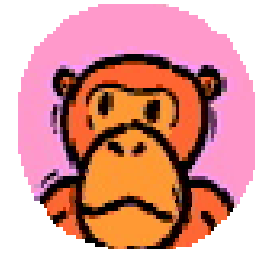




Finnish/Scandinavian Paradox on Innovation: Lessons Learnt from University-Industry Collaboration in Finland

Professor Pasi Malinen
D.Sc. (Econ. & Bus. Admn.)
BID Business Innovation and
Development @ UTU

Guidelines for my Presentation

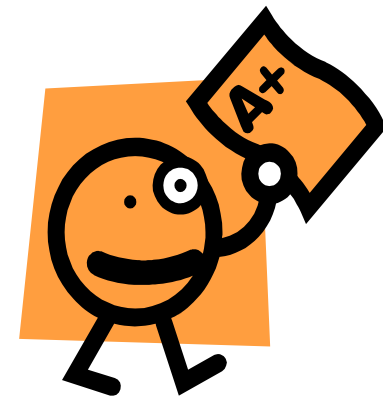


- Basic research is very important
- Education based on research is important
- University autonomy has its importance
- Business is not all that matters
- From University point of view

- 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



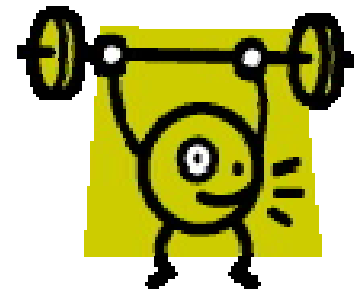
The Finnish Paradox in the Field of Innovation

- 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

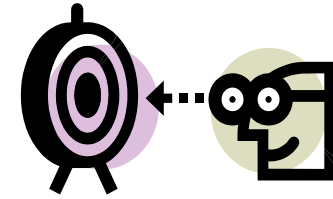


Suggestions to Universities in Innovation System

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

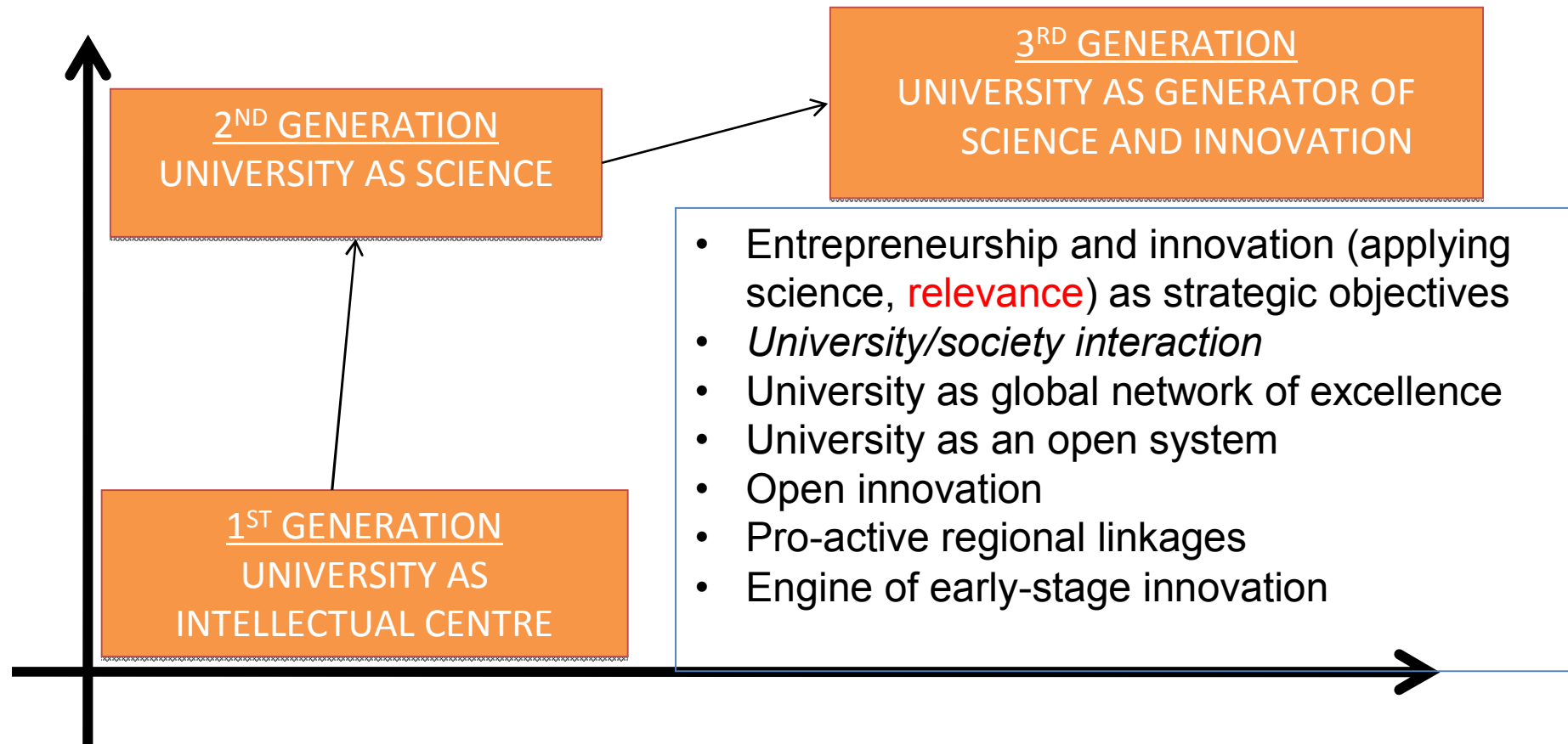
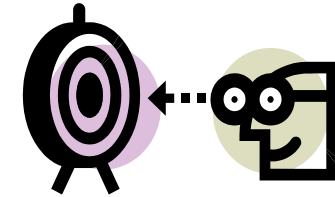


3G/Entrepreneurial University



- 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

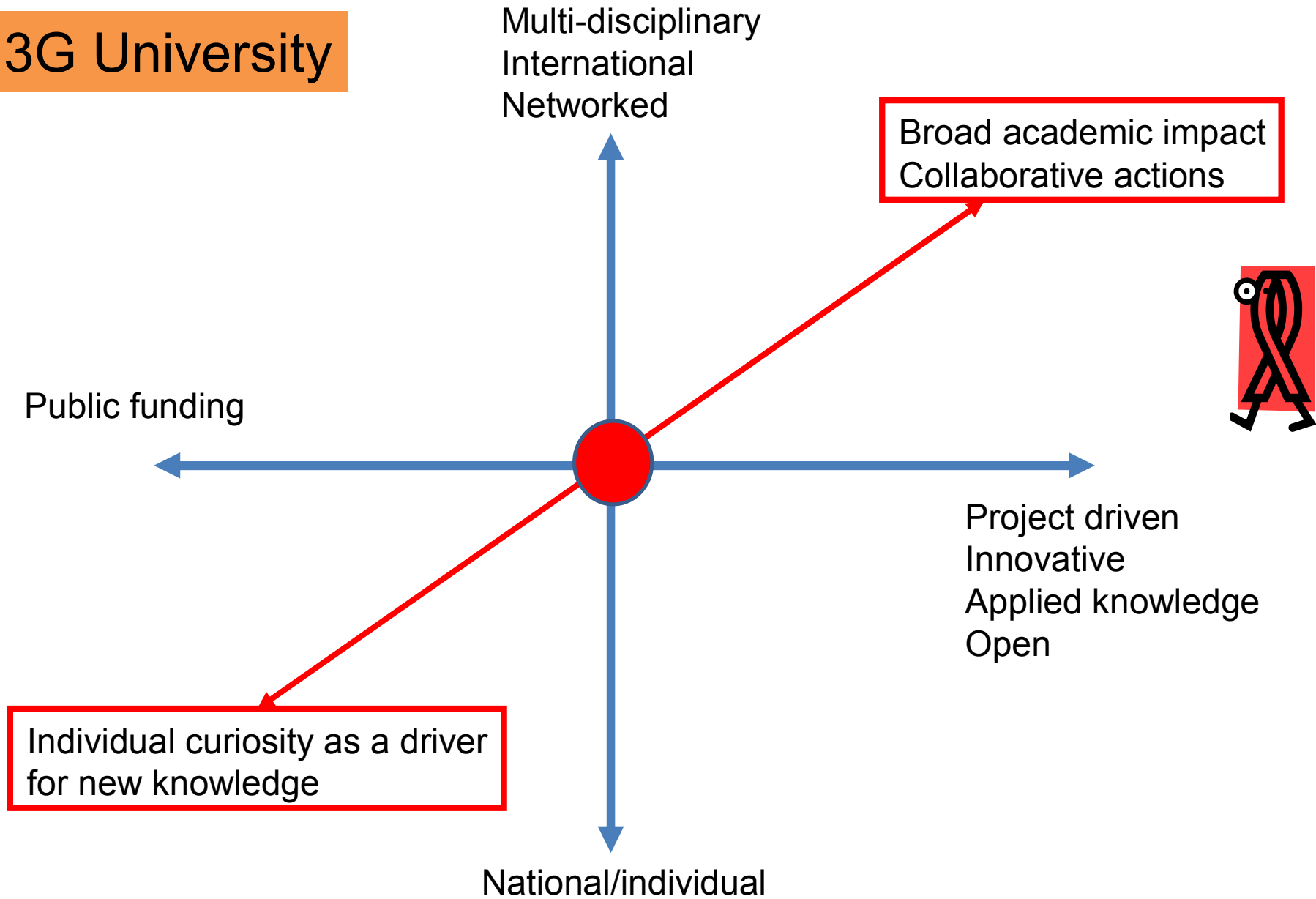
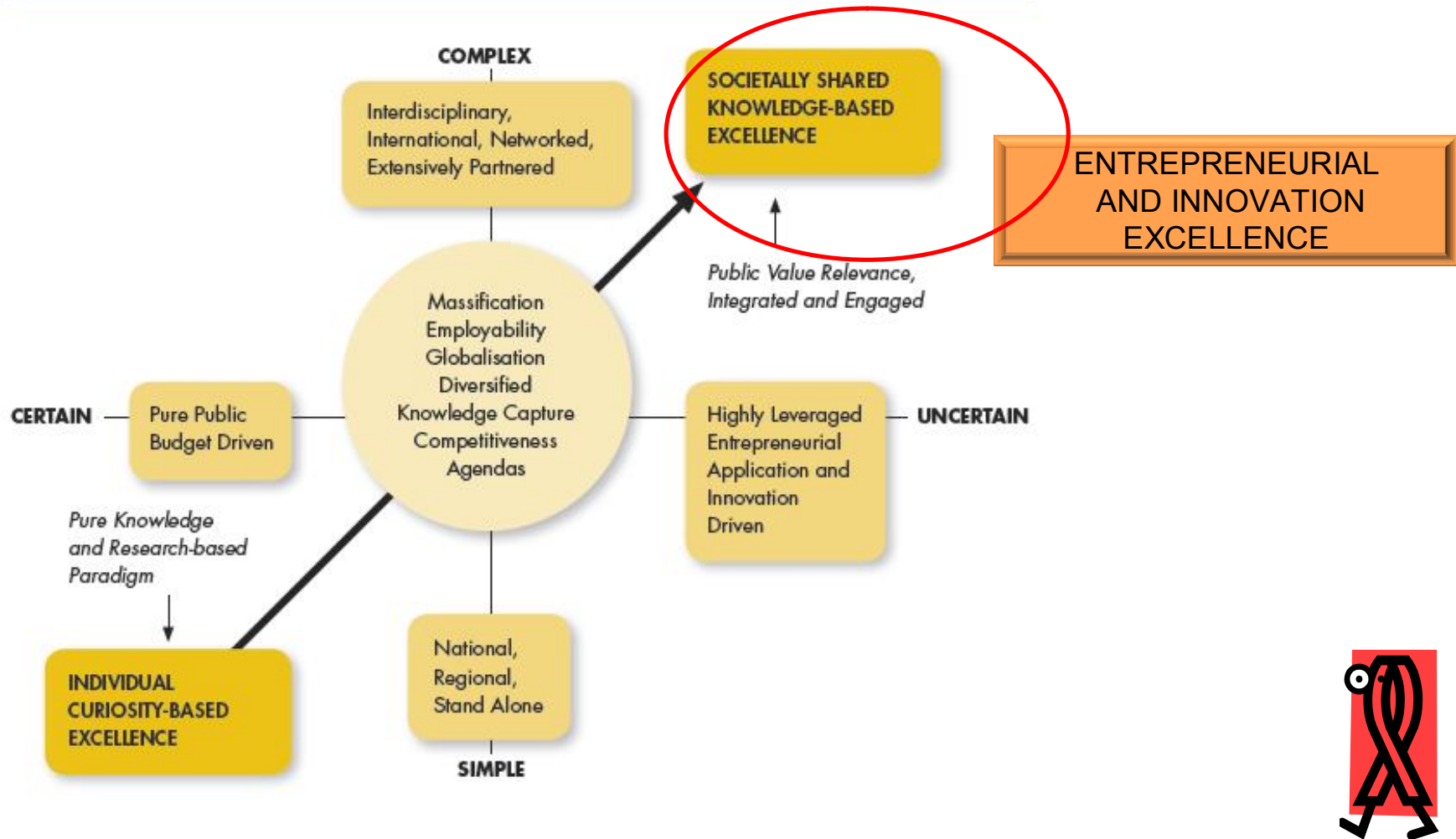


FIGURE 1 - THE CHANGING UNIVERSITY PARADIGM



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

**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*

Preferred model

**Industry-academy joint platform
based on active dialog and value chain
integration**

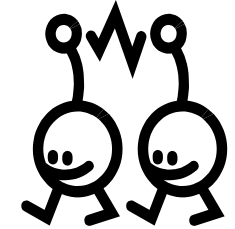
- Joint foresight activities
- Scenario-based roadmaps: *VISION CENTRIC*
- Integration of value chains
- Short term strategic and coordinated R&D projects
- International co-operation for business development and strategic R&D
- Formation of strategic regional platforms
- Integrating regional/national 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

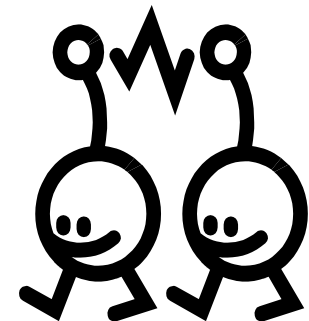
University-Industry Linkages – Barriers to Develop Increased Links with Industry



- Lack of internal resources at both on individual and institutional 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 – measuring innovation output!
- 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.”

“Any intelligent fool can make things bigger and more complex. It takes a touch of genius - and a lot of courage to move in the opposite direction.”

