



**UNIVERSITÀ
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IC ASSESSMENT IN ITALIAN UNIVERSITIES: MISSION, PERFORMANCE OR BOTH?

Giustina Secundo, Senior Researcher and
Assistant Professor in Management Engineering
Department of Innovation Engineering, University of Salento,
ITALY

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AGENDA

- **Introduction:** The evolution toward the Entrepreneurial Universities
- **Part 1:** Overview of the Italian Systems for Evaluation of Universities and Research Centers (ANVUR)
- **Part 2:** A performance assessment framework to measure IC: the case of University of Salento – Italy
- **Discussion and Conclusion**

INTRODUCTION: THE ROLE OF UNIVERSITIES FOR THE EU COMPETITIVENESS



EU 2020
STRATEGY
GROWTH



INTELLIGENT

“*The Higher Education systems and Universities are at the core of the Regional growth (Smart Specialization Strategy, EU 2012).* They have a key role in knowledge creation and contribute to the **economic development** with a set of strategic initiatives: Entrepreneurship, Knowledge exploitation, Management local infrastructure, Stimulation of R&D+I activities, Driving the regional economy, Setting up public-private partnership, Talent attraction and Mobilising universities’ assets.

The current organizational model of universities are evolving toward the perspective of **Triple and Quadruple Helix Model**. According to these, Universities now work much more closely with society, they have a “**third mission**” (innovation and development) and play a much more important role in the **National System of Innovation framework**.

SUSTAINABLE

The **IC** (intellectual capital) is the results and the “**engine**” of Universities. However the **IC measurement** has been mainly neglected in Government-funded research institutions, where External funds play a key role for the entity’s financial sustainability.

INCLUSIVE

In response to these challenges, universities and research organizations need to implement **new management and reporting systems**, which must incorporate intangibles assets and take into account the distinctive features of the *emerging organizational models* needs (**Entrepreneurial University**) to evaluate the impact on Society.

PART 1: THE IC ASSESSMENT AND REPORTING IN ITALY

THE ITALIAN ANVUR (NATIONAL AGENCY FOR THE EVALUATION OF UNIVERSITIES AND RESEARCH INSTITUTES)



Creation and role of the new agency

ANVUR (National Agency for the Evaluation of Universities and Research Institutes)
est. by Law (n. 286) on 24/11/2006

The Agency has the task of promoting the **quality** of the Italian system of universities and research, with reference to:

- *State Universities*
- *Private universities entitled to grant academic degree*
- *Public research institutions controlled by the MIUR (Italian Ministry of Universities and research)*
- *Other public and private institutions performing research activities*

Art. 2.4: ANVUR takes into account **criteria and methods** for evaluation recognised at **international level** (i.e. the objectives indicated by the *European Council in Lisbon in 2000*, the recommendations of *the European Union*, the actions of the *Bologna Process* towards the EHEA - European Higher Education Area)

The results of the ANVUR evaluation will influence the state financing of Universities and research centres.

ANVUR INDICATORS: THE FINAL SET OF KPIS



(1/2)

Art. 4.5: In order to guarantee continuing quality of activities, the **Agency defines criteria and parameters** for the **periodic accreditation** of university and research organisations. Two main dimensions are indicated to be evaluated: **RESEARCH** and **THIRD MISSION**.

Dimension	Criteria Area	KPI (KEY PERFORMANCE INDICATORS)
RESEARCH	Research quality (Weight 0,5)	Sum of the evaluation obtained by the products (publications) submitted
	Resource Attraction (Weight 0,1)	Total funds obtained by participating in the competitive calls
	Mobility (Weight 0,1)	Sum of individuals hired by the structure during the period 2004-2010 or who moved to a higher position in the same period
	Internationalization (Weight 0,1)	<ul style="list-style-type: none"> • Mobility of ongoing and incoming researcher • Sum of the evaluations obtained by excellent publications with foreign co-authors
	Higher Education (Weight 0,1)	Number of researchers under training (PhD students, post doc, research fellow)
	Own Resources (Weight 0,05)	Total funds devoted to research projects selected in national and international calls.
	Improvement (Weight 0,05)	Difference between the Research quality indicators obtained in the period 2004-2010 and 2001- 2003.

ANVUR INDICATORS: THE FINAL SET OF KPIS (2/2)



Dimension	Criteria Area	KPI (KEY PERFORMANCE INDICATORS)
THIRD MISSION	Third parties (Weight 0,2)	Total revenues of research and consulting contracts with external customers acquired in the period 2004-2010.
	Patents (Weight 0,1)	Number of granted patents owned by the Structure
	Spin-off (Weight 0,1)	Number of spin off arisen during the structure
	Incubators (Weight 0,1)	Number of Incubator co-owned by the Structure
	Consortia (Weight 0,1)	Number of Consortia co-participated by structure having the Technology transfer among their scope
	Archeological sites (Weight 0,1)	Number of archeological sites activated in the period 2004-2010
	Museum centres (Weight 0,1)	Number of museum centres managed or co-managed by the structure
	Third mission activities (Weight 0,2)	List of other activities provided by the structure

THE ANVUR START UP ACTIVITIES



Objective: Evaluation of Research structures and Departments

Reference period: 2004-2010

Start: December 2011

Actors:

- ANVUR (National Agency for the Evaluation of Universities and Research Institutes)
- GEV (Evaluation Groups) (450 experts involved)
- Research structures (universities, research agencies, other)
- Departments

Deadline: June 2013 (University Evaluation Report)

Impact: results will affect the **financing** of research structures by MIUR (Ministry of education, universities and research) through the **FFO** (Ordinary Financing Fund) and to be used by Research structures in their own autonomy, to assign resources to their departments.

PART 2:
THE IC MEASUREMENT FRAMEWORK IN
ITALY: THE CASE OF UNIVERSITY OF
SALENTO

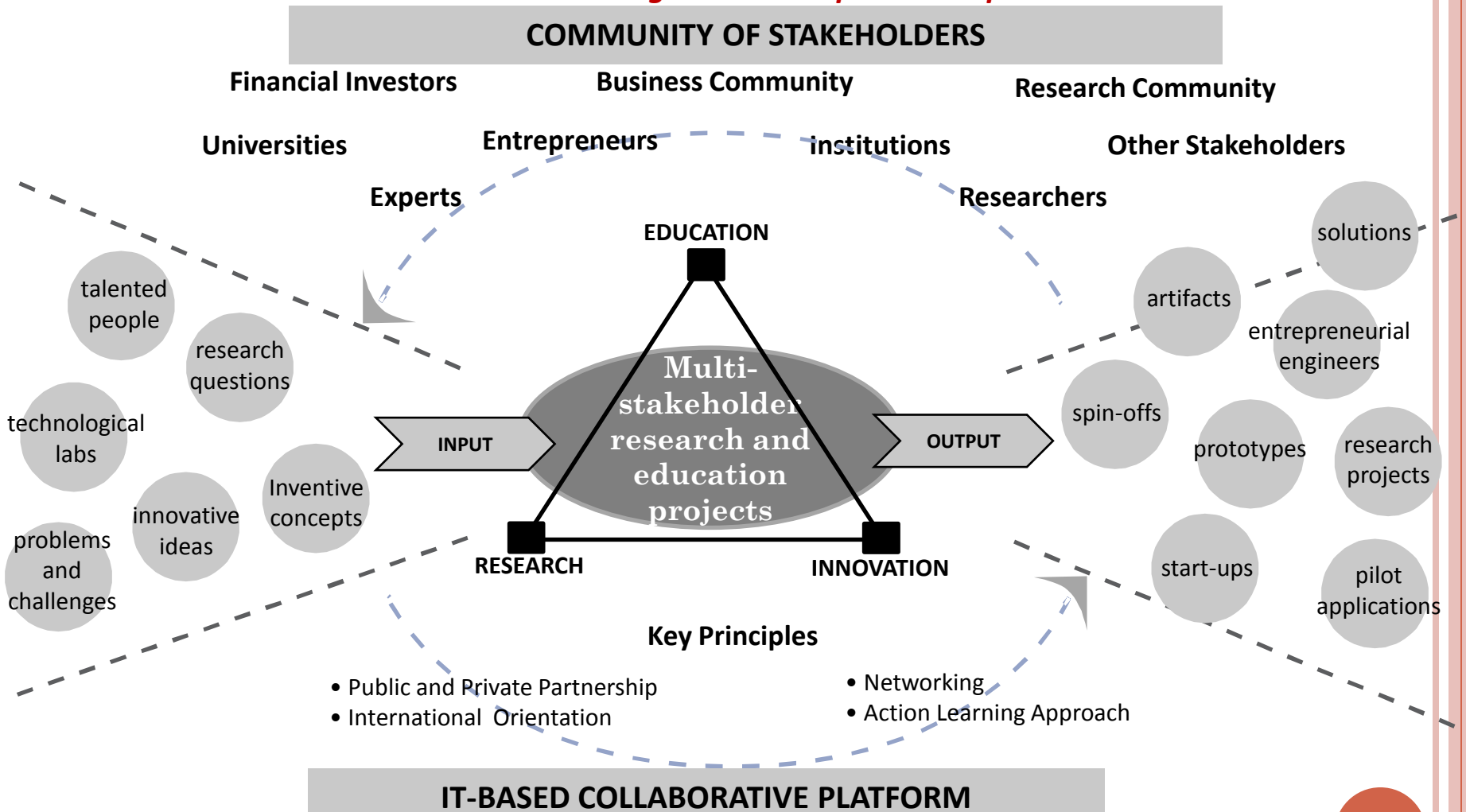
RESEARCH SETTING: PILOT PROJECT

Research aim: To develop a classification and measurement framework for capturing an extensive view of intangible assets of an entrepreneurial university and useful to combine the strategic perspective with the measurement needs.

- **Research Method:** *longitudinal case study* (Narasimhan and Jayaram, 1998; Lind, 2001; Johnson and Leenders, 2006) in the period 2000-2008.
- **Research context:** an Italian *Higher Education and research center* active in different fields (High Tech Entrepreneurship, Business Innovation and Technology Management, Higher Education) named Euro-Mediterranean Incubator (hereafter **EMI**) operating since **2000** at the **University of Salento** (Lecce - Italy) at **Department of Innovation Engineering**.

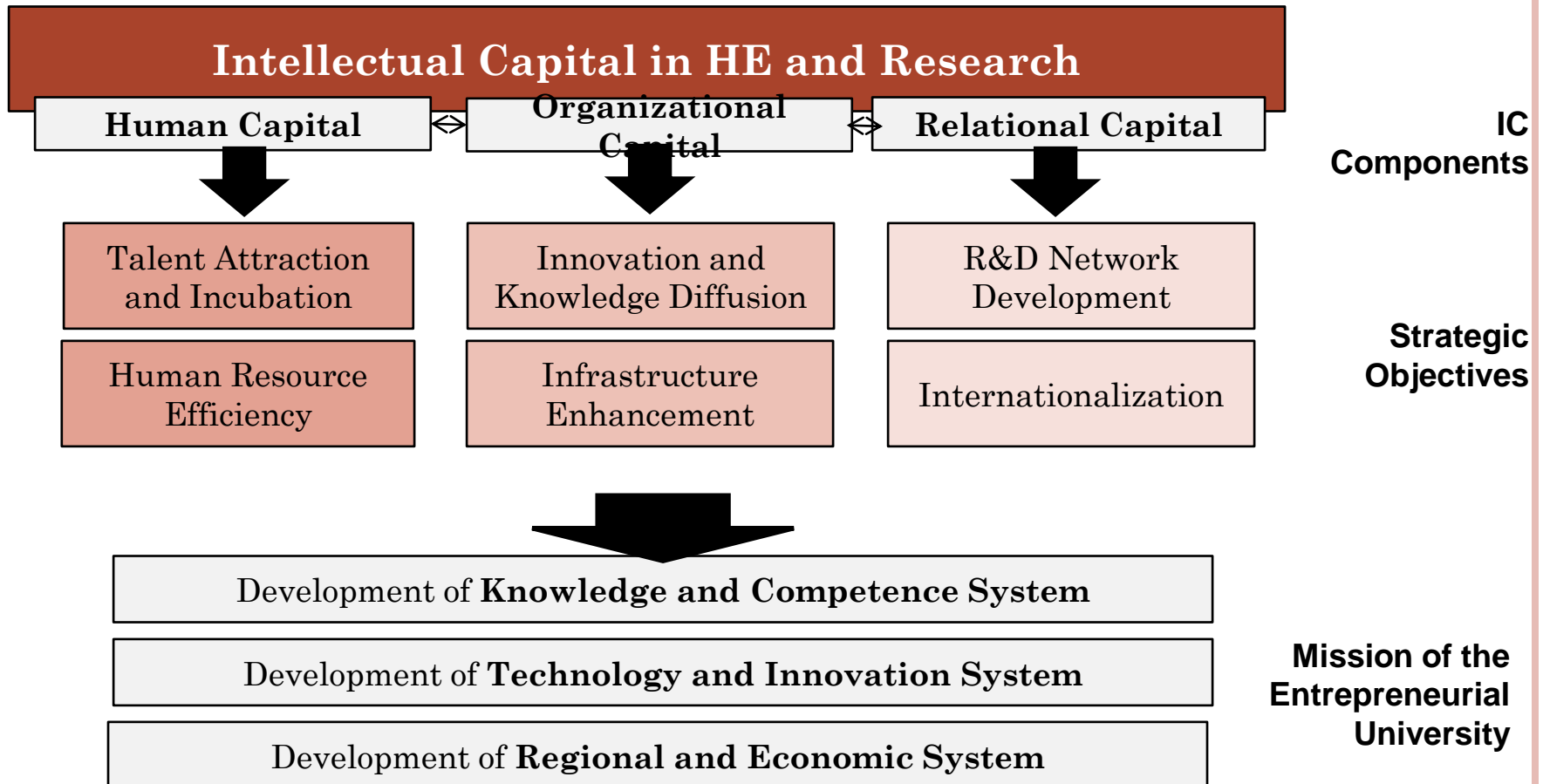
RESEARCH CONTEXT: THE ORGANISATIONAL MODEL

Domain: "High Tech Entrepreneurship"



IC FRAMEWORK FOR AN ENTREPRENEURIAL UNIVERSITY

The review of theoretical approaches and practical experiences suggested a set of requirements to define and measure IC in Universities.



The system of Indicators has to **visualise outputs** for each strategic objective, should refer to the institution's value creation process, go beyond financial indicators, be verifiable, allow follow-ups, and be easily collected and available inside the organization (Kok, 2007).

CRITERIA TO IDENTIFY THE IC ASSESSMENT FRAMEWORK

Intellectual Capital (Leitner, 2004; Sanchez et al., 2006, Seeman, 2000; Bontis, 1998; Schiuma et. al, 2007;)

- “*Intellectual Capital Report for Universities*” (OEU, 2006; Sanchez et al., 2006)
- “*Intellectual Capital Report 2007*” (Austrian Research Centers – ARC; Leitner, 2005)

A strategic set of indicators for IC assessment in Universities needs to fulfill the following criteria:

To Make a balance between FINANCIAL and NON FINANCIAL indicators

To Visualize the contribution of Universities to the economic development

To Represent the distinctive features of the University and Research center

To Balance the end process (OUTPUT Resources) and in process (Activities) View

To include aspects of the academic entrepreneurship process

To be useful for different purposes and stakeholders

To make a balance between Quantitative and Qualitative indicators

HUMAN CAPITAL INDICATOR

For the **Human Capital** component, two areas are particularly important: *Talent Attraction and Incubation* (i.e. the capacity of the organization to draw and retain talents through a strategy of high quality and a culture of openness) and *Human Resource Optimization* (i.e. the ratio between output/value created and human resources used). **The total number of indicator is 29.**

Human Capital

Talent Attraction and Incubation

% of students with technology background
% of students with business background
 N. of undergraduate students
 N. of Master's students
 N. of Ph.D. students
N. of total students
 N. hours of class per day
% of students satisfied with the organization
 % of learners' complaint
 N. of courses per students
 Average age of students
 % of students with more than 2 years of experience
% of students admitted on total applications
 % of job placement after six months from degree
 N. of alumni
% of students applying for more advanced programs
% of former students covering staff/faculty posit.

Human Resource Efficiency

N. of faculty members
 N. of staff members (research and admin.)
 % of faculty on total employees
% of staff on total employees
% of faculty on total students
 % of staff members on total students
 Average age of faculty
 Average age of staff
 Average evaluation of faculty made by students
 % of faculty graduated at the institution
N. of hours dedicated by faculty to seminars
 N. of new people recruited

ORGANISATIONAL CAPITAL INDICATOR

Related to the **Organisational Capital**, two areas are particularly important: **Innovation and Knowledge Diffusion** (refers to the performance of the institution in terms of scientific publications, research projects and spin-offs) and **Infrastructure Enhancement** (referred to the enhancement of IT systems for teaching, learning and research, as well as the development of “traditional” facilities such as libraries and laboratories). **The total number of indicator is 17.**

Organizational Capital

Innovation and Knowledge Diffusion	Infrastructure Enhancement
<i>N. of pilot applications developed</i>	<i>N. of software platforms for educ./research</i>
<i>% of success in project acquisition</i>	<i>IT expenditure per person</i>
<i>N. of ongoing research projects</i>	<i>% of IT expenditure on total costs</i>
<i>N. of publications in intern. conference proceedings</i>	<i>N. of PCs per student</i>
<i>N. of books published/edited by faculty members</i>	<i>N. of PCs per staff member</i>
<i>N. of publications in intern. journals and books</i>	<i>N. of PCs per faculty member</i>
<i>N. of international publications per faculty member</i>	<i>N. of books available in the library</i>
<i>N. of spin off companies</i>	
<i>N. of patents</i>	
<i>N. of international awards received</i>	

RELATIONAL CAPITAL AREA INDICATORS

Related to the **Relational Capital**, two areas are particularly important: **Network Development**, (i.e. the delivery of education and research results to the external environment and the monitoring of relations created with external actors such as governments, industry and other research centres) and **Internationalization** (includes the aspects aimed to evaluate at which extent the institution is open to exchanges with the international scientific and industrial community). **The total number of indicator is 16.**

Relational Capital

R&D Network Development

N. of new partnerships developed
 N. of companies involved in education activities
N. of companies involved in research activities
 N. of research institute. involved in educ. activities
N. of research institutions involved in res. activities
 N. of keynote visitors at the school
 N. of visits to partner companies and res. centres
 N. of hits on the website
 N. of e-mails received and sent

Internationalization

N. of students with international experience
% of international students
 N. of international staff members
N. of agreements signed with intern. partners
N. of countries with collaborations developed
% of intern. speakers invited in educ. programs
 N. of faculty members in intern. conferences

The dashboard of indicators has been applied to EMI case. Three years have been considered as “milestones”, i.e. 2001 (fully operational year, after the start-up phase), 2008 (most recent data available), and 2004 (middle year) and the variation 2008/2001 was also calculated.

DISCUSSION AND CONCLUSION

Creating IC is at the core mission of education and research centres. The identification and measurement of Intangible assets are thus a priority to evaluate the **alignment between strategic orientation and performance** within such institutions.

The **multi-dimensional IC performance model** developed allows to:

- Visualize and measure the IC developed by the *strategic value creation process* of University moving toward the “**Entrepreneurial model**” (*Talent attraction, Human resource efficiency, Innovation and Knowledge Diffusion, Infrastructure enhancement, R&D network Development, Internationalization*).
- Analyze the existence of **relationships** among the single IC component.
- Combine **different perspectives and stakeholders’ needs** having:
 - A crucial **internal reporting** or **tableau de bord** function to support important decisions linked with resource identification and capital budgeting
 - An **external reporting** function can be identified in the perspective of making public a set of organization-specific information to the stakeholders.
- Measure the impact of Universities on Regional development.
- **Next research** will be devoted to identify a set of relevant indicators and criteria to assess the Academic Entrepreneurship process.

MANY THANKS FOR THE ATTENTION !

Giustina SECUNDO

giusy.secundo@unisalento.it



● **Lecce ITALY**
University of Salento

Web Site: <http://emi.unisalento.it>

Secundo, G., Margherita, A., Elia, G., & Passiante, G. (2010). *Intangible assets in higher education and research: Mission, performance or both?* *Journal of Intellectual Capital*, 11(2), 140-157.