Management, governance and accountability: The role of intellectual capital reporting in public sector organisations and universities

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Content

1. History of IC reporting in universities
2. Experiences and empirical evidence
3. IC reporting and New Public Management
4. IC in the public sector
5. Summary and Outlook

History of IC reporting for universities in Austria

1999: IC report (ICR) by the Austrian Research Centers (ARC)

2001: Aims to standardise IC Reporting - Research Austria

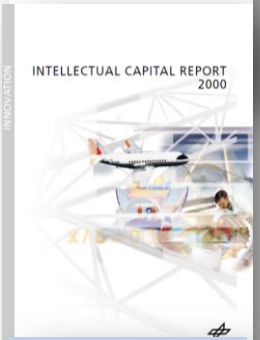
2002: University law UG 2002; incl. a request to publish ICR

2002: Danube University Krems published first ICR

2004: Publication of the *Wissensbilanz-Verordnung*
(Decree for IC Reporting)

2004: University of Agriculture: first ICR according to the law

2012: Revision of the ICR decree

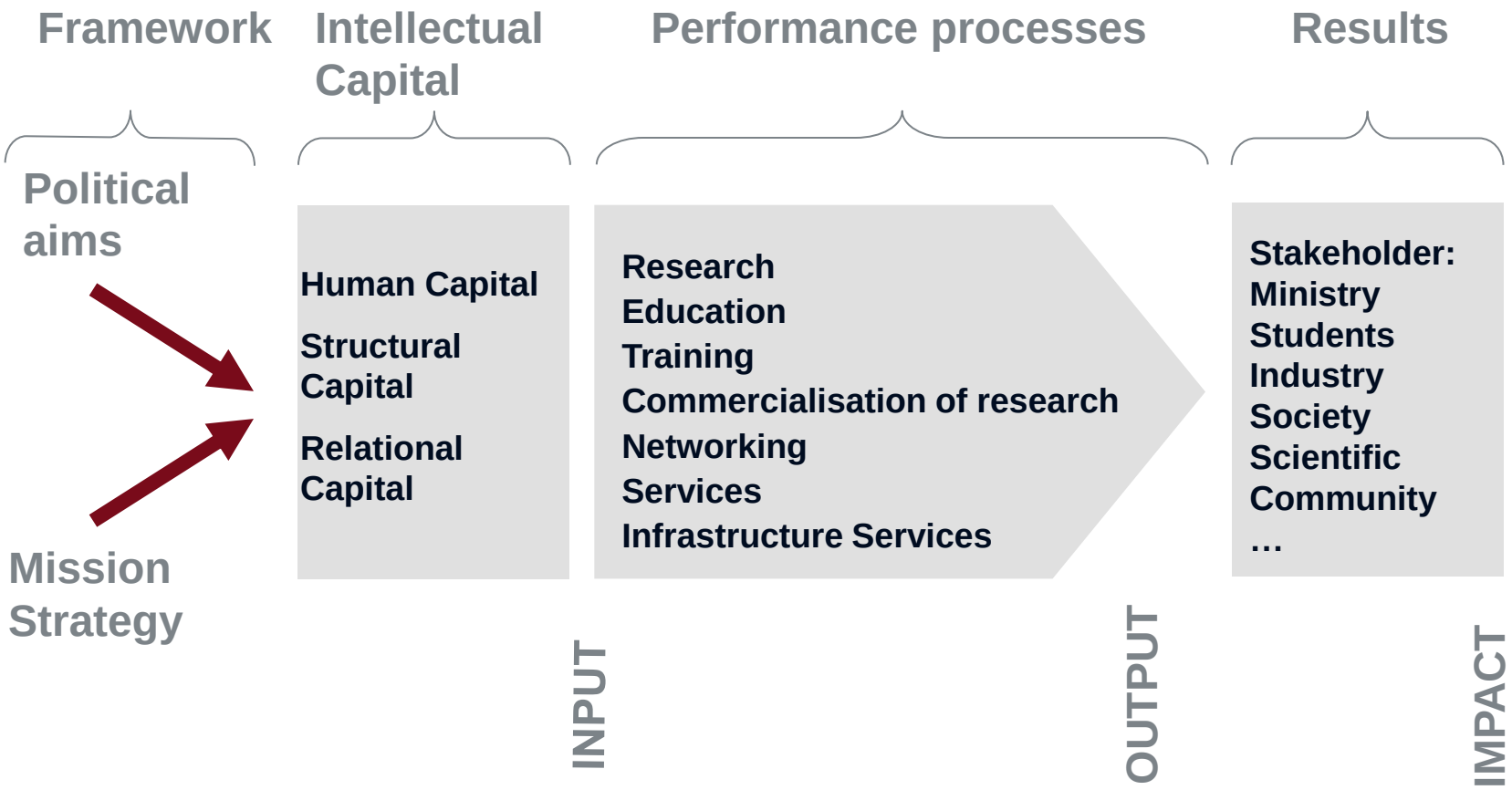


Intellectual Capital Reports: Functions and Use

- Communication instrument
  - Communication about the future development and efficient use of intangible resources
  - Information of funding agencies, customers, society, etc.

- Management instrument
  - Provision of information for investment decisions in IC
  - Strategic development and implementation
  - Communication of strategic goals and values

Framework for IC Reporting for Austrian Universities



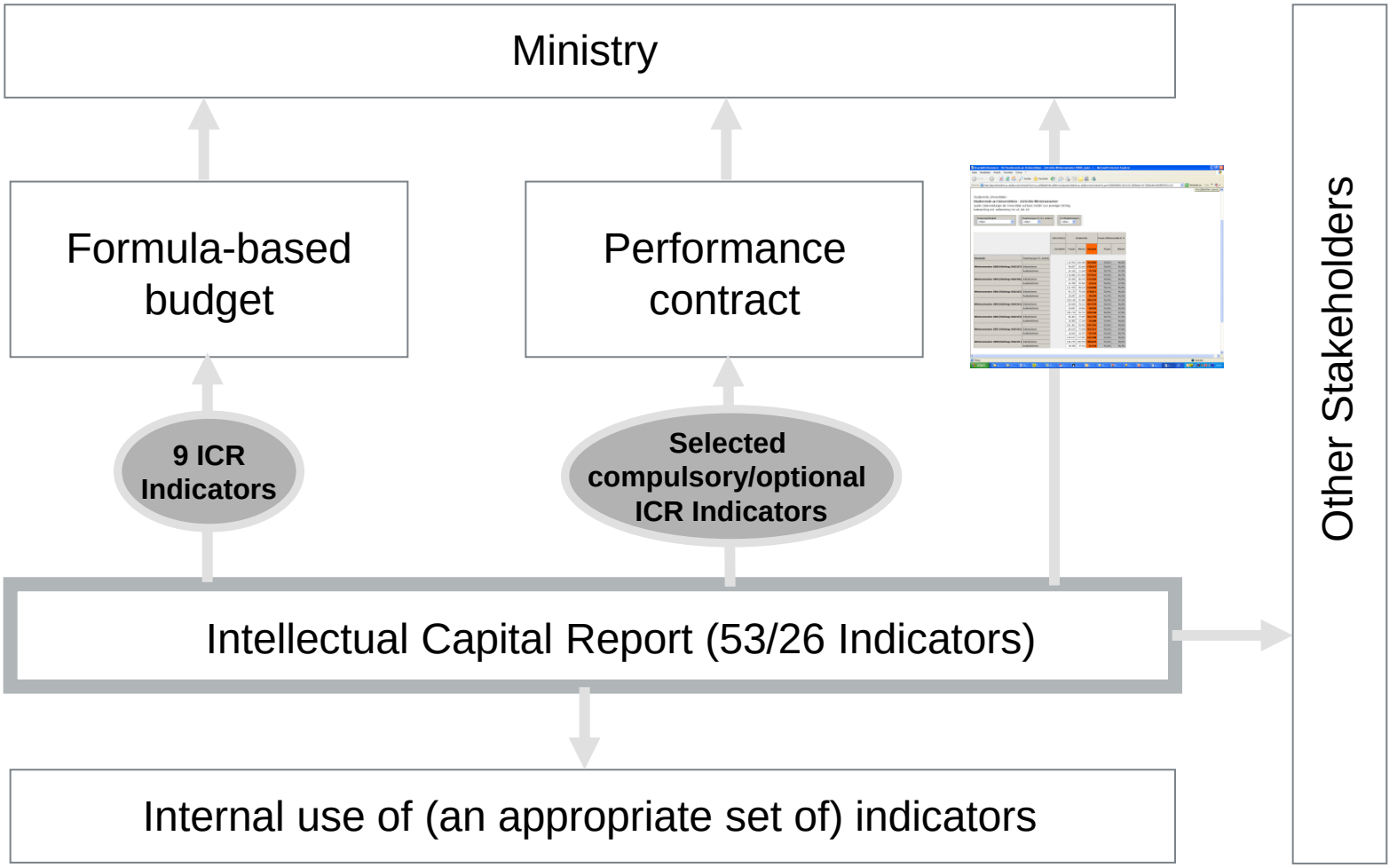
Source: Leitner et al. (2001)

IC indicators to be published

Intellectual Capital	Core processes	Output and Impact
Human Capital 1 Number of staff (gender*, qualification, etc.) 2 Number of awarded Habilitations (venia docendi) 3 Number of new appointments (ingoing) 4 Number of appointments away from the university (outgoing) 5 Number of scientific staff who stayed abroad for at least 5 days 6 Number of scientists employed abroad who completed a stay at the university (incoming staff) 7 Number of staff who attended continuing training courses **Structural Capital** 1 Expenditures for gender mainstreaming activities (in €) 2 Expenditures for activities related to implementing gender mainstreaming in research and education (in €) 3 Number of staff employed for specific tasks (e.g. gender mainstreaming, e-learning, external co-operations) 4 Number of units which aim to support disabled persons 5 Expenditures for specific measures to support disabled students or students with chronic diseases (in €) 6 Expenditures for measures to foster the compatibility of studying and family (in €) 7 Expenditures for online-research databases (in €) 8 Expenditures for scientific journals (in €) 9 Expenditures for large equipment for R&D (in €) 10 Income from Sponsoring (in €) 11 Floor space (in m^2) **Relational Capital** 1 Number of staff involved in appointment committees and Habiliiation committees 2 Number of co-operation partners (institutes/companies) with a co-operation contract 3 Number of staff who fulfil functions in scientific journals 4 Number of staff who fulfil functions in scientific boards 5 Number of items borrowed from university libraries 6 Number of measures taken by university libraries	**Teaching and Training** 1 Resources (time) of scientific staff spent on teaching (in full-time equivalent) 2 Number of studies offered 3 Average duration of studies (in semesters) 4 Success rate of students in diploma, bachelor, and master degrees* 5 Number of students 6 Students graduating within the official, prescribed duration of studies (plus one additional semester) in diploma, bachelor, and master degrees* 7 Number of students 8 Number of students who participated in an international mobility programme (outgoing)* 9 Number of foreign students participating in an international mobility programme (incoming) 10 Number of foreign students admitted for diploma, bachelor, master and doctoral programmes without an Austrian diploma, bachelor, or master degree 11 Number of international Joint Degrees/Double Degree programmes 12 Expenditures for projects for developing the teaching courses (e.g. e-learning) (in €) **Research and Development** 1 Allocation of scientific staff according to the different scientific disciplines (in %) 2 Number of competitively funded R&D projects (third-party funded projects) 3 Number of internally funded R&D projects 4 Number of research fellows (scientific staff funded by scholarships) 5 Number of staff funded by competitively funded R&D projects 6 Number of offered PhD studies 7 Number of PhD students 8 Number of PhD students with a degree from a University of Applied Sciences	**Teaching and Training** 1 Number of study degrees* 2 Number of study degrees with studies abroad financed by scholarships 3 Number of persons who successfully completed a degree programme and participated in continuing training courses 4 Number of study degrees completed within the prescribed duration of study plus one additional semester* **Research and Development** 1 Number of PhD degrees* 2 Number of scientific publications 3 Number of presentations at scientific conferences 4 Number of issued patents 5 Income from R&D projects funded by funding agencies, private or public organisations (third-party funded projects) (in €)*

* used for the formula budget

Funding system and indicators in Austria



Experiences from Austrian Universities I

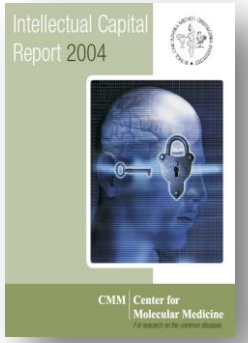
- Benefits of ICR are still discussed controversially within universities
- Metrics which are related to output and funding have the greatest impact
- Selected IC indicators are used for benchmarking
- IC indicators only partly meet the needs for internal management control
- A “performance oriented” and “metrics based” culture within universities has emerged
- ICR hardly helped to formulate university goals and strategies
- IC narrations and IC “connectivity” deserve less attention

Experiences from Austrian Universities II

- IC vocabulary and philosophy have not been widely adopted, information is used in a selective and isolated way
- development was strongly driven by public policy: autonomy - accountability
- relationship between the universities and the ministry has changed: ICR serves as a tool for legitimising the performance in the budget negotiations, ICR helps the ministry to govern the universities in an indirect way
- Austria over-regulated the system and defined too much compulsory indicators, the strict regulation limited the use for management purposes

Initiatives and activities across Europe

- Since 2002: ICR by research organisations in Europe, e.g. CMM, Fraunhofer Institutes, DLR, Madrid Research Centers, but also oversee, e.g. ETRI (Korea)
- 2004: first publication of an IC report by the Corvinius University (Hungary)
- 2006: OEU Guideline (P. Sanchez): ICU Framework and Strategic Matrix
- 2006: Expert Group RICARDIS
- 2006: University Autonomous Madrid (UAM) applies the ICU and Strategic Matrix
- 2006-2014: research projects and implementation of ICR in universities in Spain, Italy, Poland, Lithuania, Greece, UK, Liechtenstein, Portugal



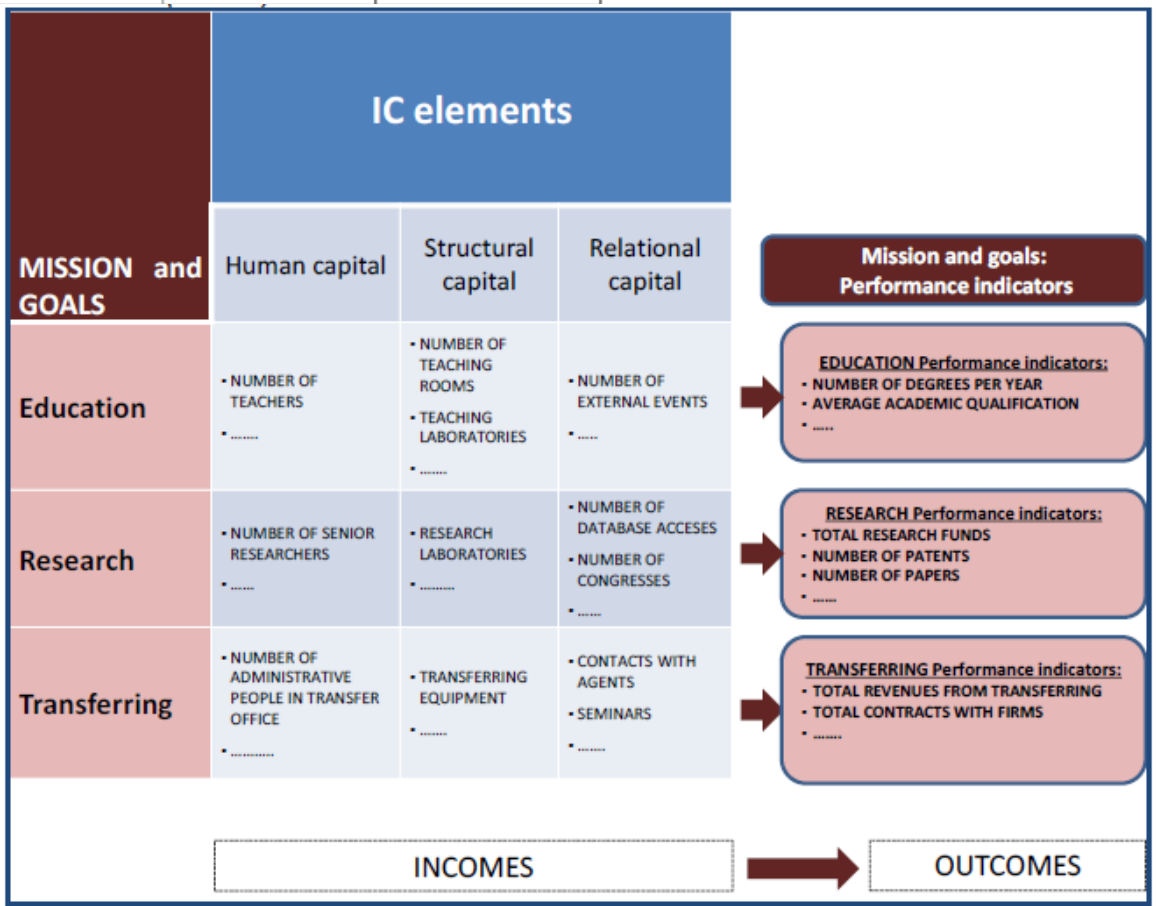
Other frameworks: EOU & ICPOM

Strategic Matrix of the EOU:

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

Source: Sanchez et al.

Intellectual Capital Performance-Oriented Model in universities (ICPOM)



Source: Gonzales-Loureiro & Teixeira

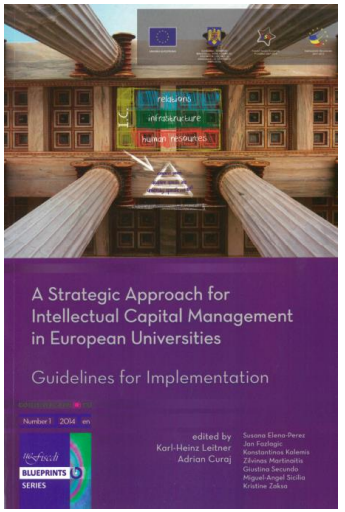
Broader empirical evidence about the use and benefits of IC reporting is rare…

- Study of Bezhani (2010):
  - content analysis of the annual reports of 30 UK universities
  - the amount of IC information disclosed in the annual reports is low, only one university had a section called intellectual capital
  - no relationship between the ranking/size of the univ. and the amount of disclosure
- Study of Ramirez et al. (2011):
  - Information need of different stakeholders (governors, staff, students, …) in Spain
  - Strong demand about information on academic qualification, university's image, student satisfaction, relations to business, graduate employability, collaborations
- Study of Low et al. (forthcoming):
  - content analysis of the annual reports of 191 universities in AUS, NZL and the UK
  - IC disclosure in annual reports have increased moderately in the past 3 years
  - frequently is reported about research projects, management processes, cultural diversity, quality standards, student satisfaction, partnerships

NPM, post-NPM and IC Management

	New Public Management	Post New Public Management	IC Management and Reporting
Focus	▪ outputs and outcomes (control) ▪ defined by political principals	▪ structural capacities, better coordination with emphasis on networks and cooperation ▪ building 'common values and ethics' ▪ procedural control	▪ Intangible resources (inputs) ▪ assessing own strengths and facilitation of learning
Stakeholders addressed	▪ public organisations should be accountable to a set of political principles or to the end beneficiary of the service	▪ importance of cooperation with other (public) organisations and society at large ▪ 'un-measurable' and broader societal needs should not be ignored	▪ different stakeholders are addressed
Link to funding	▪ strong linkage to funding, e.g. by performance contracts ▪ failures to meet targets has financial consequences		▪ partly linked to financial objectives and funding
Proponents	Flynn (1993), Hughes (2003), Ferlie et al. (1996)	Christensen & Lægreid (2007), Gregory (2003)	Sánchez & Elena (2006), Almqvist & Skoog (2007)

Development paths for the introduction and use of IC management (Mutual Learning Workshops)



L1: Measurement (and reporting)

L2: Optimisation of specific Indicators

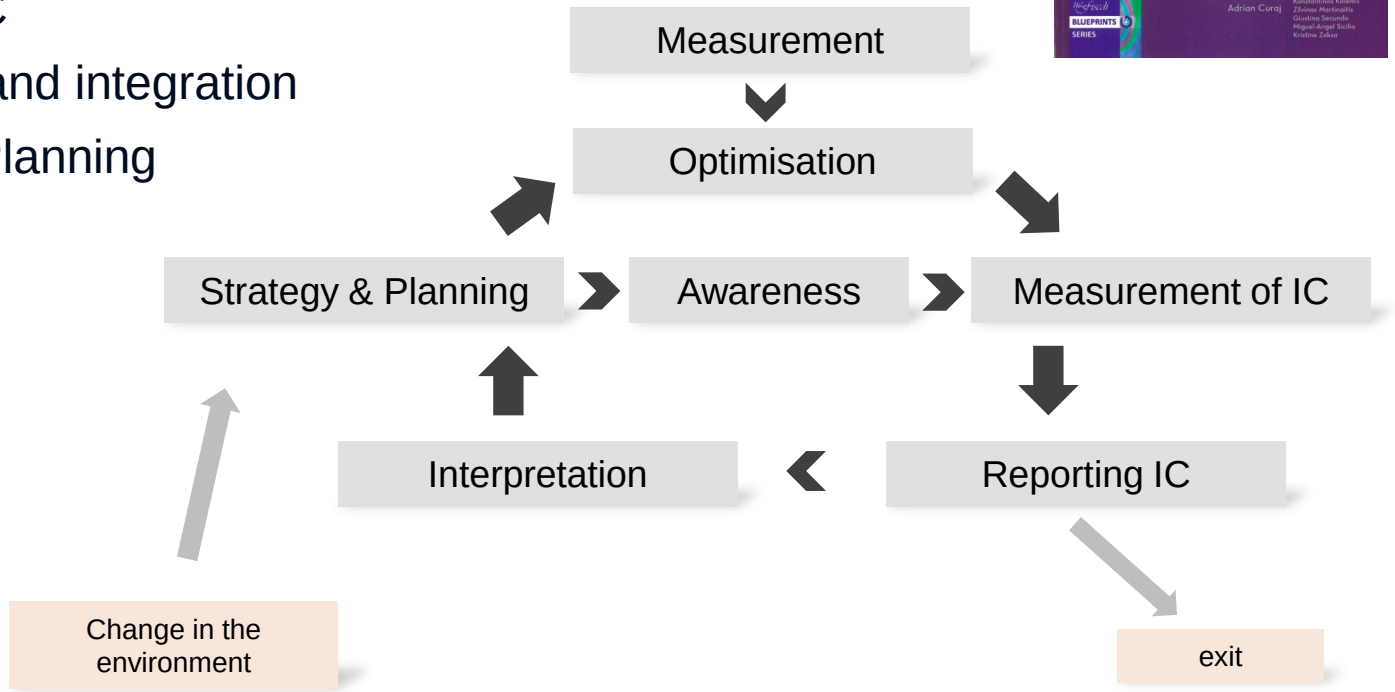
L3: Awareness for IC

L4: Measurement of IC

L5: Reporting of IC

L6: Interpretation and integration

L7: Strategy and Planning



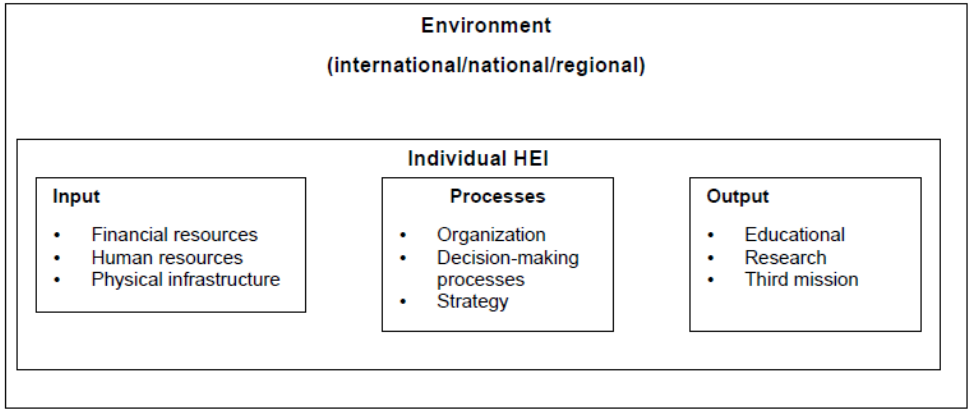
IC in other public sector organisations

- Governmental organisations
  - Dumay & Rooney (2011): IC practice case study of the Australian Lands; high focus on IC narration
  - Bronzetti & Veltri (2013): ICR of ANPAS Piemonte (NPO) using the IAM
- Hospitals
  - Habersam & Piber (2003): analysis of the role and contribution of IC for hospitals, IC connectivity as important dimensions
  - Vagnoni & Oppi (2015): action research in a university hospital, strategic discussion about the role of IC for achieving goals, definition of metrics, development of an IC report
- Cultural organisations
  - Mesa (2010): Role of IC for non-profit orchestras (US), interrelationship between human capital and structural capital, both shape each other

What we know about benefits, pitfalls and impacts…

- The process of the first implementation provides the main benefit: discussion of goals and strategies, their trade-offs, HR policy, training investments, etc.
- The more aggregated and larger the unit, the more difficult to measure, manage and report
- Risk of a divergence between internal management and external reporting
- There is a need for comparable data (benchmarking)
- Universities: Evaluations, rankings, QM accreditations, performance contracts and funding formulas gain much more attention
- Universities: some efforts by the European Commission concerning data collection and harmonisation of indicators (but not necessarily related to IC taxonomies)

Data collection and ranking frameworks



Source: EUMIDA Report

Stages / *Functions & Audiences*	Enabling		Performance	
	Input	Process	Output	Impact
Functions				
Teaching & Learning				
Research				
Knowledge Transfer				
Audiences				
International Orientation				
Regional Engagement				

Source: van Vught & Ziegele (2011)

Summary

- IC is still not systematically managed, even in those organisations which produce ICR!
- Accountability requirements and public policies are a strong driver for IC reporting in the public sector
- Enabling IC management by law has limitations and side effects
- Austria: bias towards debating about performance and outputs and less about IC as resource and enabler
- Efforts by international reporting institutions (e.g. IIRC, GRI) to integrate IC

Future IC research

1. Better understanding of the link between management and measurement in public sector organisations
2. Investigating the IC practice (3rd stage of IC research) in public organisations
3. Delivering empirical evidence of the effects of IC management and reporting on value creation and outputs
4. Adopt more participatory and open modes of debating about IC and use social media

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