



**Supporting Success and Productivity:
Practical Tools for Making Your University
a Great Place to Work**

**THE ICU REPORT: AN INTELLECTUAL
CAPITAL PROPOSAL FOR UNIVERSITY
STRATEGIC BEHAVIOUR**

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Higher education institutions are crucial institutional actors in the national innovation systems and are immersed in important transformation processes that aim to make them more competitive, dynamic and transparent. Given the new pressures and demands of the rapidly changing environment, universities throughout Europe are forced to adapt their organizational structures and incorporate management systems to run their affairs more efficiently. In this sense, they need a more managerial approach in order to deal successfully with all the challenges of the new scenario. Accordingly, the main aim of this article is to discuss the rationale for implementing the Intellectual Capital (IC) framework in universities as a valuable way to deal with the new managerial and transparency requirements. The so-called Intellectual Capital Report for Universities (ICU Report) is presented. From the empirical point of view, four case studies have been analysed using the Grounded Theory (GT) approach. The usefulness for strategic management purposes and the potential barriers for disclosing the indicators proposed are analysed. The ICU measurement framework presented in this article should be considered a first approach in the design of a tool for the measurement of research activities.

Introduction

Today, Higher Education (HE) institutions are considered critical institutional actors in the national innovation systems and are in the forefront of the European policy agenda. In particular, the Lisbon Agenda (March, 2000) calls for their specific involvement in the creation of the *Europe of Knowledge* and the so-called “Bologna process” is introducing structural transformations towards the homogenisation of the European HE sector. Furthermore, new financial and social pressures have led to a number of significant changes. Accordingly, at the heart of the discussion are: new methods for measuring university performance and efficiency, the creation of accreditation agencies at national and regional level, the institutionalization of new funding mechanisms, reforms of national legislations to increase the level of university autonomy, and the introduction of managerial tools to improve their internal management. This trend towards a managerial approach in our HE institutions is the main focus of this research.

Aware of the historical moment that the European HE sector is living, the main aim of this article is to present the **rationale for implementing the Intellectual Capital (IC) framework in universities** as a valuable way to deal with the new managerial and transparency requirements. Four case studies have been analysed using the Grounded Theory (GT) approach. The Autonomous University of Madrid has been the pilot case.

In order to shed some light to the questions posed by the conference, the rest of the article is structured as follows. In section 2 we examine the rationale of implementing the IC framework in HE and research organisations. It is a fact that these approaches are gaining importance day by day as ways for measuring and reporting on intangibles not only at firm level but within public institutions, particularly in universities. Moreover, since the end of the last decade several international conferences, symposiums and workshops have been organised to discuss and reflect on the importance of IC at firm level and within the public sector.

The Intellectual Capital Reports (ICRs) are presented as a tool for visualising in a comprehensive way organisation’s inputs, outputs and processes. Accordingly, based on the analysis of different pioneer initiatives in universities and research institutes at European level, section 3 presents the benefits of this proposal for university strategic management and diffusing information to stakeholders.

From the empirical point of view, the methodological approach is explained in section 4 and the results obtained in the multiple case studies are presented in section 5, highlighting the lessons learned from the cases and the principal shortcomings of the study. Finally, some final conclusions are drawn.

Why this approach? Rationale of Applying Intellectual Capital Approaches in Universities

Given the new pressures and demands of the rapidly changing environment, universities throughout Europe are forced to adapt their organizational structures and incorporate management systems to run their affairs more efficiently.

The first step towards better management and governing systems was to establish a general framework of quality assurance procedures during the second half of the 90s. In accordance with this, national accreditation agencies are being created and evaluation methods, procedures and indicators are being defined. Furthermore, and following the Council Recommendation (1998) on European Cooperation in Quality Assurance in Higher Education, the quality assurance system should be based on common features (European Network for Quality Assurance in Higher Education, 2003): the creation of an autonomous body, objective internal and external aspects of quality assurance, the participation and real commitment of stakeholders, and, the diffusion of the results.

In this context, the European Network of European Higher Education (ENQA, 2003; p.3) works “actively in the process towards ensuring a credible European quality assurance environment”. One of its important endeavours has been to develop a European survey to identify the diverse evaluation models used in different countries and to analyse their similarities and differences.

The appearance of quality as a relevant issue in university discourse shows an initial, but important, awareness with respect to managing and publishing information about intangibles.

In accordance with this, if we analyse some management concepts such as strategic planning or quality control and assessment mechanisms, higher education seems to embrace business concepts following the patterns in firms (Wissel, 2004). In other words, concepts originally used only in the business world, such as Total Quality Management (TQM) or ISO certification, are now being adapted by HE institutions around the world.

By focusing on intellectual capital approaches, they could become **suitable management and reporting tools for the following reasons:**

- It can be affirmed that the level of “intangibility” of public organisations is very high since their objectives are often non-monetary and cannot be defined in relation of their market value. When referring to IC or intangibles we are pointing at the measurement of elements that are especially significant in HE institutions, since a university’s main inputs and outputs are basically intangibles (mostly knowledge and human resources). However, only a small part of these are identified and very limited instruments exist to measure and manage them (Cañibano and Sánchez, 2004).
- Because of the new demands for accountability in public institutions, universities and research centers are forced to be more transparent and to disseminate more information to stakeholders: students, public authorities funding universities, the labour market, and society as a whole. As asserted by the European Commission (2003a; p.13) “universities have a duty to their stakeholders to maximise the social return of the investment”. However, despite the increase in external demands for greater information and transparency on the use of public funds (Warden, 2003), an empirical study carried out throughout different universities in Australia, Canada, France, Germany, New Zealand, Spain, United Kingdom and USA confirms that most of them have not yet assumed generalised practices on the elaboration of external information reports (Campos *et al.*, 2003).
- HE institutions are being provided with more autonomy to manage their own affairs, not only academic but also financial, to redefine their own internal structures, which necessarily requires new management and reporting systems.

- Universities are becoming aware of this increasing competitive environment in the higher education system, and this competition appears to increase in the future (Cañibano and Sánchez, 2004). The globalisation processes, the increasingly competitive environment and the European Union requirements to create the European Higher Educational and Research Area process requirements are forcing universities to improve their attractiveness in order to get the best students, researchers and professors, and to compete for public and private funds to improve their activities.
- The increasing cooperation between universities and firms has resulted in the demand for similar processes of evaluation for both players. Accordingly, universities and research organisations would have to implement new management and reporting systems, which necessarily incorporate intangibles.
- Recognising that there is a lack of information on intangibles and with the aim of encouraging public and private organisations to measure and disclosure their IC, the European Commission and some national governments have endeavoured to provide political recommendations for better understanding and implementing IC approaches (MERITUM Guideline, 2002; Danish Guidelines, 1997 and 2003 [1]; Japanese Guidelines, 2004 [2]; Australian Guiding principles (2005) [3] and European Commission (2006). Specially important are the recommendations of the High-Level Expert Group set up in December 2004 by the Directorate General for Research and Technological Development of the European Commission. The document produce by this Group of experts (RICARDIS: Reporting Intellectual Capital to Augment Research, Development and Innovation in SME's) mentioned explicitly the need for both the Commission and the member states to promote the reporting of IC by universities and research organisations (European Commission, 2006). As the document states. "IC reporting could improve both the transparency in governance and in their resource management. This could make a valuable contribution to their competitiveness and attractiveness to the most 'forward looking' students and academics of the European HE system" (ibid., 2006; p.102).
- Last but not least, although the majority of the studies analysing IC and intangibles during the 90s have been related to private firms, during the last decade an increasing number of individual public organisations have been making considerable effort to identify, measure, manage and disclosure their IC. In this sense, it is possible to find examples in hospitals (Vagnoni and Castelleni, 2005; Habersam and Puber, 2003), cultural institutions (Donato, 2005), regional and local governments (Viedma, 2003), or even at macro-level to measure the 'IC of nation' (Edvinsson and Kivikas, 2004; Bontis, 2004; Andriessen and Stam, 2004; Pasher, 1999; Remble, 1999). Particularly relevant are the efforts done by universities and research centres: Sánchez and Elena, 2006; ETRI; 2005; Leitner and Warden, 2004; ARC, 2003; Rodríguez Pomeda *et al.*, 2003; Araujo, 2000).

In summary, and as pointed out by the European Association of Research Managers and Administrators (EARMA), those academic and research organisations that are able to develop both the culture and the capacity of their staff, to value, manage and report on their IC, will be advantageously placed in the HE scenario.

Intellectual Capital Report for managing and reporting on intangibles

Potential Benefits of the Intellectual Capital Report as a tool for managing and reporting on intangibles

One concrete tool successfully applied in different sectors is the so-called Intellectual Capital Statement or Report (from now on: ICR), which is used to identify and deliver information on strategy, aims, visions, activities and resources, based on indicators (financial and non-financial). The benefits of using the ICR fall into two categories (European Commission, 2006; Marr, 2005):

- One category is its potential to function as a **management tool** to help develop and allocate resources – create strategy, prioritise challenges to the firm's development, monitor the development of the firm's results, and thus facilitate decision-making (internal reporting function).
- The other category is its potential to function as a **communication device** linking the institution to the outside world and used to attract resources – financial, human and technological (external reporting function) and to foment relationships with partners and customers.

herefore, IC information is conceived to complement financial management information (internally) and the financial report (externally). Moreover, this external information can facilitate benchmarking across institutions.

Accordingly, an ICR should give two different results. On one hand, an IC document for internal management will include information exclusively reserved for internal use, since it will comprise strategic and confidential information. And, on the other hand, an IC Report for public disclosure will be used as a form of communication, and any information given should be carefully selected.

Benefits of IC Reporting, externally and internally, are diverse. Internally, an IC Report can facilitate management decisions by improving understanding of the university's activities and goals, by identifying intangible resources and capabilities and by improving investments and capital allocation. Externally, it helps to improve transparency and to attract new employees, partners and collaborators (European Commission, 2006; p. 135).

Disclosing information on IC acts as a powerful tool for communicating the institution's abilities, resources and commitments in relation to the fundamental determinant of the institution's value. Subsequently, an IC Report contains information on the work carried out by the institution in order to develop, maintain and manage its intangible resources and activities (MERITUM, 2002).

It is important to take into account that there must be a logical selection of what to measure. Not everything is useful for an institution, and can be very costly. It is therefore necessary to select the appropriate indicators carefully.

IC Report specifically for Universities

A recent initiative aiming to better understand the European HE system and contribute actively towards excellence by improving university management processes is the Observatory of European Universities (OEU) developed within the PRIME Network of Excellence. Fifteen universities and research institutes from eight European countries have worked together during two years to develop a common framework and build a battery of indicators to measure and compare the intangible elements related to research activities. Its main objective was to provide universities and research centres with the necessary tools for the governance of **research activities**.

Accordingly, an analytical and comprehensive framework, the denominated 'Strategic Matrix' (see table 1), organised through five thematic dimensions (funding, human resources, academic output, third mission, and governance) and five transversal issues (autonomy, strategic capabilities, attractiveness, differentiation profile, and territorial embedding) was created as an easy instrument to characterise research activities in universities. In addition, a "Methodological Guide" (OEU, 2006), which provides guidance for the application of the Strategic Matrix within non-participant universities has been developed.

Table 1. Framework of the Observatory of European Universities: Strategic Matrix

	Funding	Human Resources	Academic Outcomes	Third Mission	Governance
Autonomy	Key Questions & Indicators				
Strategic capabilities					
Attractiveness					
Differentiation Profile					
Territorial Embedding					

Source: Observatory of European Universities (2006)

To improve the analytical framework and not only provide universities with an instrument for improving their internal management but also for disclosing information to society as a whole, we have proposed an IC Report for Universities as a comprehensive way of reporting intangibles information following IC approaches: the **ICU Report** (OEU; 2006; pp.223-251) [4].

By transforming and adapting the Strategic Matrix into the ICU Report, our aim has been to provide a generally-accepted model, with a standard and internationally used terminology.

This Report suggests the following three sections:

- (a) The vision of the institution (strategic objectives, strategic capabilities and key intangible resources) presents the institution's main objectives and strategy and the key drivers (or critical intangibles) to reach these objectives. Prior to the selection of indicators, the academic authorities should be aware of the need to define the mission and strategic objectives. In fact, they will be the axes for the organisation of the ICU Report. This vision is, however, missing from the OEU Matrix, where the attention is very focused on the system of indicators.
- (b) Summary of intangible resources and activities. This section focuses on the intangible resources the institution can mobilize and the different activities undertaken to increase the value of those resources. The goal of this part is to highlight the knowledge resources that need to be strengthened and to list the initiatives that have been taken, are in process or planned to improve these resources. However, neither the OEU Matrix nor the ICU Report has been able to include information on activities. This is a serious shortcoming because the indicators on resources only show what the University "is", providing a static notion, while what is really needed is to show what the University "does", thus providing a dynamic notion. The latter provides much more information about the future trends of the organisation and allows both better internal management and information to stakeholders.

- (c) A system of indicators, to allow the members of the university and external parties to see what the University is like. The system is organised following the general taxonomy of IC in three subcategories: Human, Organisational and Relational Capital (MERITUM, 2002). Within each of these subcategories, indicators are organised under different headings. These headings or transversal issues correspond to the strategic objectives that the university may have. The system of indicators proposed has taken into account the close relationship between management and measurement.

In our opinion, this process depicts the logical movement from the identification of the elements that are linked to the organisation's value creation and internal strategy, to the measurement and management of the critical intangibles that have been identified and the disclosure of a battery of indicators. Although as mentioned before the ultimate goal of identifying and measuring IC is to improve internal management, the IC Report for disclosure seems to be the logical conclusion of the IC management process: communicating to stakeholders the university's abilities, resources and commitments in relation to its strategy.

It is important to note that the indicators included in the ICU Report have been selected from the OEU Strategic Matrix, which was conceived for the management of research. This list of indicators was basically selected taking into account the availability of the information at the Autonomous University of Madrid and has been checked with the other three institutions regarding the indicators' usefulness for management and the possible barriers for their disclosure.

Regarding the system of indicators, we consider it crucial to note that both financial and non-financial indicators are included and that most of them are not self-explanatory. Consequently, the descriptive or narrative elements become crucial to contextualize and better understand the information provided by the indicators. This narrative complements the quantitative information and is essential to accurately assess the meaning of each indicator.

According to European Commission (2006) recommendation, standardization on the measurement of intangibles is paramount to provide comparability, interpretability and credibility of information. However, such standardization has to be balanced with the objective of having IC Reports representing the specific characteristics of each organization.

RICARDIS proposes to, first, build a set of basic or general indicators that are useful for all organisations and institutions, second, a set of sector-specific indicators (universities and research institutions in this case), and, finally, institution-specific indicators that can be chosen by each university allowing for individual considerations. It is important to note that this proposal of ICU system of indicators is an endeavour to set standards for clearly identifying, defining and describing indicators at sector level. The third level of indicators should be developed by each institution individually. Assuming that every organisation is idiosyncratic in nature, the creation of a more open framework (with some homogenized categories to ensure consistency and comparison) can allow new and attractive possibilities. In our opinion, the model that RICARDIS proposes is narrow enough to assure a certain degree of comparison, and open enough to allow institutions to include their main concerns.

What did we do? Research Methodology and Process

The fieldwork of this research has been based on **multiple case studies** analysed using the **Grounded Theory (GT) approach**. The GT logic can be defined as an inductive research methodology of analysis and data gathering that uses a set of methods systematically applied to generate theory about a substantive area (Glaser & Strauss, 1967).

However, despite the considerable impact caused by Glaser & Strauss' first publication (1967), the authors have evolved, and even diverged, over time from the original ideas developed in the 60s. Today it is possible to distinguish two perspectives: while Glaser's view (1992) holds that the theory 'emerges' in the course of the research process, Strauss & Corbin (1998) seem to be more focused on the descriptive/interpretive

analysis and on the idea of constructivist theory, and follow a more structured set of analytical steps. Therefore, since the method proposed by the Strauss & Corbin (1998) is significantly more prescriptive than Glaser's suggestions and closer to our understanding of creating theory, this research has been based on Strauss and Corbin's GT version.

Given the active involvement of the Autonomous University of Madrid (UAM) in the OEU, this university has been our pilot case. However, in the attempt to test the results obtained in this case, the empirical analysis has been enlarged with three other case studies: Pablo de Olavide University (Spain), Lausanne University (Switzerland) and SPRU -Science and Technology Policy Research (United Kingdom).

To ensure rigour in the analysis, we have followed the general scheme proposed by Miles & Huberman (1994) - an iterative process where the data collected have shaped the final report and, simultaneously, the conclusions have affected the data gathering process -, and the replicate model for multiple case studies suggested by (Yin, 1994) - where each case is analysed as a complete study, and the elements, categories, and results found are used as inputs in the next case study, improving the whole process.

The data collection process was mainly developed through face-to-face and semi-structured interviews and developed in two different stages:

- During the **first phase**, carried out during the period September to October 2004, open interviews with key people at the UAM were held in order to have a preliminary idea about the university context and problems. In this exploratory stage, seven open face-to-face interviews with academic members in different governing and administrative positions were carried out. The results were used to (a) design the guide for the semi-structured interviews developed in the second stage of the research, (b) identify the key personnel in the institution, the crucial documents and internal reports to be analysed and, last but not least to (c) identify problems and critical issues in the governance of research activity in the university.

The information gathered in this first phase enabled us to complete the OEU Strategic Matrix for the UAM and to highlight the main emerging methodological considerations regarding the application of this analytical framework. By doing so, we encountered some difficulties that proved crucial in improving the analytical framework and the second set of interviews. Despite the diversity that characterises the European HE institutions, this exercise showed that most of the methodological problems are similar across universities. Because of this, we consider that the difficulties and recommendations that have emerged within the process of applying the OEU Model in the pilot case study might be of value to other institutions within similar contexts.

- In the **second stage** (July 2006 to January 2007), we carried out (a) semi-structured interviews and (b) an in-depth review of secondary sources of information: internal reports, strategic plans, budget information, research and financial reports, etc., not only in the UAM but in the other three institutions. Several interviews in each institution (thirty one in total) were held with the main decision-makers and other positions that were considered strategically important due to the amount of information they receive and their decision-making capacity in order to understand the governing mode better: Rectors, Vice-rectors, Deans, Directors of Departments and Research Groups, members of the Transfer Units, Head of Foundations, Director of Human Resources departments, and professors from different disciplines with diverse views of the university.

Contrary to the interviews held during the first stage of the research, these interviews followed a semi-structured protocol. The interview template was composed of two parts: the first was related to the use and diffusion of management indicators in the university, and the second to the governance of the institution. It comprised a set of closed, semi-closed, and open questions. Accordingly, the goals of the interviews mainly fell into two categories: (a) evaluating the usefulness of a battery of indicators for management, previously defined by the Observatory. For that, the interviewees had to evaluate each indicator using a Likert scale; and (b) assessing the possible barriers for the disclosure of indicators, with the final goal of a future creation of a homogenised ICR for HE institutions across Europe.

Finally, our research had an additional goal: identifying the main governance issues, moving from the analysis of particular problems to general guidelines useful for other European universities with analogous organizational structures and similar goals. However, given the complexity and the lack of space, this article only explains the first two objectives: usefulness and diffusion of the indicators of the ICU Report.

Results and Lessons Learned: Case Study Analysis

The ICU measurement framework presented in this article should be considered a first approach in the design of a tool for the measurement of research activities. We consider that measurement is the first and unavoidable step towards efficient management.

Regarding the main results of the case study analysis in relation to the usefulness, we can argue that no indicator has been rejected at this stage. On the contrary, they have all been considered useful or very useful.

In relation to the possible barriers for disclosure, the four case studies have shown a general willingness to disclose IC information. This shows that the interviewees are aware of the need for transparency required by the EU, and that they no longer support the traditional opacity of universities regarding funding distribution. Moreover, there is an interest in the university taking on measurable objectives and subsequently showing a commitment to society. In other words, agreeing on the disclosure of a list of indicators means that the university is willing to accept a commitment to transparency and accounting, which a very positive signal.

Despite the total acceptance of the system of indicators for managerial purposes and the perceived willingness to disclose IC information in the four institutions, it is possible to identify some weaknesses, which call for additional future research.

The lack of activity-related indicators is a particular limitation that should be tackled in future studies. Without them, the current ICU Report only presents a static notion of the institution. Activities are actions that aim to improve the situation of the IC in an institution. They reflect how an institution is going to be rather than how it is at the moment, and accurately show what the main strategic goals of the institution are. Accordingly, we state that the scanning of indicators that provide information on intangible activities will be paramount in applying the IC framework in HE institutions in the future. The RICARDIS document also emphasises the importance of distinguishing between resources and activities.

Despite acknowledging that the lack of activities-related indicators clearly represents a limitation to this research, we feel it is important to note that the battery of indicators was designed to improve internal management and transparency and also comparability among institutions. If we bear in mind that our aim has been to achieve comparability, it thus seems more advisable to use indicators of resources which would avoid the possible reluctance to reveal strategic moves. In our view, how a university is planning to improve a certain situation throws invaluable light on the strategic decisions that have been made internally. On the one hand, this will be of great value to attract, for example, the best researchers or students, but, on the other, may give away sensitive information. For this reason, the indicators on activities to be disclosed should be carefully selected.

Moreover, when going through the case studies, it was noticed that some indicators would need a further definition to make them useful for management purposes and comparable among institutions. Even with a very clear definition, indicators can be misleading as they depend on the person or institution that gathers them. This limitation should be understood as a structural characteristic of a novel science, which will become more precise over time through the process of standards setting. Hence, in future steps some indicators will need further definition in order to avoid misleading interpretations.

It would be important to test the availability of data for the whole set of indicators in the four case studies selected, and enlarge the sample by including other participant institutions in the OEU. By doing this, it

would be possible to link the strategic matrix and the ICU framework better, as well as checking whether the indicators selected are feasible and well-suited to other universities. This further analysis would make the indicators more robust.

Furthermore, given the three missions of the university (teaching, research and third mission) and their interrelationships, incorporating information on teaching of the university would be necessary in future to get a comprehensive and complete picture of the whole institution.

The process of design of the ICU Report for HE institutions as well as the results obtained in the case study analysis and the main shortcomings of the study previously explained are summarised in the following table.

Table 2: Initial Origin of Indicators

Initial Origin of Indicators	ICU Report	Testing process	Shortcomings in the Strategic Matrix and ICU Report
<p>OEU Strategic Matrix</p> <p>Rationale: Those that seemed appropriate for the research groups and would answer key questions on dimensions to measure</p>	<p>Indicators Selected from the Strategic Matrix</p> <p>Rationale: Those that seemed:</p> <p>a) Available at the UAM</p> <p>b) Useful for management</p> <p>c) Not cause disclosure problems</p>	<p>4 Case Studies: UAM, UPO, UNIL & SPRU</p> <p>Results:</p> <p>a) Availability not fully tested (some universities had no time to provide data)</p> <p>b) All indicators were found useful or very useful</p> <p>c) No indicator was found to cause confidential problems</p>	<p>1) There are no indicators on activities.</p> <p>ICU Report shows what the University “is” (static notion), not what the University “does” (dynamic notion).</p> <p>2) Some indicators were not clear enough.</p> <p>3) No testing with the rest of OEU universities has been possible. A questionnaire was sent but no reply was received.</p> <p>4) Indicators on teaching and “third mission” “third mission” issues should be further developed.</p>

Source: The Authors

Conclusions and Ways Forwards

Even though assessing university’s output and inputs is not a completely new idea, in or view, implementing IC approaches in HE institutions means one step forward. The identification of their IC, its links with the knowledge production processes, the organisation’s strategic objectives and the definition of a battery of indicators, simultaneously improve internal management and transparency. We can, therefore, define the ICU Report as a way for comprehensively visualizing inputs, outputs and processes. Furthermore, as stated by Leitner, “a proper management of IC at universities has a significant impact on the performance and efficient use of the invested financial funds” (Leitner, 2004; p.137), Hence, practitioners and experts on this topic argue that those universities able to develop both the culture and the capacity to identify, manage and report on their IC will be advantageously placed in the HE scenario.

Summing up, we argue that the IC framework could be especially useful for universities to deal with the managerial and transparency demands. The empirical analysis has evidenced the need for new methods of measuring and management of the research activity in HE institutions. Regarding the indicators included in the ICU Report, their usefulness and the potential problems for disclosing have been checked in the four case

studies. In this stage, no indicator was rejected and the whole sample did not pose any confidentiality problem.

Despite the total acceptance of the system of indicators for managerial purposes and the perceived willingness to disclosure IC information in the four institutions, it has been possible to identify some problems which call for additional future research: further and better definition of indicators, new indicators on intangible activities, and indicators on teaching and third mission are required.

Finally, it is important to note that although introducing IC approaches is a suitable way forward to improve their internal management and level of transparency, it is not enough. Further work on this topic is showing that significant transformations in the traditional university governing styles and structures seem to be required to make real the principles of institutional autonomy, external accountability and quality that the reforms across Europe (Communiqué of the Conference of European Ministers Responsible for Higher Education, 2007) are trying to develop. As stated by the recent new Lisbon Declaration, “universities work to strengthen further their institutional research strategies with a view to introducing strategic management approaches” (European University Association, 2007; p.5).

Endnotes

1. See: Danish Trade and Industry Development (1997) and (2003)
2. See: Johansson et al. (2006a and b)
3. See: Society for Knowledge Economy (2005)
4. See the whole report in: www.prime-noe.org

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