control needs of the universities

In Italy, the autonomy acquisition process began at the end of the eighties after the introduction of law n. 168/89. This law states that "*Universities are endowed with legal status and, through article 33 of the Constitution, universities have didactical, scientific, organisational, financial and accounting autonomy; the universities create their own autonomous systems with statutes and regulations*" (Art. 6 - comma 1). This law has been followed by many others: *The financial and accounting autonomy and the formal controls* were introduced by law n. 537/93 and the law by decree n. 77/95, article 74, regulates the introduction of economic accounting; law n. 421/1992 defined, before the introduction of financial and accounting autonomy, the *organisational fundamentals* for its application, in particular concerning the responsibility of resources management. This law sanctions the separation of political and administrative management, and gives the administrators autonomy in managing, supervising and controlling as well as in the management of financial, human and instrumental resources; the ministerial decree dated 22.2.'96, along with the institution of the National Observatory for University System Evaluation², introduced the logic of the *system's internal competition, aimed at the allotment of funds*, which was unknown to the universities until then. Along with the laws concerning *Universities management* in particular, the State passed laws concerning *scientific and didactic autonomy*. In law n. 127/97, known the "Bassanini bis" law, one can find the basis for the creation of didactic autonomy; finally, law n. 210/98 gives universities autonomy in the recruitment of professors and researchers, allowing each university to make selections which were previously managed at a national level. *The current changes are evident to everyone.*

The broad autonomy that the universities enjoy today (but which, based on indications by the Ministry, may be reduced in the future) has been progressively counter-balanced by a slackening of the bureaucratic central procedures which imposed the introduction of internal control forms on each university.

These changes have, on the one hand, initiated an innovation process for universities, on the other they show how the law, by itself, is not able to guarantee substantial changes in the way public resources have to be managed, that is that they are not able to support the improvement of the system performances. Furthermore, the law tends to emphasise all those forms of "*bureaucratic control*" that are based on hierarchical procedures and places secondary importance on all those *forms of control that are based on the logic of "economic management control"*, that are founded on decentralisation processes of economic responsibilities.

At present, Italian universities suffer from the absence of both the *culture of economic responsibility* and *adequate instruments capable of guiding the decision and operative activities* of the governing bodies regarding the creation of a strategic plan that takes into account both *the needs of an efficient and effective use of resources* as well as *paying greater attention to the users of the services*; in particular in the decisions

² Substituted in 1999 by the National Committee for the University System Evaluation

concerning dimension and qualification of the structures as well as the definition of the educational services available. The *monitoring of the conditions of efficiency and effectiveness* necessitates an evaluation of how the resources are acquired and used by those responsible for the didactic, research and management processes. The second aspect involves the evaluation of *the estimation of how the universities are able to satisfy specific educational needs* and the concrete contribution to the *advancement of knowledge*.

Observation, from this perspective, of the *need for innovation in managerial activities* in our universities, reveals a requirement for meaningful intervention in the present *control systems* through redefining *the role, the structure and the processes* that already exist but that still have the characteristics of the typical *classic model of public administration*. In order to give the control a managerial value, that is to say a control that contributes to the improvement of the enterprise management, it is necessary that the decisional processes and their supporting mechanisms become strongly linked to the evaluations and the needs of the external subjects as well as to the conditions and the internal needs of economic control, and this implies the possibility of orienting the behaviour of those responsible for the business management towards relevant and shared goals. A reconsideration of the role and the characteristics of the control activities in our universities, that have a variety and variability of characteristics never known before, is called for. In the light of the above considerations expounded, we think that it is essential to dispose of systems that are able to measure the *economic correlation between the efforts required* (consumed resources i.e. borne costs), *achieved results* (revenues i.e. return levels that have been generated), *and the capability of satisfying the user in relation to their expectations* (the value that has been generated for the user). The word user should be interpreted in a wide sense that includes a large number of institutional profit bearers: *the student*, as the principal user of didactic services; *the scientific community*, concerning the capability of contribution to the knowledge progress; *the economic system*, that is represented by the business community and other productive institutions where the graduate student and the research results are supposed to be integrated; the State is the principal financial backer. Each subject has particular expectations of the universities that must take on the responsibility of estimating how they are able to generate value for the community which is represented by all these profit bearers.

The economic responsibility, the efficiency of processes and the generation of value become the principal support of the management control system of the universities that, if it is designed and implemented respecting these priorities, can assume a relevant strategic role in the universities, guiding them towards competitiveness among universities with the economic consciousness of the efforts needed and the results that can be achieved. So far, the only form of control that has been conceived in the universities is that based on the cost level. The way the resources were used was unknown and nobody worried about understanding if the management processes of each university were contributing or not to increasing the economic value of the investment that the state was assigning to the university system. The priorities that can be specified for the universities' management system innovation, in particular the managerial control systems, are related to the following interventions:

1. *the start of an economic responsibility decentralisation process*, that has to go over the financial logic of the cost centre (a unit that receives resources and is free to use

them as it pleases) in order to come to a structure of economic responsibility centres – cost and profit centres – fully capable of spreading the culture of *accountability* on results, both of the whole university and of each individual organisational units. This implies using cost survey systems planning in a perspective of *Responsibility Accounting*;

2. the significance of the integration between the *logic of the cost survey of responsibility centres and the orientation to the processes*. This implies the acquisition of cost measurement and management instruments based on the typical structure of *Activity Based Costing (ABC) and Activity Based Management (ABM)*. These new methodologies shift attention *from the cost centres to the processes* (teaching, research, services) *and from the cost survey to the cost management*, implying the cost determination of the resources that have been consumed for elementary activities or complex processes (i.e. a group of elemental activities involving different organisational units). The consideration of process costs and their relevance in the generation of value can be essential for the university authorities in order *to rationalise these processes, contain the costs and improve the system functionality*. Therefore it becomes necessary to carry out Activity Based Management for a strategic management of costs with the aim of their reduction and the improvement of the services;
3. this information can be useful for supporting *economic programming processes*, that go beyond the logic of estimation in order to negotiate the amount of loans with the State, and *monitoring instrument, that, considering the meaning of value, can be more and more oriented to the user*.

These interventions have been studied by analysing the specific bibliography and some case studies of Italian and foreign universities that have experimented successfully with the introduction of management control systems with interesting solutions that can be potentially applicable to our universities. In the following paragraphs of this report we will try to summarise what we observed, arranging and improving the suggestions made in these projects in order to offer concrete ideas about ways of articulating and diffusing management control in our universities.

2. The current situation of Cost Accounting and Managerial Control systems in Italian Universities

The growing demand for high level training and the recent policy of territorial decentralisation sought by the Ministry have strongly stimulated the dimensional development of the Italian university system by creating the basis for the success of a mass university.

During the seventies, the number of students grew at a constant rate of 10 per cent per year. This growth continued during the eighties and the nineties, even though the rates were lower, until it stopped at the beginning of 2000 with the number of enrolled students totalling approximately 1.765.000 units. In the same time, during the last forty years, the number of universities has tripled from 27 in 1960 to 87 in 2002. The Italian university system now consists of 74 universities and 13 higher education institutions as follows:

- 71 Universities (57 state institutions and 14 private institutions);
- 3 Polytechnics
- 3 Higher education Institutes

-10 ISEF.

In order to examine current conditions of Cost Accounting and Management Control systems, a questionnaire was prepared and sent to the administrative directors of these institutions (with the exception of the ISEF).

The answers provided (despite a low redemption rate) are so homogeneous that we can consider the data collected sufficiently representative of the whole university system³.

Further information was collected from other preliminary and concomitant surveys⁴ that have confirmed some of our suppositions and allowed us to define a profile of the *structure and process aspects* of the control systems considering specifically the *Financial, Cost Accounting and Managerial Control* instruments.

To follow is a synthetic description of the current situation of these systems that will highlight some areas for improvement and specific interventions aimed at improving their effectiveness.

2.a. The Financial and Cost Accounting instruments

Today the Italian universities pursue their institutional purposes in a very complex situation: the decrease of financial resources is accompanied by a greater demand for quality, at a time when competition is increasingly evident and the effect is felt at local, national and international levels (198 towns with university seats). Furthermore, the universities have to manage a large number of students, staff members and activities: each university, every year, administrates the enrolment and the curricula of thousands of students (there are 1,765,418 students enrolled in Italian universities, while the number of students who are enrolled but have not passed their examinations in the prescribed time is 640,567), a growing number of professors and administrative staff members (there are 51,015 professors at present), each university has to provide services in structures and with resources that are often inadequate (there are 9,649 classrooms in Italian universities, 1,337 computer labs with 34.920 machines, 1,337 libraries with 31,379,931 publications available), each university operates with substantial financial flows (8 billion 400 million euros is the total amount of the state universities' budgets), that are insufficient in order to guarantee the provision of a number of degree courses that is exponentially growing because of the reform (there are currently 3,156 degree courses on offer) and in order to carry out scientific research projects that are competitive both in terms of content and economics.

The organisational complexity of these institutions is unquestionable. What we wish to discuss is the *university management method*, that is prevalently based on *administrative and bureaucratic logic* instead of being oriented to *principles of management efficiency and effectiveness*, that is to say, to an *economic management of the resources*. The culture of an "economic management" is not yet sufficiently common in these institutions. In many universities the role of the Evaluation Team is often assimilated or even confused with a management control role and this testifies that the importance as well as the information and management potential of this operative mechanism is misunderstood.

³ The questionnaires completely filled have been 12 coming from the administrative offices of 9 state universities, 3 private universities and a Higher education Institute

⁴ here we quote the survey by *Onagro e Rodolfi* of 1998 (see the quoted article) and the more recent survey by *P. Miolo Vitali* of 2001 (op. cit).

In spite of this, the number of universities that are trying to change from a bureaucratic control system to a managerial control system is growing, through the *introduction of analytical accounting systems* that allow economic information to be gathered that can be useful for understanding how the university resources are used by the different activities of the faculties, departments, research centres and all those operative units involved in the university organisation.

The legal nature of state universities means that each institution is endowed with a *financial accounting system*. An integration between *economic accounting and financial accounting* or independent cost accounting arouse great interest but only few universities have invested time and professionalism in order to redesign the traditional accounting procedures and to move to the aforementioned accounting systems.

The case studies analysed allow us to consider synthetically the evolution of the *financial and cost accounting systems in the Italian university system*.

The universities that started cost accounting projects shared the need for *cost information that could be useful for the survey of the resource distribution among different cost centres*. We can identify these cost centres mostly with the university organisational units whose activities were aimed at the support and delivery of teaching (Faculties), research (Departments and Institutes) and, generally, university management processes (Central offices). Up to now only a few universities have gone beyond *computer and accounting difficulties* in the cost survey of the cost centres and have produced useful and reliable information.

The estimation methods are mostly based on *full costing* methodologies, and resort to *volume indicators for the overturning of indirect costs* (only a in few cases have specific activity drivers been sought) *and tend to survey values in the final balance*. Universities aspire to becoming oriented to standard activities and values but few of them have implemented it. In the same way universities suffer from the cost management problem but none of them has activated a processes rationalisation or an improvement of cost control procedures.

Briefly, the features of the typical university cost accounting system are to be found in the adoption of a *full costing configuration*, that resorts to *multiple bases*, and in the adoption of a computer and accounting solution able to integrate *financial accounting with economic accounting* and to organise it on *cost centres*, as accounting survey units and not economic responsibility units, by only occasionally defining estimation values in order to control them periodically. In most cases universities have adopted *software for integrated accounting* that have been designed by *CINECA* (application CIA); only two universities (a private and a public one) have adopted a *SAP specific application*, that allowed the organisation of analytical accounting systems for costs and revenues estimation referring to research projects, degree courses, institutes, departments and research centres.

The possibility of investing the structures with responsibility on an efficient and effective use of resources and on the use of this information for long term economic and financial planning is in the background: this possibility is considered important but the structure is not considered ready to adopt the functionality of cost accounting systems. The situation of the private universities, that operate in accordance with article 33 of the Constitution, is slightly more advanced. Only recently⁵ the law regarding loans to public universities has been extended to private universities. The State recognises

⁵ article 4 of the Consolidated Act of the university laws, February 2001

the public value of the private universities and delivers *loans* to them. These funds cover about the *10% of the needs* of private universities. The meagreness of these funds forces the private institutions to be highly independent from the Ministry, that grants them a higher level of activity and management freedom than public universities.

The need for self-financing, the greater independence and the consequent discretionary power, together with the smallness of structures and conditions of a higher organising flexibility of the private institutions are only a few of the elements that have led them to the adoption of *business management logic*. In order to become competitive in a market where efficient and effectual answers have to be given, these universities have invested time, resources and professionalism with the aim of maintaining their competitiveness. From this perspective, the Cost Accounting systems have a relevant role and can be considered a good term of comparison for public universities in order to identify improvement areas for those systems that have been planned only recently.

2.b. The managerial control instruments

The most recent laws have recognised, among the public resource managers, besides the traditional accounting, administrative and penal responsibility, an “economic” responsibility related to the ability to achieve results that are in line with predefined goals. It follows that resorting to the budget and the reporting system becomes an “administrative” choice that is necessary in order to diffuse the economic responsibility for results and the information on the management progress in the university system.

These must be addressed to:

- *The Ministry*, that has to take policy and general decisions by also making use of economic and financial information relating to the progress of each university;
- *The central university management bodies*, that have to estimate how they themselves have managed the public resources;
- *Those in charge of each university operative unit*, in order to control the distribution and the use of the resources inside every organisational unit.

While the control activity toward and by the Ministry is a common, consolidated and unquestioned practice, few universities use managerial control instruments, responsibility budget and reporting in order to control the university management, both globally and locally. The reasons for this unwillingness can be identified in *organisational and cultural factors*.

The decentralisation of economic responsibilities is the fundamental condition for the smooth functioning of the enterprises managerial control. That means that each organising position must be given an economic responsibility that has to be associated to an accounting survey unit with costs and revenues. By observing this project qualification, it is possible to associate the budget goals with an organisational head and to activate control procedures with the aim of comparing and representing, in responsibility reporting, that which is produced by the comparison of the goals and results of each head.

It is not possible in all universities to recognise this basic condition because each organisational head does not necessarily have economic responsibilities (efficient and effectual utilisation of the resources). This partly justifies the difficulties of using budget and reporting in the universities in order to manage the resources and to move towards performance improvement goals.

The other great obstacle is a *cultural factor*: control is still conceived as a formal and accounting fact. It is predominantly associated with procedures of *administrative and accounting regularity control* and of *management evaluation* that have formal characteristics. What is linked to the *managerial control* with the aim of supporting the management activity in the resources allocation and in the control of their efficient and effectual utilisation towards predefined goals, is mostly unknown.

In spite of the most recent law orientation which obliges the universities, as well as the other public bodies, to be endowed with control systems that are able to monitor both the *political and social dimensions* and the *operative and managerial dimensions* (this form of control is not still well understood and accepted), stronger resistance is due to mostly cultural factors⁶. The law justifies itself relating to the fact that public organisations, though they can be non profit-making bodies, must operate in order to create “value” for their stakeholder and, in this perspective, their strategy and their operative management have to be evaluated. It is difficult to accept this perspective that requires control forms not focused on the management formal aspects but oriented to support the management decisional processes in relation to the allocation of resources, the analysis of their use by those responsible and the evaluation of the results achieved in comparison with the predefined goals.

The introduction of the *budget and the responsibility reporting* requires, not only a stimulating law context, but also a radical *cultural change of each organisation*.

3. The areas of improvement:

3.a. From “cost centres” to “economic responsibility centres”, from global measures to partial measures

In order to understand the complexity of the change from *financial accounting to economic accounting*, the latter dealing with *analytical accounting*, more preliminary information becomes necessary. We have to explain the meaning of the *cost centre*, that is common among the public bodies and is fundamental for financial control, in comparison with the *responsibility centre*, that is typical among the private enterprises and on which the economic control is based.

Within the public bodies, under their financial culture, “cost centre” means “an organising unit endowed with budgeting autonomy”, and that implies that it is endowed with the “authorisation of expending money”⁷.

The meaning of “economic responsibility centre”, that is one of the essential elements of the managerial control, is more complex. In particular its relevance emerges when we want to emphasise the organising and behavioural values of a managerial control system which is based on the division of the organising structure into “operative units managed by a responsible⁸ having economic goals to be achieved by a minimization of the resource use or a maximization of the results to be pursued”. Resources and results are measured by *economic parameters* and they are the subject of a survey system named *Responsibility Accounting*.

⁶ Law by Decree n. 286 dated 30-07-'99' article 1, paragraph 4, although it does not concern teaching and research activities, it can be related to universities. In this law is specified the difference between “managerial control” activity, (art. 4), that is associated to the operative dimension, and the “strategic control evaluation” (art. 6), that refers to the political dimension. For further details see the conclusions in this paper.

⁷ Check, M. L., op. cit (1980), pag. 19-20

⁸ Brunetti, G., op. cit. (1983)

Economic Responsibility centres can be defined under the typology of the measured resources and results. The classical taxonomy make a distinction among⁹:

1. Standard cost centre;
2. cost centre with decisional powers;
3. revenue centre;
4. profit centre;
5. investment centre.

The formalisation within the organisation of different economic responsibility centres shows the intention to decentralise, not only organising responsibilities, but also responsibilities referring to the utilisation of resources. This dimension is generally unknown to the cost centres of public administration that are interested exclusively in a financial control of the costs and without paying attention to how the resources are effectively used by the units endowed with the authorisation of expending money.

Therefore, as was said before, the change from financial control forms to managerial control forms, that are based on the decentralisation of economic responsibilities, requires the identification, within the enterprise hierarchy, of people responsible for having *partial economic goals, deriving from the division of global economic goals, with the aim of decentralised control on resource use.*

Two principal problems can arise:

- a. how is it possible to create the conditions for an effective economic responsibility within an organisation without organising and cultural conditions;
- b. how is it possible to neutralise the phenomenon of interdependence among responsibility centres resulting from an “ideal” division of the organisation, that are linked by relations of service exchange.

The operators can be invested with responsibility only if some fundamental principles, relating to the economic goal to be assigned, are observed. First, the measures chosen must involve only the *factors that can be directly controlled* by the operator that is to be invested with responsibility. Secondly this measure must be judged as reasonable by the object of the evaluation made by this measure¹⁰. Undertaking interdependence means being able to design mechanisms of charging for costs relating to exchanged services or transfer costs that are able to account adequately for the internal exchanges among economic responsibility centres¹¹.

The organising problems are often related to the accounting problems that we will try to define by describing how the different forms of responsibility accounting can relate to universities.

The change from the financial accounting to the economic accounting that supports the decentralisation of economic responsibilities, signifies, as it has been said before, a change from an accounting structure based on a system of cost centres or survey units to an accounting structure based on the definition of economic responsibility centres.

The university structures could be ideally and concretely articulated in *cost centres* and *profit centres*, observing the supporting hierarchical lines.

From a survey carried out within the Italian universities that have started plans for introducing the managerial control¹², the emerging tendency is to articulate the structure in cost centres, making a distinction, within them, between final cost centres

⁹ Antony, R.,N., Young, D.W., op cit. (1992), pag . 8-9

¹⁰ Vancil art. cit. (1973)

¹¹ Santesso, E., art. cit. (1991)

¹² Ongaro E., Rodolfi E., art. cit.(1998)

(departments, producing research; faculties, that manage the provision of education) and intermediate cost centres (administrative offices and services centres), by defining, at the same time, the criteria of cost allocation relating to intermediate and final centres.

Others are going beyond this by activating costs and revenues survey systems referring to real *profit centres*, even drafting partial economic accounts or, in some cases, partial financial statements. In order to do that it becomes necessary to create the information conditions for a reliable costs and revenues survey of each profit centre (value of specific local resources) and to define the criteria for assigning to them costs and revenues referring to central structures, from the perspective of charging all the university costs. Therefore it is necessary to create schemes to activate overturning procedures led by drivers that are able to measure the real contribution that central structures offer to the functioning of peripheral structures with a profit responsibility.

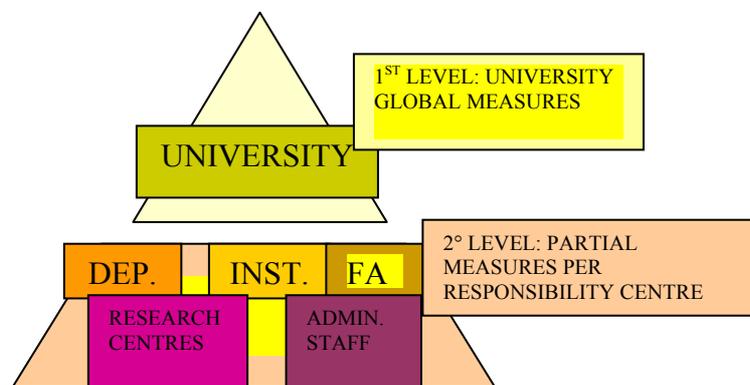
In order to support the process of economic responsibility investment it becomes essential to have an effectual accounting information system that is capable of improving economic and financial reporting with a pyramidal structure as it is synthetically represented in figure 1. (*The division levels of performance measures*).

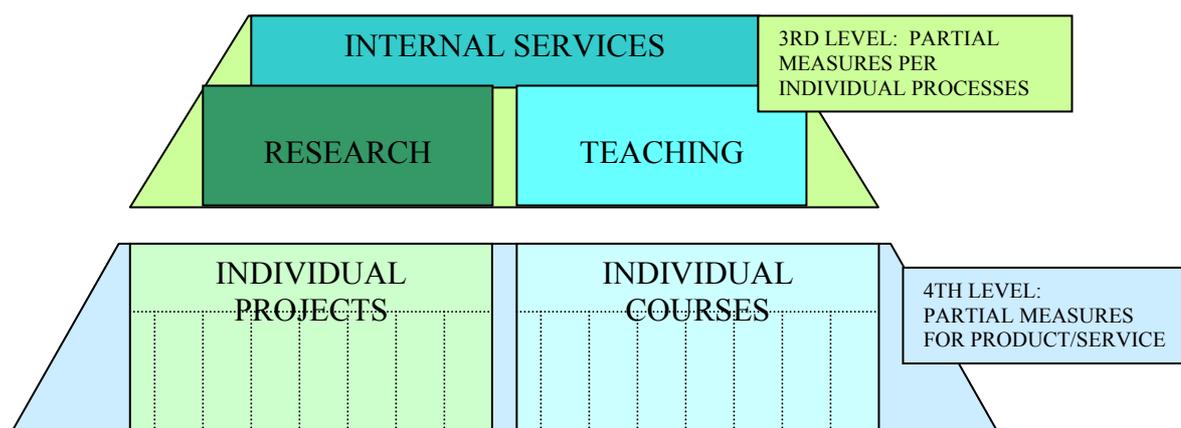
Essentially, the division of the universities' performance measures of the various levels of the organisational structure, could require the elaboration of a variety of indicators aimed to control specific factors as is exemplified in table. 1 (*Critical Areas and control parameters for the university performance monitoring at different levels of organising division*).

In conclusion, the reasons that induce the universities to introduce economic responsibility centres of, and in particular profit centres, are substantially two:

1. *The improvement of the resource allocation process* for the different organising units by going over the logic of historical data extrapolation or of negotiation of undifferentiated charge percentages relating to user-units in order to structure a continuous cycle of peripheral budgeting-controlling integrating that of the university;
2. *The extension of the managerial autonomy* by inducing each Faculty and/or Department (and the principal decisional centres that can be identified within them as the people responsible for each degree course, each specialisation course, research centres etc.) to take decisions about resources (administrative staff, spaces management) in a context where the services, that must be centrally delivered, have to be freely acquired as adequate and remunerated at adequate prices.

Figure 1: The division levels of performance measures





Tab. 1: Critical Areas and control parameters for the university performance monitoring at different levels of organisational division

1st LEVEL: UNIVERSITY

FACTORS	PARAMETERS (variations relating to plan or budget goal values or relating to past data)
<ul style="list-style-type: none"> - economic/financial profile - dimensional profile - student population profile - teaching staff profile - administrative staff profile 	<ul style="list-style-type: none"> -analysis Δ university financial-economic indicators; -yearly growth rates (# of students, # of teachers, # of administrative staff), -Δ composition: <ul style="list-style-type: none"> -1st year students -students from 2nd year up to graduation -Δ staff composition (1st level, 2nd level, researchers); -Δ staff composition (managers, employees, officers)

2° LEVEL: RESPONSIBILITY CENTRES (DEPARTMENTS, FACULTIES, INSTITUTES, RESEARCH CENTRES, CENTRALISED STAFF)

FACTORS	PARAMETERS (variations relating to plan or budget goal values or relating to past data)
<ul style="list-style-type: none"> - adequacy of the devoted structural resources; - adequacy of the assigned financial resources; - activity levels 	<ul style="list-style-type: none"> - analysis Δ cost structure (cost centres) or economic result structure (profit centres); analysis Δ staff composition; analysis Δ spaces dimensioning per student (libraries, computer labs, study halls, refectory, etc...) - analysis Δ funds;... - analysis Δ # of activated degree courses; analysis Δ # of activated projects/ongoing/finished; analysis Δ # and composition of centrally delivered services, etc...

3rd LEVEL: TEACHING, RESEARCH AND MANAGEMENT PROCESSES

FACTORS	PARAMETERS (variations relating to plan or budget goal values or relating to past data)
<p><i>a. teaching processes:</i></p> <ul style="list-style-type: none"> - efficiency of teaching - adequacy of teaching - efficacy of teaching <p><i>b. Research processes:</i></p> <ul style="list-style-type: none"> - amount of research - efficacy of research - adequacy of devoted resources <p><i>c. management processes:</i></p> <ul style="list-style-type: none"> - efficiency of internal processes - efficacy of internal processes - structural adequacy 	<ul style="list-style-type: none"> - analysis Δ teaching costs; - analysis Δ costs per student; satisfaction level of the students;.. - graduation rate; completion of the studies rate;... - # of approved projects - # of finished projects in relation to the # of starter projects; # of publications; # of projects financed by external bodies,... - Δ costs per student - Δ funds per teacher -analysis of Δ of cost, amount and variety of delivered services; -satisfaction level of the users of internal services; -dimensional indicators (# of org.; activities etc...).

4th LEVEL: INDIVIDUAL PRODUCTS (DEGREE COURSES and RESEARCH PROJECTS)

FACTORS	PARAMETERS (variations relating to plan or budget goal values or relating to past data)
<ul style="list-style-type: none"> - economic profile - quantitative and qualitative profile of degree courses - quantitative and qualitative profile of research projects 	<ul style="list-style-type: none"> - analysis Δ of the cost structures of each product, - analysis of Δ of the # of enrolled students, satisfaction level of the students; - Δ amount of effective costs in relation to the assigned loan; project realisation time, satisfaction level of the customer; research project output...

3.b. From the “determination “ to the “management” of activities costs

In the universities, the incidence of support activities (centralised services) in connection with primary activities (teaching and research) is remarkable. An analysis led by the HEFCE (Higher

Education Funding Council for England) has demonstrated that, on average, only approximately 60-65% of the available funds in English universities are used directly by the departments and the faculties for teaching and research activities, while the approximate residual 30-35% is absorbed by the centralised services (this percentage

varies from a minimum of 23% to a maximum of 44%)¹³. These include the so-called academic services (i.e. libraries, computer labs for teaching and research), the centralised staff costs, relating to administrative and financial services, training costs, the various equipment and the management supporting computer services.

In the United States the situation is even more exacerbated. Referring to a classification that separates the teaching and research processes from the managerial processes, the economic weight of these exceeds the global university costs by more than 50%¹⁴.

Although we don't have similar data referring to Italian universities, we know that in some cases the weight of support and service activities is critical also in our country.

This makes it urgently necessary to face the problem of the determination of the costs connected to the support activities and their distribution among the primary activities for the calculation of the costs at a faculty level, individual degree course level, department level, or every other subject of calculation that is relevant in these particular activities. Quantifying the indirect costs that relate to the delivered services at a central level and that are absorbed by the primary processes, is useful in order to understand how they are induced by the teaching and research activities. The centralised services, in fact, exist because of the primary activities need of supports. Therefore, *it becomes important to reach a cost configuration of the teaching and research processes that includes the costs generated by these activities*. In this way, those with management responsibility can judge not only the economics of the primary processes, but also the adequacy of the structure activities, either concerning dimensioning choices or with reference to operating efficiency conditions.

In particular for the university, as an business, it becomes necessary to follow the line of the interpretation of the relations between central costs and the subjects of its calculation that can be identified in the teaching and research processes carried out in the faculties, the departments or other training and research, the individual courses or projects referring to a teacher or a researcher, or even to a student. In this regard, the conclusions that English researchers have drawn on the basis of the answers given by the universities interviewed during a survey about costs and services, are interesting (see table 2). They foresee a tendency either towards the refining of overturning methods of the aforesaid costs through techniques such as the ABC but without the

¹³ M. Bourn (1994)

¹⁴ cfr. Russel J.Milano, Management Accounting-Spring 2000. The author, referring to the Northern Illinois University data (20.000 students), that is representative of the system *High Education USA*, highlights the custom of relating the plurality of the university costs (amounting to up to 20 million dollars) to two typical functions: teaching and research on one side, managerial activities on the other.

Here is the percentage of the different costs:

FUNCTIONAL ACTIVITY	% OF TOTAL
Instruction and Dep. Research	37%
Organized Research	6.4%
Public Service	5.6%
Subtotal	49%
Academic Support (libraries, computers labs, deans and administration of the colleges)	7%
Student Services (athletic program, counseling, financial aid administration, admission, registration and records, and students activities)	11.7%
Institutional Support (president, provost, and central administration of the university)	4.6%
Operation and Maintenance of Plant (utilities, environmental, building, group maintenance)	13.2%
Independent Operations (bond revenue or auxiliary activities of the student center, stadium, dormitories, and food services)	14.5%
Total	100%

devolution of economic responsibilities to the users, and towards the introduction of mechanisms of regulation of the transactions as the charge rates that have to be negotiated between the parts and/or the internal transfer prices supporting the decentralisation of the economic responsibilities to the user, and towards decentralisation forms of the central services.

Table 2 –indirect cost sharing methods: prospected tendencies¹⁵

METHODS	%
- ABC	40%
- Service level agreement	25%
- Internal market prices	20%
- Devolution	16%

The economic information offered by the ABC system shows how indirect activities absorb resources and generate costs inside the organisations, and how these activities benefit the primary and/or supporting services. By calculating the activities' costs, for which different productive factors are used, two different managerial purposes are pursued:

1. the reasons for cost generation have to be explained in order to give the management the possibility to judge if it was right to bear a certain cost for a certain goal;
2. the costs have to be linked to their causes and, indirectly to who is responsible for the resources' utilisation that is the origin of the costs. This focuses the attention of the management on where the costs have originated, that is to say where it is necessary to intervene with the aim of managing them.

In order to rationalise and to improve the management processes it is necessary to acquire this information. It becomes essential to analyse the data supplied by the ABC and to formulate adequate strategies of intervention in order to affect concretely the level of efficiency and efficacy of the business processes. That means that we must act from the perspective of the strategic management of the costs. The methodology that best responds to this requirement is the Activity-Based Management (AMB). The AMB, that is the management based on the activities, makes use of the data supplied by the ABC in order to identify areas of improvement in the enterprise performances and in order to put into effect opportune adjustments to the university strategies in order to face competition in a better way¹⁶. There is a strong correlation between ABC and AMB.

The first collects data relating to the business activities. The second uses them in order to

carry out an analysis aimed at continuous improvement through the employment of the resources for more remunerative activities and the activation of more efficient processes.

There are two AMB goals, both are common to all enterprises, therefore they are relevant also for public bodies such as the universities:

¹⁵ M. Pendlebury, N. Algaber (1997), op. cit. pag. 287

¹⁶P.B.B. Turney, (1992)

- a. increasing the value for the customer;
- b. improving business performances in an economic-financial, competitive and social profile.

It has already been said that the *orientation to the user* could represent, for the universities, a new perspective on which the processes of managerial change can be based and could successfully face this new era characterised by competition. Meeting the needs of students, and more generally, the needs of the community which *university education and scientific research serve*, is, today, a *survival condition* that we can no longer ignore. The satisfaction of these needs observing the competitive and economic requirements represents the *success condition*. The long term economic- financial equilibrium and the competitive ability of a public institution must be the goals that also directly interest its customers, goals that are based on management processes that are identified, not only in the *efficient management* of what exists, but that are based on an uninterrupted and assiduous process of *development* of all the business aspects and on the insistent research of *improvement opportunities*. This research presupposes, in its turn, a careful and methodical study of the activities, aimed at identifying areas for timely intervention areas and specific ways of doing so.

3.c. From the “incremental budget” to the “priorities budget”

The ABC and the AMB can be easily related to the *budgeting process* in which the various options of intervention on the structure are evaluated, with the aim of its rationalisation or achieving greater value from it. The value of this statement is confirmed by the fact that some authors talk today about ABB, that is *Activity Based Budgeting*¹⁷, which is the natural evolution of the techniques of feature costing¹⁸ that are based on the ABC and the AMB in order to guide businesses towards the goal of value creation. The latter is now considered by managers as top priority. For businesses, the value has been traditionally determined by financial measures, such as profit, the cost/revenue ratio, cash flows and the ROE. More recently, some value measures for the shareholders, such as the Economic Value-Added (EVA) have become relevant as indicators for the measurement of the value generated by an organisation.

Apart from the financial parameter used, the goal of the latter is to endow the investors with an external perspective of the financial performance of the business.

A similar equation of value also exists for *non profit organisations*. In these cases the value is determined on the basis of *the total cost borne in order for the organisation to obtain results related to the achieved benefit*. The generation of the same benefits, with lower total cost, increases the value, just like the production of greater benefits with the same cost. In order to guarantee the creation of the value it is important that every organisation identifies *performance targets* and makes an effort to identify the actions needed to achieve the goals, and assiduously monitors the results achieved.

In order to *measure* the generation of value in the businesses, Activity Based Costing has been adopted, in order to *orient the rationalisation processes* the Activity Based Management techniques have been refined, and finally, in order to *guide them towards*

¹⁷ Brimson, J., Antos, J., (1999) op cit.

¹⁸ L'ABC e l'ABM are facilitators of the “feature costing”, that is of the technique that, by assigning costs to the activities and to products/services on the basis of products and services attributes, tries to understand the process variation induced by its specific attributes. The knowledge of the latter allows an organization to minimize the variation, having more foreseeable and more manageable costs. This results in a more accurate operative plan, and facilitates a more precise combination between the capabilities of an organization and its workload for products and services; cfr. Brimson, J., Antos, J., (1999) op cit. pag 112

the generation of value the Activity Based Budgeting is used. Fundamentally, the ABB is focused on the understanding of the activities and of their mutual relations with the aim of achieving strategic goals¹⁹. Processes oriented costing, ABC and AMB, and canalised in a ABB system, helps to formulate a business plan oriented to the value because it allows measurement of the variations of process caused by the specific needs of the individual product. The ABB factor in the planning transfers the business strategy into the activities necessary for its implementation. The ABB is focused on the activities and the workload of the organisation, rather than simply on the resources, while the costing oriented to the processes puts the capabilities into relation with the workload. It has become necessary to seek different ways of carrying out the processes of budgeting focused on the activities rather than on the resources because the traditional techniques of budgeting control, when introduced in complex services companies and non profit companies, become meaningless. The traditional methods try to allocate the resources of the business to the departments or to the organising units on the basis of cost goals that are linked to turnover forecasts. Therefore, the forecast of the costs included in the traditional flexible budgets is generally based on the use of absorption coefficients generally linked to volume indices (man-hours, machine-hours)²⁰. If this logic of forecasting is put into contexts where the turnover is supported not by the intrinsic quality of the product/service on offer but by the perception of the value it has for the customer based on its characteristics or how it differentiates itself from others (typical of service activities), or where the variability of the costs is not induced by the quantity but by the managerial complexity, it becomes difficult to strictly define what the real costs might be in the different alternatives of employment of the structure and come to the formulation of a meaningful budget. The volume, in fact, is only one of the determining factors of the business costs, and this evidence is even more marked when the reference regards professional service businesses.

More generally, the *traditional approach* tends to become *extrapolating* (the budget sums are often the result of an analysis of the past and of simple linear projections in the future), and *incremental* (increments of resources are required in relation to new programs of activity without questioning the way the resources have been used in the past and if the activities carried out in the past are necessary in future) and it tends to be perceived by the operative levels as a simple *accounting exercise* that does not warrant further effort. The integration between ABC and AMB in the planning and management economic control processes contributes to going beyond these limitations of the traditional management control instruments that are widespread in manufacturing businesses. The wide range of drivers on which the costs calculation is based within the ABC logic can be used in order to define particularly accurately the entity of the costs expected in correspondence with different hypotheses of the use of the productive capability and to explain the course of the costs in relation to different complexity factors.

In Italian universities the use of the budget is still a sporadic occurrence (only some private universities use it frequently). In order to find universities where the use of the budgetary control techniques constitutes a consolidated custom we must, once again, refer to foreign universities.

¹⁹ for this definition see J. Brimson-J. Antos (1999), op cit. pag. 25-35

²⁰ Solomons, 1968

A research report dated 1996²¹ illustrates the degree of diffusion of the main instruments of management control used in the English universities and the specifics of the approaches.

According to this survey, 100% of the higher-education institutions interviewed use a budgeting system. Moreover, this survey allowed the collection of information regarding:

- a. *the approach* adopted in order to conciliate the resource demand of different departments with the university funds;
- b. *the effective influence area* by the people responsible for the determination of the value of their budgets;
- c. *the budgeting methods*.

Concerning the *approach* pursued for the compatibility of the resources needs with the expense level at disposal, 57% of those interviewed reported that budget demands are reduced following a *negotiation process between the centre and the periphery*. 9% declared that often the reorganisation results from a combination between the negotiation and the *intervention of a cutback of the costs imposed by the centre*. The managers' degree of influence over the value of their budgets was very low in all cases. Perhaps because of the use of the instrument, although widespread in many academic institutions of Great Britain, is too recent and exists in a context where the level of managerialisation is still low. This requires us to consider the adoption of a participatory style for the definition of budget levels extremely dangerous. The risk of constituting budget reserves by identifying goals which are too easily attainable, results in the adoption of a *prevalently authoritarian approach*. The most widespread methods for budget elaboration in English universities are the following two: the *incremental approach* (total cost forecasts formulated on the basis of historical data and increased by an amount that takes into account new activities and the rate of inflation); and the *Priority-Based Budgeting* (cost forecasts referring to single plans of activity organised according to priorities). Through observation of the businesses that have experienced it, this technique has been given several denominations. The most well-known are the *Planning, Programming and Budgeting (PPB)*, the *Project Management (PM)*, the *Overhead Value Analysis (OVA)*, the *Zero Base Budgeting (ZBB)*²², and finally the *Activity Based Budget (ABB)* discussed at the beginning of this paragraph.

By operating a costs forecast for activities, we can understand what effectively is going on in an organisation, why certain activities are being carried out, which are the best ways carry them out, which are the most important and how much they cost. If we know which activities require the greatest effort, how they relate to each other and how they are connected to the main goals of the organisation, we have a powerful instrument with which we can assign and manage the resources by economic rationality criteria. This is the main managerial value of these techniques that is reorganised drastically when we are not endowed with a cost accounting method oriented to the activities. The deriving informative deficiency forces the management to make rough evaluations of the cost of activities, on which it then has to take delicate decisions about resources allocation, thereby threatening the managerial potential to the budget approach based on priorities. The diffusion of ABC has allowed us to go beyond this limit and has allowed the

²¹ Cropper P.; Drury C., (1996)

²² Logan M. Cheeck, 1977, pagg. 30-38

universities to move towards the AMB and to approach, with economic and managerial knowledge, the decisions concerning resources allocation during the budgeting process for the definition of university and department/faculty related economic–financial forecasts that will be managerially very useful because of their ABB characteristics.

Conclusions

A consideration of these conditions leads to the discovery of a tendency in many universities to select the opportunity of the institution of the Appraisal Nucleus, with functions of external control or managerial control, in order to satisfy the typical informative and cognitive requirements of the inner control or control of management. Many universities seem to identify Nucleus as an "office of technical support" or "staff" of the government bodies (chancellor, board of directors, academic senate) in analogy to what happens in private companies that are endowed with functions of management control. We think that the most adequate organisational solution is not the spreading of the responsibilities and the tasks of the appraisal nucleus, but rather the institution of a body invested with the responsibility of carrying out functions of management control (on which

the appraisal nucleus will be able to extend its action of "control" and, at the same time, to use the information that it produces in order to refine the evaluation processes that it must produce according to its institutional role)²³.

We are facing the real need of being endowed with information aimed at a management control, not only the management on which the appraisal nucleuses are not able, today, to carry out in an effective way, both because of the intrinsic characteristics in their appraisal procedure, and because of too close a connection that the results of this appraisal have referring to the decisions of national resources allocation. In fact, the Crui declares (1998) that the appraisal should be interpreted as a "process of monitoring with the aim of the total improvement of the structure and that means a process of quality improvement and not of judging or sanctioning or inspecting" and this contrasts with the fact that the appraisal results will be used with the aim of the resources allocation that becomes, concretely, a sort of award or sanction for what has been done. It is necessary to refer to a law that concerns all the businesses delivering useful services to the public in order to obtain a legal suggestion referring to the specific interest that the universities must have towards the instruments and the processes of managerial control. We refer to the law by decree n. 286 dated 30-07-'99, whose art.1°, paragraph 4, though excluding its application to the teaching and research activities of professors and researchers, can be transferred to the universities. In this decree there is a reference to "managerial control" activity, (art. 4), that it is associated to the operating dimension, and to the "appraisal and strategic control" activity (art. 6), referring to the political dimension. In particular the decree indicates that Public Administrations, within their own autonomy, must be endowed with adequate instruments to guarantee

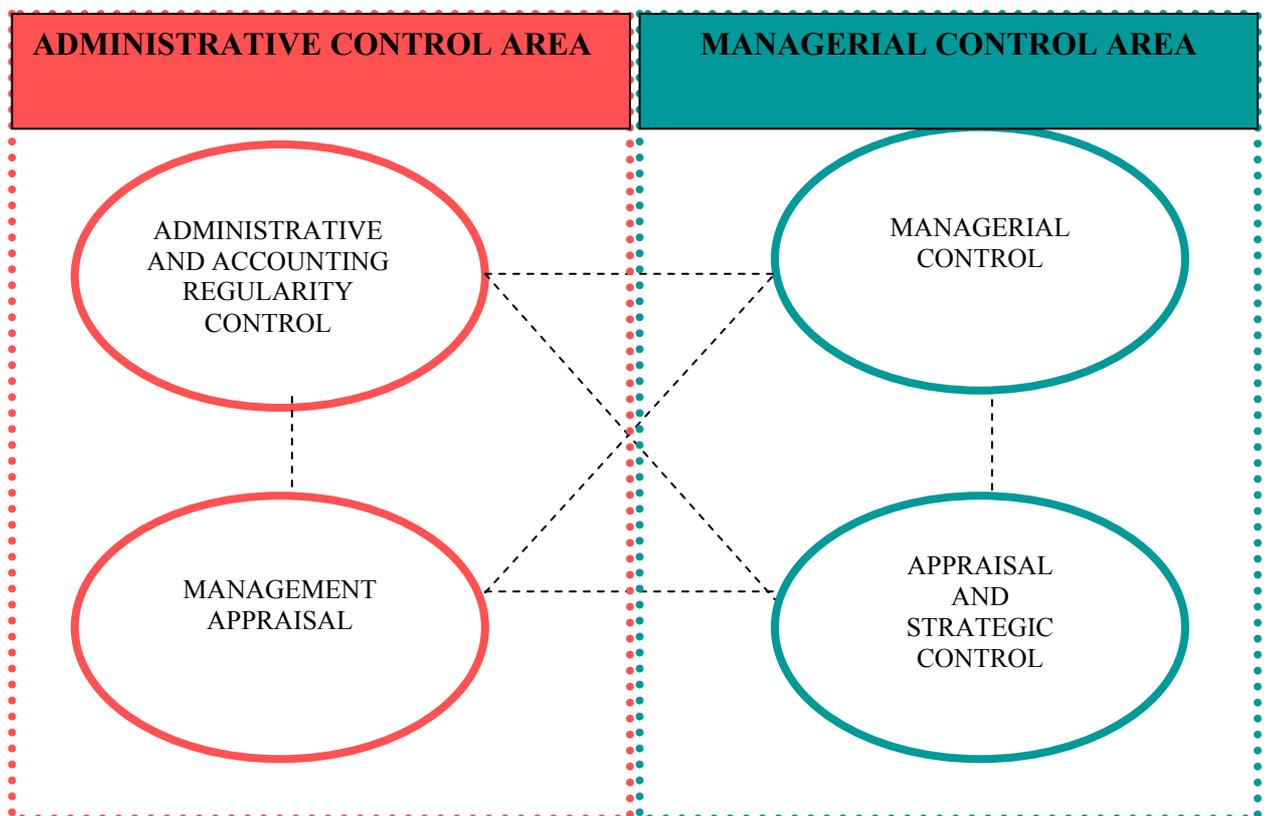
²³ in the document already quoted 11/98 by the Ministry we read: "It is necessary to remember that "evaluating" means "assigning a value", therefore we expect that the appraisal activity implies *judgments* and *comments* about the activity of who is evaluated. Within this context, the calculation of quantitative indicators, that has been requested by the Nucleuses and promised by the Observatory (now Committee), *can not complete the activity of the Nucleuses*. Such indicators become an instrument that delivers information. Therefore the Nucleus activity must produce a set of indicators as well as quantitative and qualitative information in order to observe the primary role we quoted, that is the delivery of information, but it must, consequentially, stimulate (i) the appraisal activity (*judgmento*) by the different university structures (ii) in order make a global evaluation...such information need not necessarily be produced by the Nucleus ...but it could be produced by the administrative direction, by the chancellor office, by the Faculties, etc...

the control of a variety of factors (fig. 2: The different forms of control to be activated in the businesses providing services for the public):

1. the lawfulness, the correct procedures of the administrative activities (administrative and accounting regularity control);
2. the verification of efficacy, efficiency and economic conditions of the administrative activities in order to optimise, through rapid correction, the relation between costs and results (managerial control);
3. the evaluation of the management staff performances (management appraisal);
4. the adequacy of the choices made within planning, programming and determining of the policy orientation, with suitability of the achieved results or of predefined goals (appraisal and strategic control).

The control processes of acceptable administrative and accounting procedures and of management appraisal are mostly formal. Processes related to the managerial control and the appraisal and strategic control have mostly managerial purposes and meanings. The latter requires the utilisation of mechanisms aimed to verify, in relation to the real discretionary powers of orientation that are conferred upon the appropriate bodies, the effective performance of the choices within directives and other actions of political orientation. This appraisal system is separated from the managerial control that supports the management activity within the processes of available resources allocation and in the verification of their efficient and effectual use regarding the predefined managerial goals.

Figure 2: The different forms of control to be activated in companies providing services to the public



Following the most recent law guidelines, the universities, like all the institutions delivering services of public utility should also be endowed with control systems that are able to monitor both the social political dimension, and the operative- managerial dimension. In fact, the organisations delivering services of public utility, although they may or may not have profit objectives, must operate in order to create "value" for their stakeholder and in this perspective their strategy and their operating management must be estimated. From this perspective a control system is considered as effectual when it is not focused exclusively on the formal management aspects, but it is oriented in order to support the decisional processes of the management in relation to the resources allocation, to the analysis of their use by those responsible for the organisational units to which the resources have been assigned, to the appraisal of achieved results in relation to the forecast goals, and so on. The introduction of such control systems presupposes, besides a stimulating law context, a radical cultural change of the organisations themselves. In fact, the improvements in the management of the few resources of the Italian universities depends not only on the normative changes and the decisions taken at a system level, but also on the "*activities of good government and good management that the people responsible are able to produce at different structure levels observing the understanding of the existing laws*".

The role of Public Administration and the university role are developing: changing from bodies that are simply responsible for the utilisation of resources to organisations providing public services, and that are required to satisfy the needs of the users to which they address themselves in order to increase the value of the public investment in the perspective of the creation of social advantages. Certainly, these purposes have always been provided in the role of the public body, but it has only recently become necessary to stimulate the institutional bodies in order to become sensitive to the real needs of direct and indirect users of the services that, only if satisfied, will be able to start and to feed a mechanism that is able to guarantee the growth of the economic value of the public investment in the long term. In fact, only the individual user that is considering his particular needs

and characteristics can judge the level of quality of the service that he receives, that is the "value"²⁴ that justifies the congruence of the resources used by the organisation in order to deliver that service. Therefore, each individual university is indirectly stimulated to address their efforts in defence of the value of the public investment through the adoption of effective control systems that have to be defined in their internal regulations with a high degree of programming autonomy. It is only within context of discretionary powers that we can include the proposals contained in this report which certainly does not represent a point of arrival but rather a departure point in the definition process of managerial forms of control that can be useful in university management.

²⁴ Zeithmal, ,1988

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