On the Road towards 3rd Generation Universities: University-Industry Collaboration in Finland

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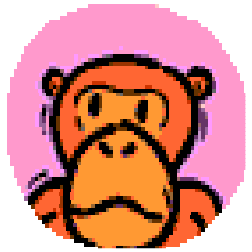
Guidelines for my Presentation



- Basic research is very important
- Education based on research is important
- University autonomy has its importance
- Business is not all that matters
- From University point of view

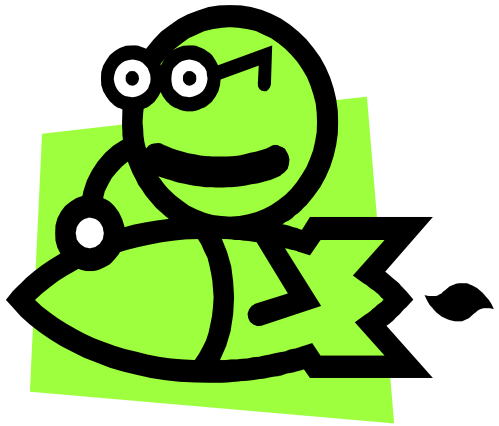
- Open innovation vs. commercialisation?
- Innovation vs. technology development?
- Does collaboration ruin the science?

Traditional University (1G & 2G)

- Educating clergymen => educating civil servants => educating experts in various fields
- Idealistic university vs. functionalistic university vs. rationalistic university
- University administration (academic qualifications, seniority) vs. university management (management experience and skills)
- Peer review, autonomy

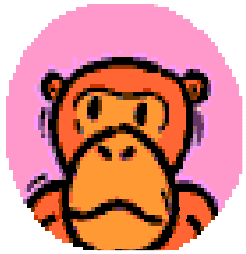
Changes in the University Sector (in Finland)

- New university models
- Bologna Agreement
- Third mission (in addition to research & teaching)
- Polytechnics
- Funding changes:
  - Diminishing public funding
  - Increasing external funding (FP7, EIT,…)
  - Productivity pressures
  - Quantitative measures over qualitative
- Environment changes, industry changes
- Management needs
- Innovation needs



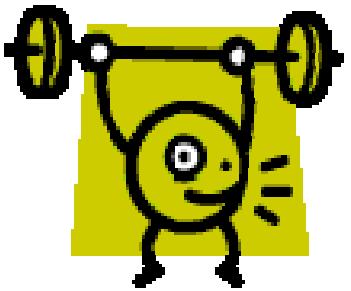
The Finnish Paradox in the Field of Innovation

- The Finnish innovation system development since 1979
- Universities, research units, Science Parks etc.
- Large R&D spending (#3 in the world/capita), TEKES
- Entrepreneurial activity low (GEM)
- Too few research-based innovations
- Too few growth companies in knowledge-intensive areas

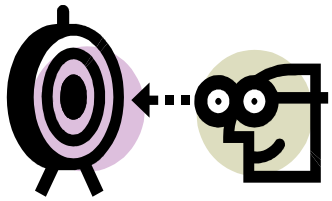


Suggestions to Universities in Innovation System

- More collaboration between various disciplines
- More collaboration with external experts
- Entrepreneurship education, not just B-school functions
- Strategic emphasis on third pillar activities

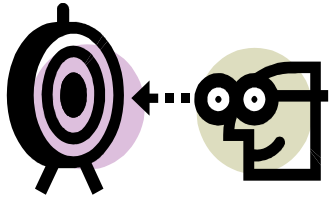


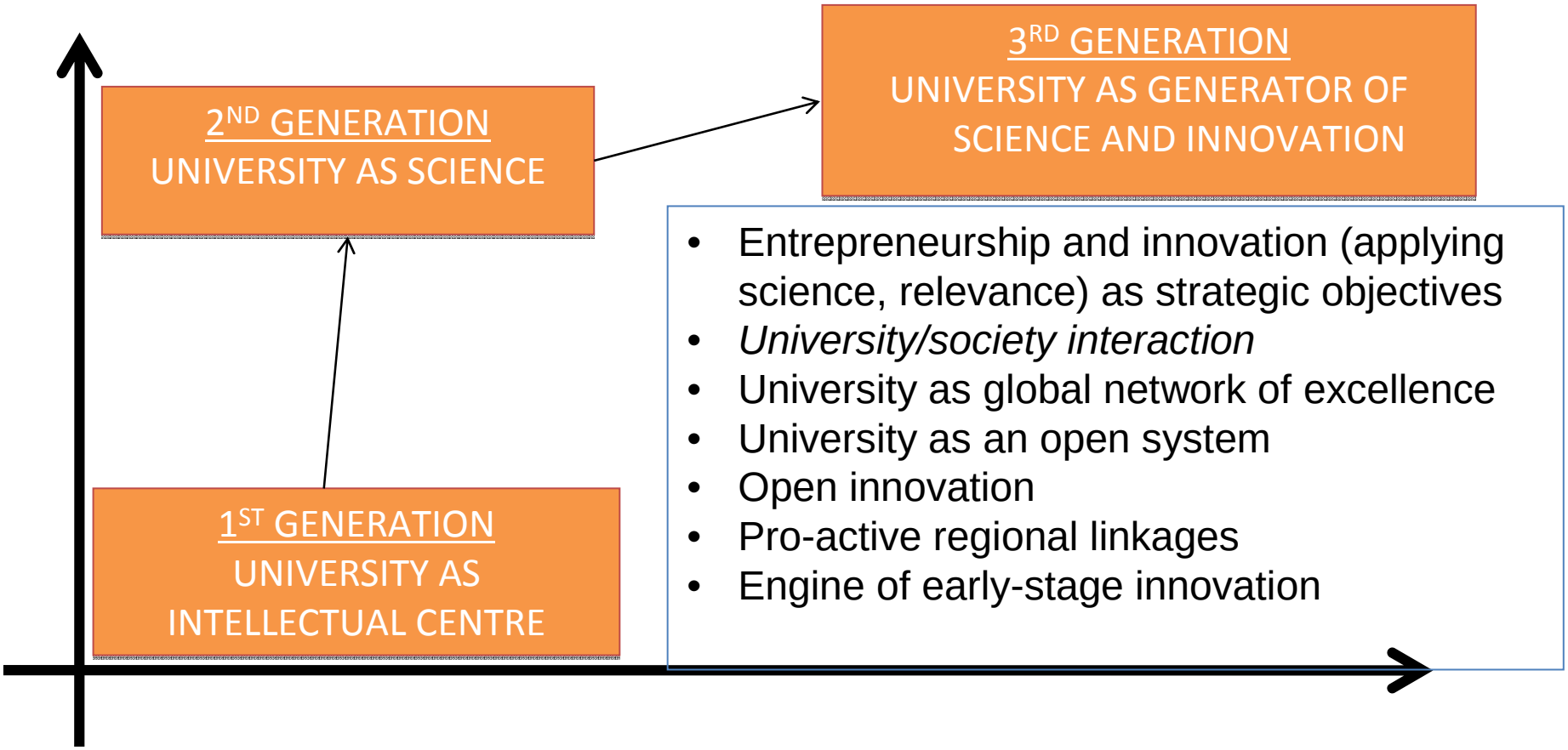
3G/Entrepreneurial University



- Entrepreneurship research
- Small business ideology
- From B-School to I&E-School
- Core competence, specialisation, co-operation
- Cross-disciplinary activities
- Internal ability change, external funding
- Customer, competition, co-operation
- Huge change in university strategy!

3G/Entrepreneurial University





3G University

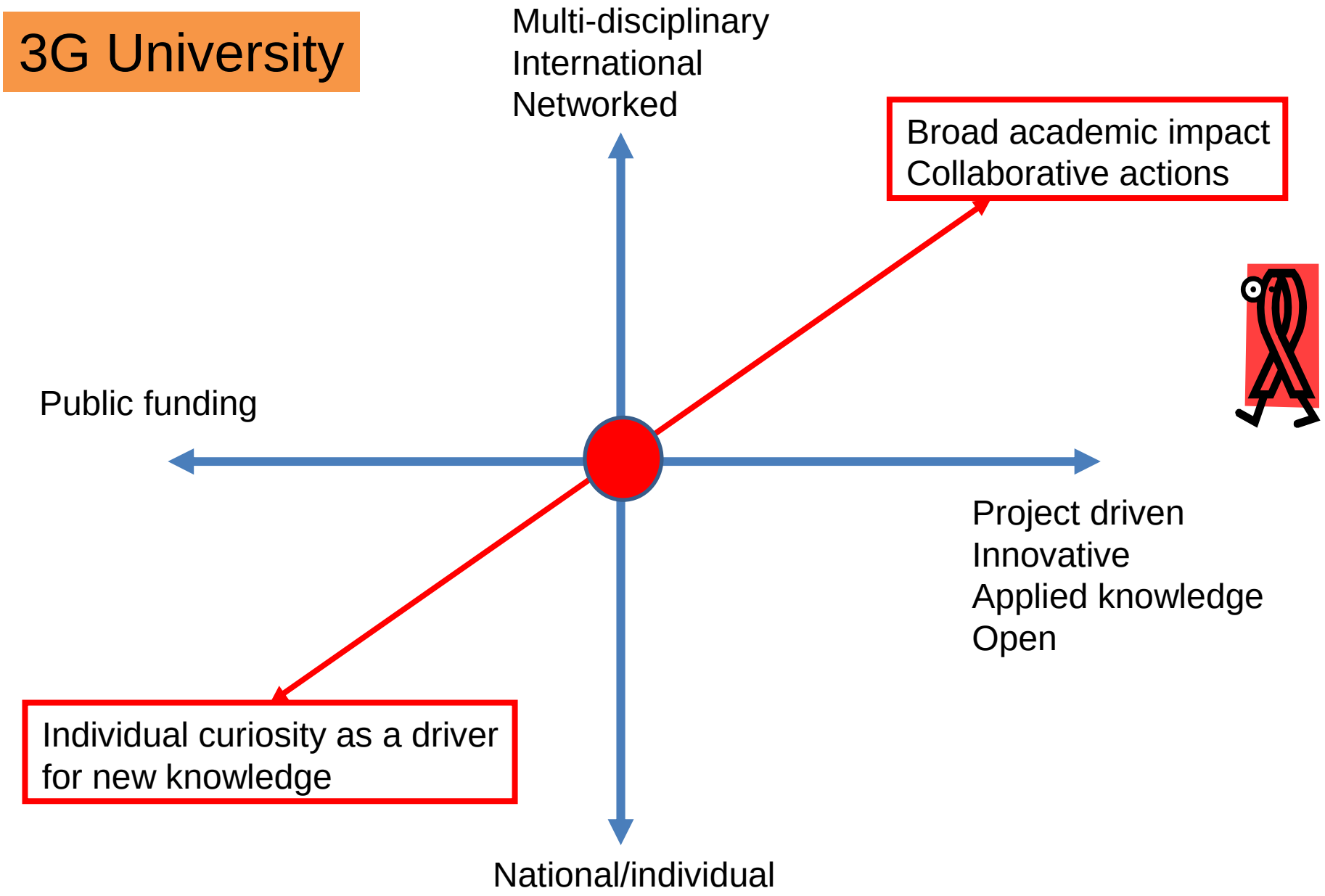
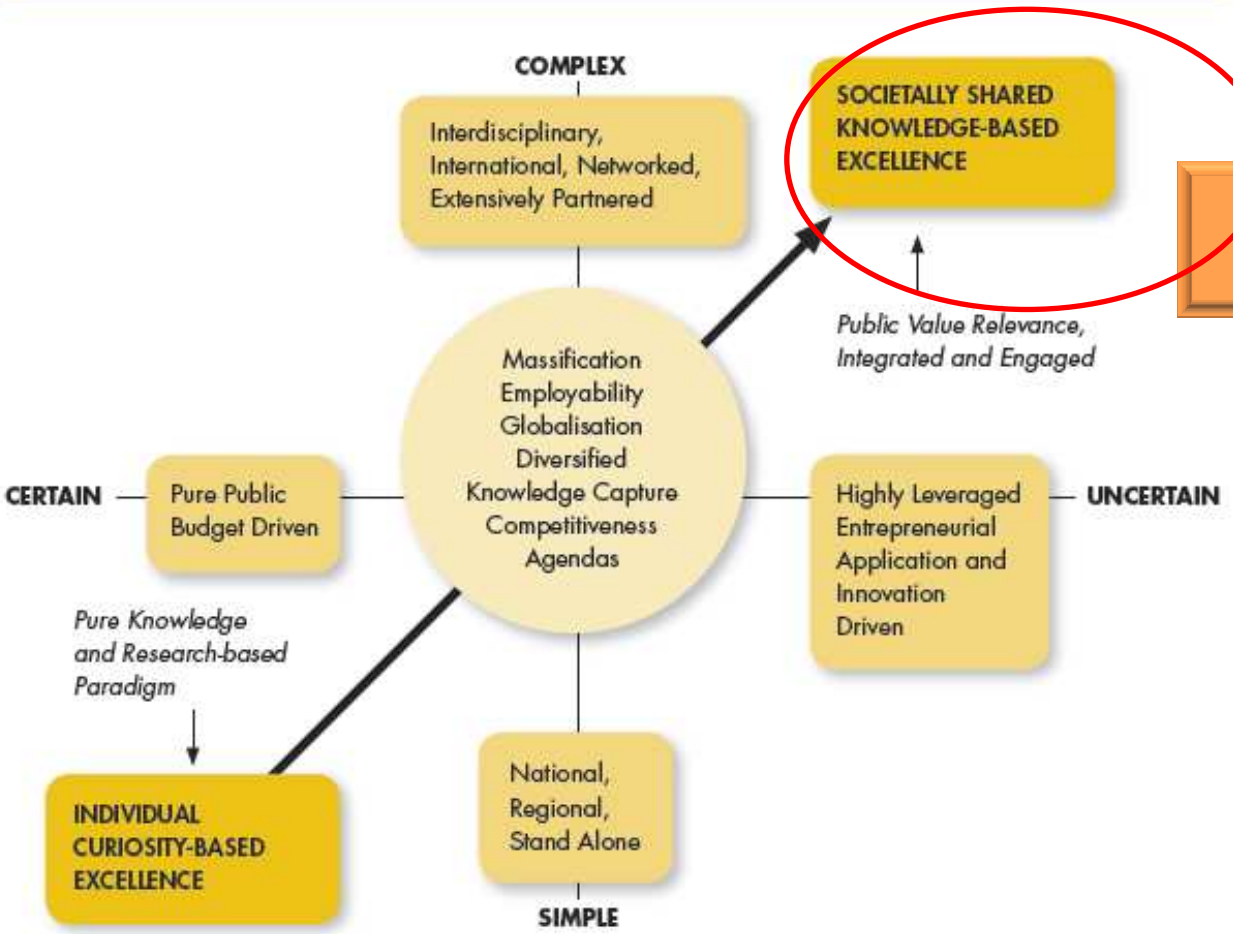


FIGURE 1 - THE CHANGING UNIVERSITY PARADIGM



ENTREPRENEURIAL AND INNOVATION EXCELLENCE

Acknowledgements to Professor Antti Paasio of the University of Turku Finland who provided the germ of the idea. While the arrows on the Simple/Complex and Certain/Uncertain matrix point in one direction it is possible for a university to move from any one segment to another.

University-Industry Co-operation

INDUSTRY

Preferred model

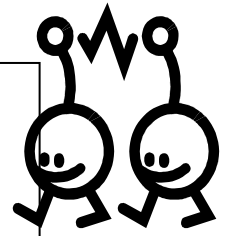
Industry formulated R&D
(sub) contracted work
•Short term focused activities and small projects
•Collection of uncoordinated projects and fragmented overall R&D and knowledgebase formation
•No re-usability for the value chain
•*On-demand product centric work*

Industry-academy joint platform based on active dialog and value chain integration
•Joint foresight activities
•Scenario-based roadmaps: *VISION CENTRIC*
•Integration of value chains
•Short term strategic and coordinated R&D projects
•International co-operation for business development and strategic R&D
•Formation of strategic regional platforms
•Integrating regional/national knowledge base
•Joint vision driven platform centric work in form of subcritical programs
•*Innovation centric platform*

Academic self-generated problem statement driven research
•No value chain or industrial usability of results pre-defined
•Individual/competence R&D
•Individual driven innovation and entrepreneurship
•Small projects
•*Competence centric*

ACADEMY

University-Industry Linkages – Building Collaborative Links with Industry



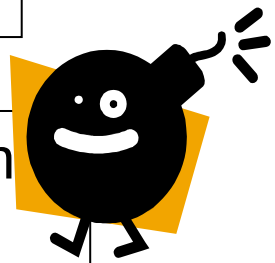
Internal collaborative reward systems are usually inadequate within the university sector (silos!)

Most common types of industrial linkages are usually research funding and sponsorship of chairs, research centres and researchers

Benefits to working with industry - closer collaboration with firms give researchers the opportunity to focus on real-world problems and to broaden the researchers' experience

Close partnership with industry can also add to the quality of research

University-Industry Linkages – Barriers to Develop Increased Links with Industry



Lack of internal resources at both an individual and institution level – Problems with fixed funding schemes

Continued emphasis on traditional outputs for academic work, such as publications

Not enough internal university funds to develop industry linkages

Gap of knowledge by academics & industrialists about each other's organisational cultures

Gap in the priorities of each partner relative to the research results produced from joint projects

Universities are bureaucratic and many firms can have problems in dealing with the labyrinthine procedures of the academic institution (LSEs are bureaucratic, too!)

Conclusions

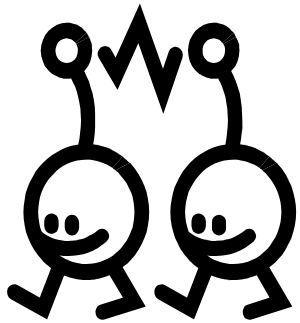
Internal collaboration leads to external collaboration (no silos!)

Funding pressures increase the need for collaboration

Industry collaboration is everybody's job!

From technology development to innovation - relevance

Innovations through cross-disciplinary actions



“Anyone who has never made a mistake has never tried anything new.”

“Imagination is more important than knowledge.”