

PRODUCTIVE INTERACTIONS: Societal Impact of Academic Research in the Knowledge Society



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Academic Research:

Necessary Part of a Vital Knowledge Society

- **driven by curiosity**
- **risk and (repeated) failure**
- **unpredictability / serendipity**
- **timespan – short / long**
- **conceptually identical for all disciplines**
- **range from fundamental to applied**

Key Concepts of the Paper:

- **Universities' Triple Mission**
- **Societal Impact**
- **Comprehensive Assessment**
- **Productive Interactions**

Policy for Research & Innovation

Complex Environments for Universities

- **national policies**
- **international policies (H2020)**
- **international competition**
- **relationship research & education**
- **societal demand – national & local level**

Research in a New Policy Context

Complex Environments for Universities

- research is a **NECESSARY PART** of the game
- operating at the crossroads of
 - excellence in academic competition
 - relevance for societal development

Societal Demands/Challenges:

→ Grand Societal Challenges

Health, demographic change [...]

Food security [...]

Secure, clean and efficient energy

Smart, green and integrated transport;

Climate action, environment [...]

Europe in a changing world [...]

Secure societies

→ Sustainable Development Goals

No poverty

Affordable and clean energy

Zero hunger

Good health and well being

Quality education & lifelong learning

Gender equality

Clean water and sanitation

Decent work and economic growth

Industry, innovation, infrastructure

Peace, justice and strong institutions

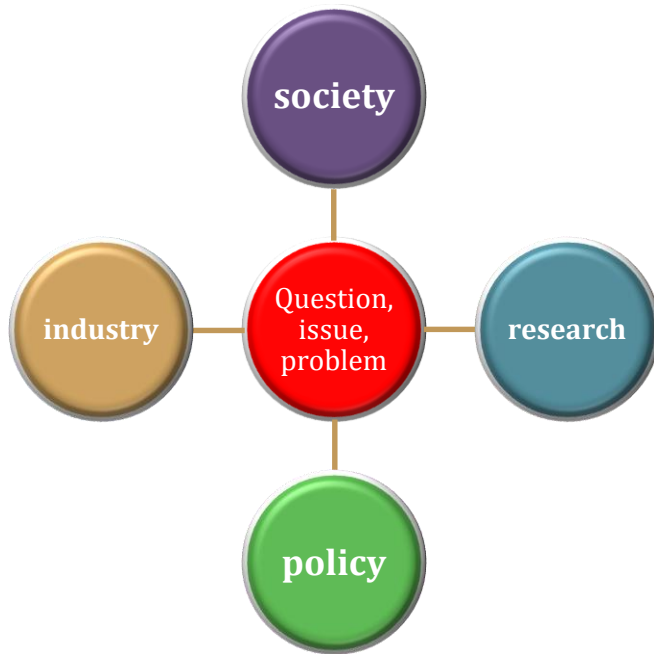
Partnerships for the goals

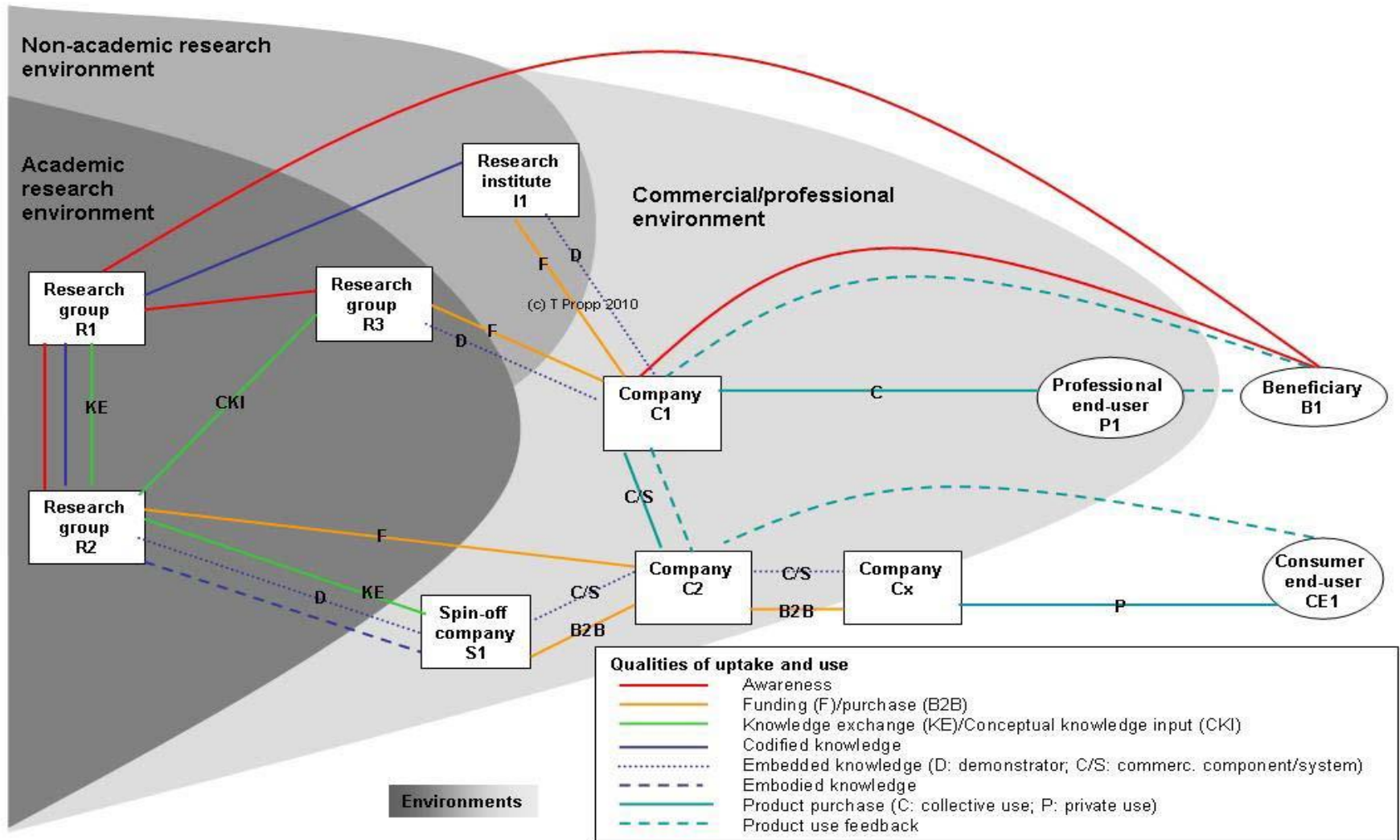
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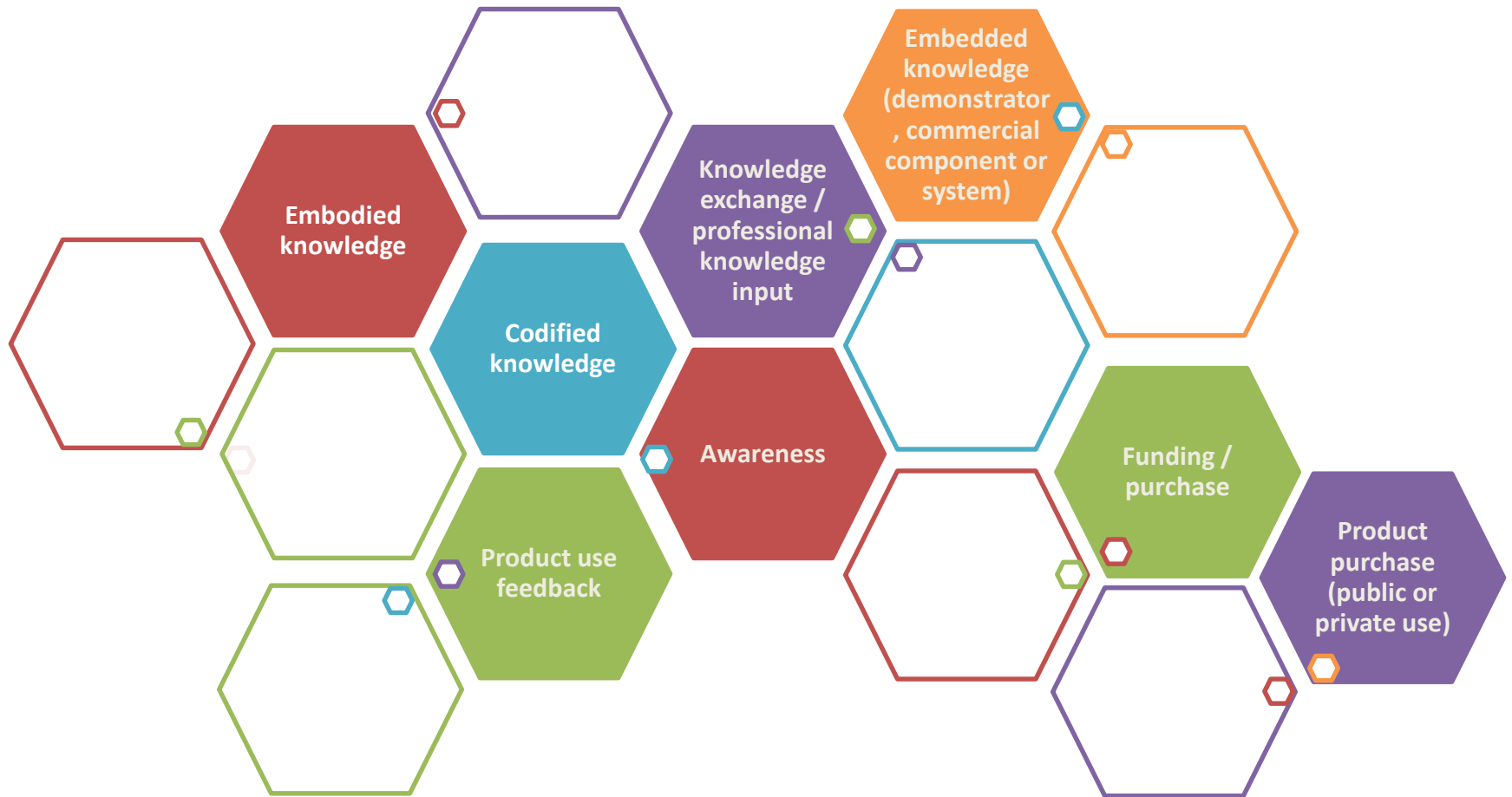
LINEAR

VS

DYNAMIC MODEL







Productive Interactions:

An interaction is productive when it leads to efforts by stakeholders to apply research to societal goals

- 1 direct – between people**
- 2 indirect – via media**
- 3 material – financial / other forms of support**

Productive Interactions driving forces for societal impact: academic knowledge develops in interaction with stakeholders

Societal impact/innovation is result of the creative meeting of a variety of contributions

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LERU position paper March 2017



- University of Amsterdam • Universitat de Barcelona • University of Cambridge • University of Copenhagen
- Trinity College Dublin • University of Edinburgh • University of Freiburg • Université de Genève
- Universität Heidelberg • University of Helsinki • Universitat Llatina • KU Leuven
- Imperial College London • University College London • Lund University • University of Milan
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- Université Paris-Sud • University of Strasbourg • Utrecht University • University of Zurich

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EXAMPLES OF PROJECTS DEMONSTRATING PRODUCTIVE INTERACTIONS AT LERU UNIVERSITIES

UNIVERSITY OF HELSINKI – COMHS

Academic progress is made through cooperation and issues studied together from the very beginning. This is the starting point for 'Opening up research data: digital humanities and open science'. The research project COMHS (Computational History and the Transformation of Public Discourse in Finland, 1640-1910) is a study of the development of public discourse and early modern information production in Europe. The project is based on an open international ecosystem, without any cooperation agreements. A central contribution for various stakeholders (businesses, organisations) is that the project cleans up a great number of data which others can reliably use as the basis for their digital services. Important for the success of the research project is that it works together with memory institutions (such as the National Library of Finland). (<https://www.helsinki.fi/en/researchgroups/helsinki-digital-humanities>)

UNIVERSITY OF BARCELONA – FLOWERED

The project's objective is to contribute to the development of a sustainable water management system in areas affected by fluoride contamination in water, soils and food in the African Rift Valley countries, thus to improve living standards (environmental, health and food security) of its population. The project mainly operates at small village scale to develop an integrated, sustainable and participative water and agriculture management at a cross-boundary catchment scale. It takes into account local experiences, aiming to enable local communities to manage water resources. The integrated approaches improve knowledge for EU partners, local researchers, farmers and decision makers. Through the involvement of SMEs, the project seeks to strengthen the development of co-innovative demonstration processes as well as new market opportunities. (http://www.ub.edu/web/ub/en/areas_innovacion/reerca_a_la_U6/sectors/area7/FCO1820/index.htm)

UNIVERSITY OF OXFORD – FLOOD MANAGEMENT

Flooding is a major issue for the UK, with substantial impacts and costs incurred for communities. North Yorkshire residents and Oxford University researchers work together, challenging flood management assumptions, paving the way for new ideas and a new way of working with communities affected by flooding. It has challenged the standard models of flood defence by pooling local knowledge and academic expertise, which resulted in a new methodology called Environmental Competency Groups (ECG). See <http://www.environmentalcompetencygroups.org/>

[environmentalcompetencygroups.org/](http://www.environmentalcompetencygroups.org/). The methodology is designed to combine scientific and local expertise in the simulation of the causes of flooding in the locality and the potential effects of different management interventions in order to identify the most effective and affordable defence option. The group was made up of community members, flood modellers and social scientists. The first-hand knowledge of the local members of the project provided important inputs to the production of a more bespoke flood model for the town and, as a result, a more viable flood management proposition. (<https://www.social-sc.uk/research/journals/jas-projects/bringing-academics-and-communities-together-to-reduce-UK-flooding>)

LEIDEN UNIVERSITY – ENGAGING WITH THE PAST

One of the main challenges in Caribbean heritage management is raising local awareness and understanding of the importance of protection of heritage resources. With some notable exceptions, current multi-ethnic culture and society considers the pre-colonial Amerindian populations as fundamentally different. In order to develop long-lasting and successful heritage preservation policies this project aims to engage the public by focusing on more general connections, stressing the continuity of the complex, dynamic and multivoiced character of social processes in the region. In this way the indigenous Amerindian past (and its relationship with present-day indigenous peoples) can be positively incorporated in an inclusive and creative Caribbean cultural memory. There are two approaches: (1) public education, and (2) active community participation and collaboration. (<http://www.movecare-project.eu/>)

UNIVERSITY OF ZÜRICH – DYNAMICS OF HEALTHY AGING

Productive interactions between researchers and different stakeholders (older adults, adult children, caretakers) have been underway for some time in this programme. Within the Participatory Research Laboratory, key ingredients and processes required for the successful collaboration between professional scientists and those from the general public (citizen scientists) are systematically defined and evaluated with regard to different types of outcomes (scientific productivity, third-party funding, stakeholder interest, competences). Citizens can become fully engaged in each step of the research process (from developing research questions to the interpretation and write-up of the results), sharing the same rights as the professional researchers. (<http://www.dynage.uzh.ch/de/participatory.html>)

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UNIVERSITY OF MILAN – MOVECARE

The project develops an innovative multi-actor platform that supports the independent living of the elderly at home by monitoring, assisting and promoting activities to counteract decline and social exclusion. It comprises a service layer for monitoring and intervention, a context-aware Virtual Caregiver (a 'service robot') and the users' community, to strongly promote socialisation as a bridge towards the elders' ecosystem: other elders, clinicians, caregivers and family. Gamification glues together monitoring, lifestyle, activities and assistance inside a motivating and rewarding experience. Among the stakeholders involved in the design and dissemination activities of the project is the KORIAN group, the first and largest European assistance provider for long-term care to elderly people living in nursing homes and at home. (<http://www.movecare-project.eu/>)

UTRECHT UNIVERSITY – CHILD HEALTH PROGRAMME ON CYSTIC FIBROSIS

Cystic Fibrosis (CF), the most prevalent rare disease in western countries, is a focus area of the Child Health Programme of the University Medical Center Utrecht (UMCU). Treatment requires a multidisciplinary approach and the UMCU collaborates with the Dutch Cystic Fibrosis Foundation (DCCF): patients actively engage in setting the research agenda and in regular research evaluation. The CF-Center delivers patient care, from early diagnosis to lung transplantation; performs innovative research leading to improvement of prognosis; is a key player in education to professionals and families. The societal impact is manifold: pilot trials that have enabled a governmental decision to initiate a national Heel Prick Screening programme on CF; selectively contracting health insurance companies, investing in high quality CF-care to the community, stimulating public engagement by documentaries on TV and in newspapers, collaborating from the design of the project onwards with the DCCF, increasing public and patient awareness. (<http://mobile.journals.lev.com/co-pulmonarymedicine/layout/16/leaves/journals/mobile/articleviewer.aspx?year=2016&issue=11000&article=00013>)

UCL – MUSEUMS ON PRESCRIPTION

Hospitals and care homes are known to be depressing environments and many people find it difficult to work through their own feelings about their situation. Using objects such as museum artefacts as prompts for reminiscence or conversation can help reduce stress and improve general wellbeing. Very little robust research has been done on this subject. The 'Impact of museums on health and wellbeing' project investigated how museum activities contribute to health/wellbeing in hospitals and care homes and has led to the development of a new wellbeing measure in partnership with museums and other partners. As the first rigorous study of therapeutic benefits of museum activities, this research has made an invaluable contribution to policy debates on arts and health, raised awareness of the role culture plays in society, led to the development of a volunteer programme, and offered a compelling argument for supporting arts and humanities funding in this area. (<http://www.ucl.ac.uk/museums/aseach/museumonprescription>)

UNIVERSITY OF EDINBURGH – STAMP OUT SLEEPING SICKNESS

Thousands of lives in Africa have been saved by an initiative to help eradicate sleeping sickness. Cases of acute sleeping sickness among people in rural Uganda led by 90 percent after Edinburgh researchers, led by Professor Sue Welburn, working with colleagues from Makerere University prevented transmission to humans by eliminating the parasite from cattle. Researchers aim to extend the project to all of the districts in Uganda that are affected by acute sleeping sickness. The condition, which is a parasitic infection affecting the nervous system, is always fatal if not treated. Many sufferers are in the poorest rural areas with no access to treatment and are unaware of the risk to their health posed by infected livestock. Researchers eliminated the trypanosome parasite that carries the disease by injecting livestock with trypanocides and by carrying out regular insecticide spraying to prevent re-infection. The results were achieved as part of the Stamp Out Sleeping Sickness campaign, created in 2006 by the University of Edinburgh, Makerere University, Indian Kaphal Aid & Relief Enterprise, Ceva Santé Animale and the government of Uganda. (http://www.ed.ac.uk/healthcare/lls/strategic_plan_2016.pdf)

Comprehensive Assessment:

- **focus on more than scientific quality/excellence**
- **include methods to evaluate societal impact**
- **involve stakeholders – preferably in design**
- **address wider interests**
- **innovate!**

Some Key Messages:

- **role of universities in the research ecosystem**
- **engagement of stakeholders**
- **productive interactions**

Thank You For Your Attention



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