ENHANCING SCIENTIFIC AND SOCIAL RESEARCH: IMPLICATIONS FOR RESEARCH MANAGEMENT

4th symposium of the Russian Education Program
Salzburg Seminar
9-13 April 2005

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OUTLINE

- Setting the scene
- Necessary conditions for innovative research
- Challenges for research management at institutional level
  - Human factor
  - Material conditions

- *Remarks:*
  - *Perspective of a university leader*
  - *Both hard & life sciences and social sciences & humanities are important for development; although the ways and means of doing research differ, I shall not comment on the difference,.*

I
SETTING THE SCENE

- Recent developments in Europe:
  - The role of Universities and the crucial importance of research are recognized
  - Universities have never been so high on the agenda of the European commission!
- Challenges for research Universities: to respond to new developments and improve their research capacity and competitiveness
- But HOW?
  - Obviously, more money (better researchers, buildings, equipment, etc..), better teacher/student ratios, ... would greatly help!
  - However, whether this dream comes true or not, there is a more fundamental question: HOW CAN A UNIVERSITY (BETTER) MANAGE ITS RESEARCH?

The response to this question is not straightforward:

- Examples of excellent research universities where research management is strongly decentralized (Cambridge, Harvard, ETHZ, Geneva)
- Research competence is massively at the base of the hierarchical pyramid!

- The well established subsidiarity principle (the researchers are best placed to know what to do and to make it possible (search for the necessary funding))
  - Researchers want to be recognized individually
  - Researchers do not like to be “patronized” by or even be accountable to their institution

II
NECESSARY CONDITIONS FOR INNOVATIVE RESEARCH

THE NECESSARY CONDITIONS ...

- Innovative research requires
  - On the part of the researchers
    - Open, curious, critical and innovative minds
    - Methodology, rigor and patience
    - Capacity to listen and understand, as well as to communicate and to sell (projects and results)
    - Good planning and continuous work and focus
  - On the part of the individual researcher, team, unit or institution
    - Access to facilities, equipments and/or information (library, internet)
    - Financial resources to finance the projects (researchers, consumables, scientific equipments,..)
    - Confrontation with international competition
    - Close and fair contacts with industry (business and governments)

III
CHALLENGES FOR RESEARCH MANAGEMENT AND UNIVERSITY LEADERSHIP

HUMAN FACTORS

- Human resources
  - Selection of professors and researchers
    - Competitive (national-international-worldwide)
    - Rigorous planning (which profile is needed)
    - Effort to welcome and integrate the new comers
    - Make sure that the researchers are more faithful to their institution than to their discipline – set up incentives
  - Training of researchers
    - BA and MA, increasing exposure to research
    - Doctorate (partially taught, mainly doing research, development of generic qualifications)
  - Post-doctorate (desert crossing!)
    - Guarantee a position on the basis of merit (create bridges between positions)
    - Mobility (necessary to see and work elsewhere)
    - Carrier coaching

- Governance – leadership
  - Importance of strategic planning
    - To fix broad priorities and posteriorities
    - To favour interdisciplinary (strong subunits like faculties have a negative influence – necessary to create flexible and permeable organizations)
    - To avoid micro-management and bureaucracy
  - Create/develop strategic alliances
    - Division of labour to reinforce the strong segments
    - To create and develop networks (difference between US and Europe (and Canada) re. size of institutions)

MATERIAL RESOURCES

- Facilities
  - Nb of working or study places more important than m^2 and high standard
- Equipment
  - Modern equipment is essential, but it must be shared – critical mass
- Organization of campus and buildings
  - Promote contacts
    - Campus preferable to scattered locations
    - Right mixture of disciplines to promote interdisciplinarity
    - Places to socialize
    - Horizontal vs vertical buildings; staircases vs elevators

- Institutional support of researchers
  - Some funds must be available at institutional level to initiate some new projects
  - Support for fundraising
  - Dissemination of results
    - Publication
    - Conferences
    - Right bibliographical references (institution vs department)
  - IPR and patenting policies
  - Incentives for researchers

- Quality culture/enhancement
  - To favour quality enhancement to quality control
  - The responsibility for quality enhancement lies with the institution (subsidiarity principle)
  - Evaluation of teaching, research and services
    - Evaluation processes (at the subdivisions levels)
      - Self assessment
      - Peers
      - Follow up
    - External evaluation (accreditation) of the internal quality processes (=institutional evaluation)
  - Specific methods for the evaluation of research
    - Evaluation of a discipline, benchmarking
    - Objective criteria (citation, impact,....
    - Serious dangers of distortion

- Finance (expenditures and funding)
  - Cost of research is increasing
    - Equipments
    - Size of team
    - Attract best researchers
  - Most national funding systems are not supportive of research
    - Weight attached to teaching is dominant
    - Funds for competitive funding (research councils) oft insufficient

- Favoured system
  - Separate funds and criteria to support teaching and the “material and human research infrastructure”
  - Competitive funding at national level (research councils/foundations)
  - Competitive funding at international level (European FP, forthcoming ERC)
- Funding criteria not adapted
  - Exclusively marginal cost funding (no overhead): best receipt to get bankrupt)
  - Necessity: full economic cost funding (but will imply stronger concentration over a lower number of research institutions)

SUMMARY

- At the institutional level, research management implies
  - Strategic planning – fixation of priorities and posteriorities
  - Leadership – but no micromanagement
  - Creation of an environment favourable to research
  - Adequate funding (competitive and covering the full economic cost

THANK YOU