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University Research Management - Developing Research in New Institutions

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Themes

- Context
- Developing a Research Strategy
- International ‘Good Practice’
- Recommendations

1. Context

'Transition to more knowledge-based economies, coupled with growing competition from non-OECD countries' requires heightened capacity and capability to create, disseminate and exploit 'scientific and technological knowledge, as well as other intellectual assets, as a means of enhancing growth and productivity.' (OECD, 2004, p11)

'Research is a core element of the mission of higher education. The extent to which higher education institutions are engaged in research and development activities has a key role in determining the status and the quality of these institutions and the contribution, which they make to economic and social development.' (NDP *2000-2006*, Section 6.39, Ireland, 2000)

Global Context for HE Research

- Research now conducted in partnership with other institutions and organisations (public and private).
- Connected regionally, nationally and globally – simultaneously.
  - National boundaries declining in significance
  - Research now conducted via bi-lateral, inter-regional and global networks of research co-operation.
  - Growing importance of global HE networks.
    - Lisbon Agreement/EHEA and ERA.
- Worldwide comparisons more significant in the future.
- Rankings and the emergence of global benchmarking.

Institutional Context

- National and regional economy.
- Institutional history and development.
- Research experience, capability and capacity.
- HE system and mission of individual HEIs.

Challenges of Growing Research

- Difficulties associated with late development
  - New or revised mission
  - Poorer resources and infrastructure
  - Limited scale and critical mass
- Insufficient research capacity and capability
  - New disciplines without research tradition
  - Inadequate research experience
  - Not traditionally resourced for research
  - Academic staff often without necessary prerequisites
  - Absence of/poor academic career structures and support systems
- Inappropriate/undeveloped organization and management and support structures

2. Developing a Research Strategy

Clarifying Institutional Mission

- What type of institution do you want to be?
- How do you define your mission and profile?
- What are your exceptional/niche (comparative) advantages based on your particular experiences and expertise?
- What is the appropriate institutional strategy?
- What role does research play?
- Do you have the appropriate management and leadership capabilities?
- What strategy, human resources policies and organisational structures are required to deliver these objectives?

‘Our mission is to provide outcome related research and consultancy services that address real world issues...We focus on applied research that is delivered in partnership with leading organisations and individuals who are capable of using research outcomes to create products and services that are leading edge. Our research students are fully supported to ensure they are equipped with the necessary skills to excel in their chosen professional careers.’ (RMIT University, Australia)

‘Our mission is to generate through excellence in research and scholarship new ideas, knowledge, skills and technologies, creating fresh opportunities for individuals and society at large. We take a multi-disciplinary approach...with strong records in the quality of their basic and applied research output. Others make a significant impact in terms of agenda-setting, decision-making and the development of public policy in the UK and further afield.’ (University of Strathclyde, Scotland)

Embracing the full RDI spectrum (1)

- 4 scholarships – E Boyer (1990)
  - Scholarship of Discovery – 'blue-sky' fundamental research,
  - Scholarship of Integration – making connections between ideas,
  - Scholarship of Application – applying knowledge to consequential problems,
  - Teaching – 'builds bridges between the teacher's understanding and the student's learning'.

Embracing the full RDI spectrum (2)

- Mode 2 – M Gibbons et al (2001)
  - Intellectual and strategic importance of collaborative and interdisciplinary work focused on useful application, with external partners including the wider community.
- Triple Helix – Etzkowitz and Leydesdorff (1997)
  - Transformation of knowledge into wealth requires tripartite collaboration or *triple helix* between HE, industry & government;
  - Boundaries between public and private, science and technology, university and industry are in flux.

Evaluation and Rankings

- Assessment Vs. Rankings
- Benchmarking performance
- Using rankings as internal benchmarks
- Going beyond traditional metrics
  - Innovation
  - Creative and Professional Practice
  - Innovation and Social Impact
  - Innovation

Building Competence

- Recruit
- Re-invigorate
- Train
- Re-orient
- Enable

Incentives and Rewards

- Greater research time
- Targeted grants
- Promotional opportunities
- Enhanced facilities
- Internships with industry or other partners
- Salary increases
- Sabbatical leave

Organizing Research

T = R $\rightarrow$ Inclusive departments

T & R $\rightarrow$ Departments + units/centres

T | R $\rightarrow$ Departments + autonomous centres

T $\neq$ R $\rightarrow$ University + autonomous institutes

Teaching-Research Nexus

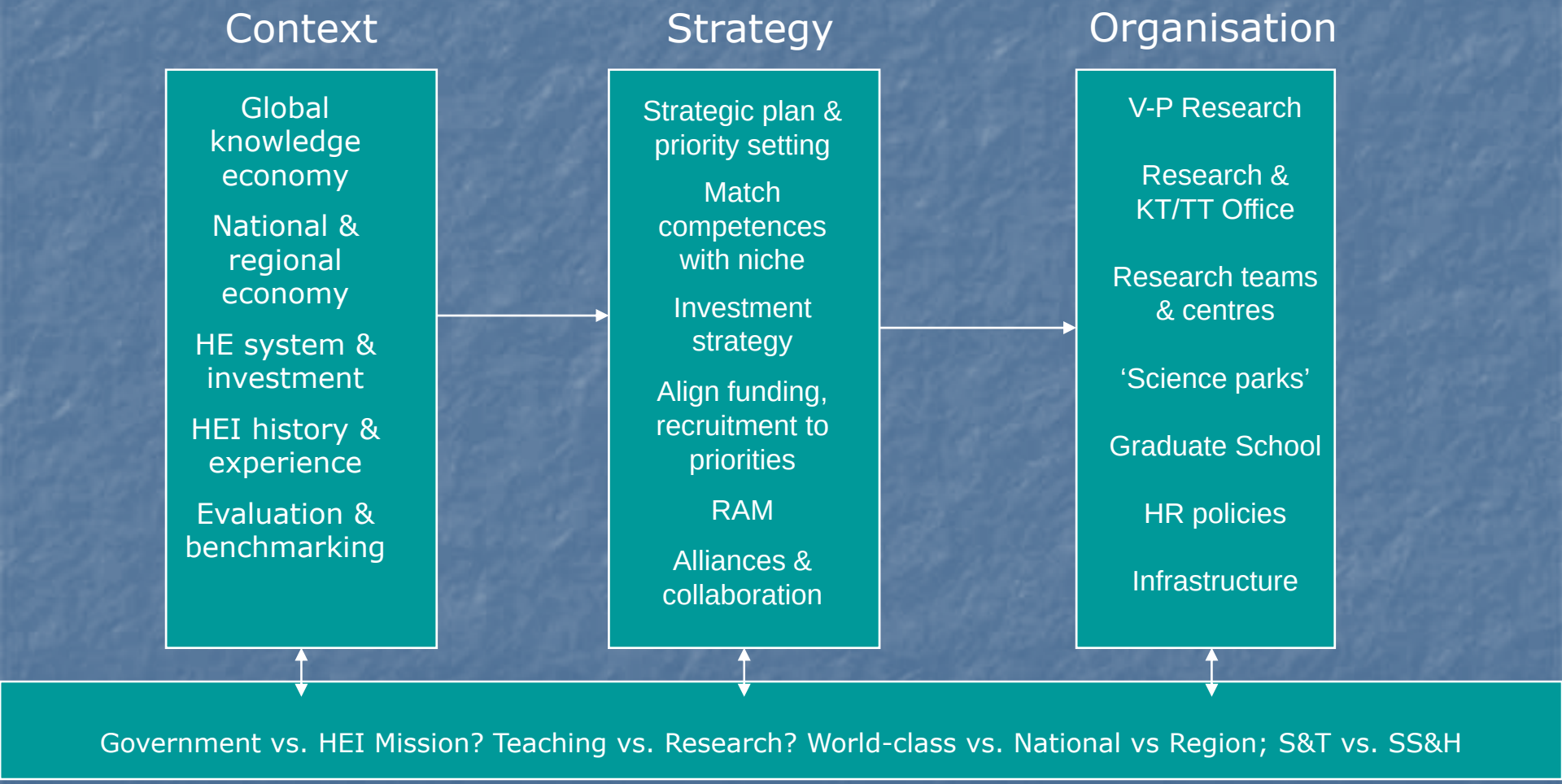
- Trends causing disconnect between T and R (Clark, 1995; Hazelkorn, 2005)
  - Massification of higher education,
  - Increasing gap between frontier knowledge and teachable codified knowledge,
  - Increasing pressure on funded-research with timely outcomes.
- No direct or simple correlation between teaching and research
  - T reinforces R, opening up new areas for consideration, enabling testing of ideas (Shore, Pinker, Bates, 1990).
  - Separating T from R does not necessarily increase teaching quality (Ramsden and Moses, 1992).
  - T and R difficult to measure quantitatively: former measured via student assessments and latter measured by outputs. (Brew and Boud, 1995)

Graduate School

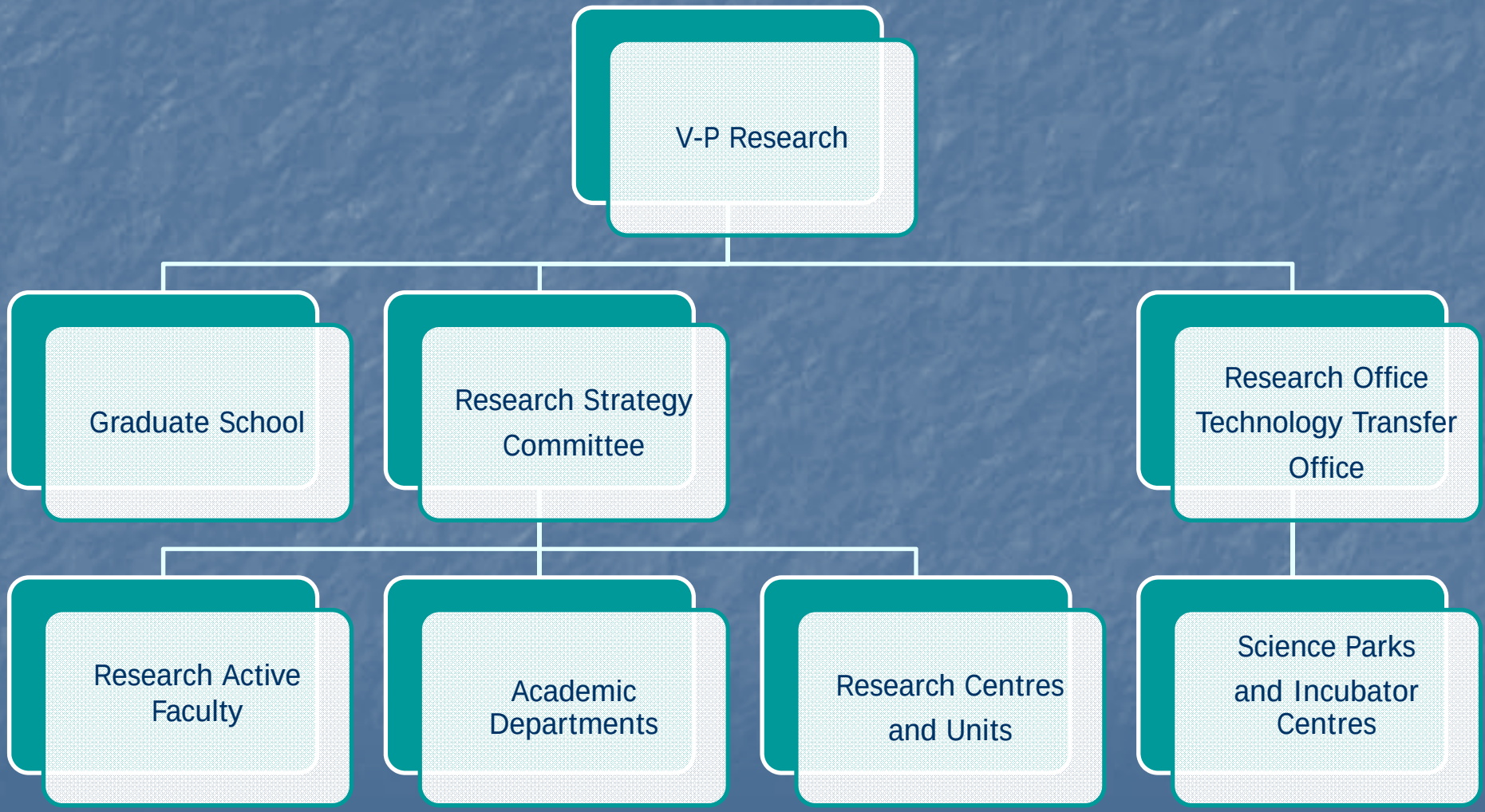
- Adaptation of US ‘industrial model’
  - Greater focus on PhD,
  - Recruit cohort of students,
  - Timely completion.
- Brings together postgraduate activity
  - Administrative purposes,
  - Identity for the programmes,
  - Strategic development.
- Based around significant research activity/critical mass.
- Continue to draw teaching resources from departments.

3. International ‘Best Practice’

Process of Growing Research



Indicative Research Structure



Targeted Strategy

- Invest
- Aggressive use of performance indicators
- Limited number of research priorities
- Research teams/centres
- ‘graduate school’
- Strategic alliances and collaboration
- Align funding, recruitment, etc. To priorities

Strategic Choices

1. Research Culture Vs. Culture Of Scholarship?
2. Individual Researchers Vs. Research Teams?
3. Recruit or Grow?
4. Teaching Vs. Research?
5. Targeted/Niche Vs. Seed-corn/Universal Funding?
6. Institutional Funding Vs. Competitive Funding?

1. Research culture vs. Culture of scholarship

- Definitions:
  - Research = traditionally investigation leading to new knowledge production,
  - Scholarship = includes consultancy, creative practice, knowledge transfer activities.
- Balance between motivating, mentoring and facilitating research-active faculty, while ensuring that teaching-focused faculty do not feel marginalised.
- Wider definition of scholarship which recognises that not everyone needs to be involved in research.

2. Individual Vs. Research Teams?

- Research is dependent upon individuals but is no longer an individual activity.
- Shift locus of activity away from individuals and towards clusters.
- Emphasis on critical mass of scholars based around interdisciplinary teams with grant-awarding reputations and timely outcomes.
- Formation of global research teams.

3. Recruit or Grow?

Should an institution recruit new faculty or help existing faculty develop new or enhanced skills?

- Ability to recruit good researchers,
- Availability of competence,
- Available funding,
- Responsiveness of faculty.

4. Teaching Vs. Research?

- Academic contracts usually include requirements to teach and conduct research.
- Research activity is a key criteria in appointment and promotion.
- Dual career paths?

5. Specialisation Vs. Comprehensive Research Activity?

- Creating competitive advantage.
- Priority setting activity.
- Competitive funding opportunities.
- Resource allocation models
  - Identify research active faculty
  - National or institutional priorities

6. Institutional Vs. Competitive Funding?

- Institutional funding
  - Seed funding
  - Niche areas
  - Research active faculty
  - Redistribution to ‘weaker’ or ‘newer’ domain
- Competitive funding
  - ‘Survival of the fittest’
  - External benchmarking
  - Insufficient institutional funding

4. Recommendations

Recommendations (1)

- Investment Strategy: Align budgets to support research, research active staff & competitive research.
- Organisational Structures: Establish research Office and designated positions, including a graduate school.
- Performance Indicators: Use benchmarks to shape priorities, funding, recruitment, etc.
- Priority-setting: Map competences and niche specialisation against national/international priorities.

Recommendations (2)

- Research Centres: Grow research groups capable of winning external funding and recognition.
- Align Priorities with teaching, funding and infrastructure.
- Strategic Alliances: Link with other HEIs and public/private organisations to match priorities.
- Leadership: Ensure Strategy is endorsed by President, senior management and boards of trustees.

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http://www.oecd.org/edu/imhe/rankings