

THE ROLE OF EDUCATION AND INNOVATION FOR SMART, SUSTAINABLE AND INCLUSIVE GROWTH

Towards a dynamic relationship within the knowledge triangle?

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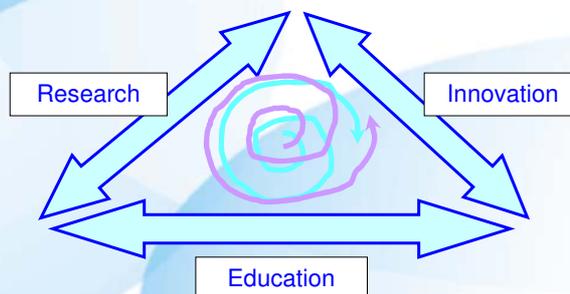
Innovation for social change and cyclic learning in the knowledge triangle

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INNOVATION-, EDUCATION-, RESEARCH PROCESSES

The „Knowledge Triangle“



Three legs rather than three nodes



Innovations are increasingly needed in the wake of accelerated social change



All innovations are socially relevant

Any innovation has impact on particular social groupings and – more or less – individuals in their respective capacities, e.g. as consumers, entrepreneurs, administrators, family members

What is considered customary „**innovation**“ mostly originates from technology, yet it also bears **social components** – concerning its development as well as impact.

...

Social aspects of innovations in business and technology need to be highlighted, yet it is even more important to pay equal attention to **particular social innovations**.

Traditional comprehension, measuring and benchmarking of innovation fall short of the social relevance of innovations in general and of social innovations as such.



Definition of „Social Innovation“ *)

**Social innovations
are
new concepts and measures
to resolve societal challenges,
adopted and utilised by social
groups concerned.**

*) Zentrum für Soziale Innovation (Centre for Social Innovation) 2008:
„Stimulating Social Development“ (p. 2), for download available at
<http://www.zsi.at/de/publikationen/346/5056.html>



INCLUSIVE TYPOLOGY OF INNOVATION

The surface („first notion“) of innovations
More ↔ less, faster ↔ slower, growth ↔ decline

Innovation systems (sectors, regional, national, international)
confined ↔ open

Typology of innovations, including social aspects

Technological business innovations		Non-technological business innovations		Social innovations in business sectors, politics/ public admin., state, civic society, social „milieus“		
Product *)	Process *)	Organi- sation*)	Marke- ting*)	Stakeholder involvement ^{o]}	Procedures in decision making ^{o]}	Behaviour, Life styles ^{o]}

Topical objectives („patterns“) of innovations
economic objectives ↔ social objectives

Socio-cultural foundations of innovations:
Value systems, equity/disparities, inclusion/exclusion



*) Innovation as defined by the „Oslo-Manual“: OECD/EUROSTAT, 2005. - ^{o]} Indicative forms of social innov.

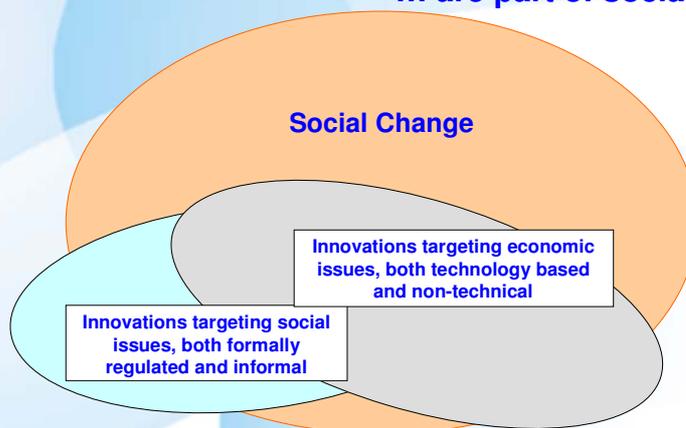
COMPARING SOCIAL AND TECHNOLOGICAL INNOVATIONS

- Key to measure success of „Oslo-type“ innovations: **market penetration**, revenues, return on investment, and other economic indicators
- In case of social innovations: social **acceptance and utilisation**; need to adapt appropriate indicators based on measuring quality of life/well-being
- Implementation and diffusion of innovations are not merely the result of accumulated individual decisions. Such decisions are subject to **social processes** as every individual person is embedded in social structures and networks of many kinds („*figurations*“, according to N. Elias, 1972).
- Any innovation has a **life cycle**: the more innovations are disseminated, the less their degree of novelty. In case of overall market diffusion (of new products) or „institutionalisation“ (of social innovations) the product, measure, procedure etc. ceases to be considered an innovation.
- Examples of technologies and **products incorporated in every-day life**: light bulb, telephone, refrigerator, TV, pencil, pen, notebook ...
- Examples of **institutionalised social innovations**: works councils, traffic regulation, compulsory school attendance, ...



INNOVATIONS, INCLUDING SOCIAL INNOVATIONS,

... are part of social change!



„**Social change**“: ... processes of change pertaining to social structure, affecting societal institutions, cultural patterns, social action, behaviour and consciousness
(my shortened translation from Zapf, W. 2003: Sozialer Wandel, in: Schäfers, B. (Hg.): Grundbegriffe der Soziologie, Opladen, S. 427-433)



FUTURE CHALLENGES AND SOCIAL CHANGE

Traditional dangers involved with meeting proverbial icebergs ?
New dangers involved with meeting real melting icebergs ?
How to know the difference ?



Social change towards the emerging knowledge society

„Social change“ depicts the transformation of
structures in one or more social system(s). [+/-]

„Progress“ denotes a directed and perceptible
impact of acknowledged positive social change. [+]

Drivers of social change

- Demographic development
- Culture, arts, science
- Socio-technical systems
- Politics & social movements
- Environment (conditions of living, climate change ...)

Levels of social systems

- Macro level: State, national and international regulations ...
- Meso level: corporations, enterprises, NGOs ...
- Micro level: Life styles, patterns of behaviour ...

All drivers (“agents”) of social change, and all levels of social systems
require and create innovations, and are **affected** by innovations



Features of the Knowledge Society

The new notion of „hands“ and of „brains“ in the KS

- „Hands“ became part of technological (socio-technical) systems
- „Brains“ become part of science systems „Mode 2“

The main indicator of the Knowledge Society is not sheer lots of knowledge

- The knowledge society applies **principles of scientific knowledge creation and its implementation** to wider walks of life
- Extended use of scientific principles at the same time **increases scrutiny concerning perception, cognition and knowledge**
- **Such scrutiny breeds uncertainty** even though usually higher certainty is expected by augmented knowledge:
 - ▶ a new „knowledge paradox“ *)

The Knowledge Society extends capacities to modify ways and scales of using resources and innovations

Amplification of knowledge also creates knowledge gaps and impact on cognition and perception of reality, learning and working



*) **Martin Heidenreich, 2003:** Die Debatte um die Wissensgesellschaft; in: Stefan Bösch und Ingo Schulz-Schaeffer (Hg.), Wissenschaft in der Wissensgesellschaft. Opladen: Westdt. Verlag

FORMS OF KNOWLEDGE RELEVANT TO EDUCATION, RESEARCH, AND INNOVATION



INNOVATIONS FOR SOCIAL CHANGE

Innovations required in major societal systems – and a major question:

Education

- Institutions and organisation
- Learning in a learning society

Science and research

- Co-production of knowledge
- Trans-disciplinary research („Science Mode 2“)

Economy and economic growth

- Management of abundance
- Taming the finance industry
- Globalisation of access to renewable sources of energy

Possible impact of innovations on social change

- What kind of social change – wishful directions and order of magnitude?
- Anticipation and control



DIFFERENT PERCEPTIONS OF SOCIAL CHANGE, or: Not anything new is an innovation ...

THE FRUITS OF GLOBALISATION HAVE TRICKLED
DOWN TO US ... LOOK AT MY NEW BEGGING BOWL!



INNOVATIONS IN EDUCATION

Social Innovation:
A new, targeted and successful intervention, capable to resolve a social issue

„Success“: It works, is met with acceptance, implementation and dissemination progress.

		Idea and intervention concerning issues	
		Old	New
Social issues e.g. in education	Old „Impact of social origin“	Improve individual support; adopt tested school organisation	Change criteria – from deficiency to potency approach
	New „Internet, video games“	Application of control measures, restrictions	Innovation Facilitate social competencies and inter-generational learning



INNOVATIONS IN SCIENCE AND RESEARCH

The role of science in society shifts
from transfer to co-production of knowledge

Organisations of education and science need

- to become learning organisations, aiming
- to institutionalise social networking research,
- to **produce socially robust knowledge.**

Hans-Werner Franz, sfs - University of Technology, Dortmund

Presentation at the conference

„The most needed social innovations of the 21st century, Vienna, Nov. 2009.



INNOVATIONS FOR SUSTAINABLE AND INCLUSIVE GROWTH

“Management of abundance”

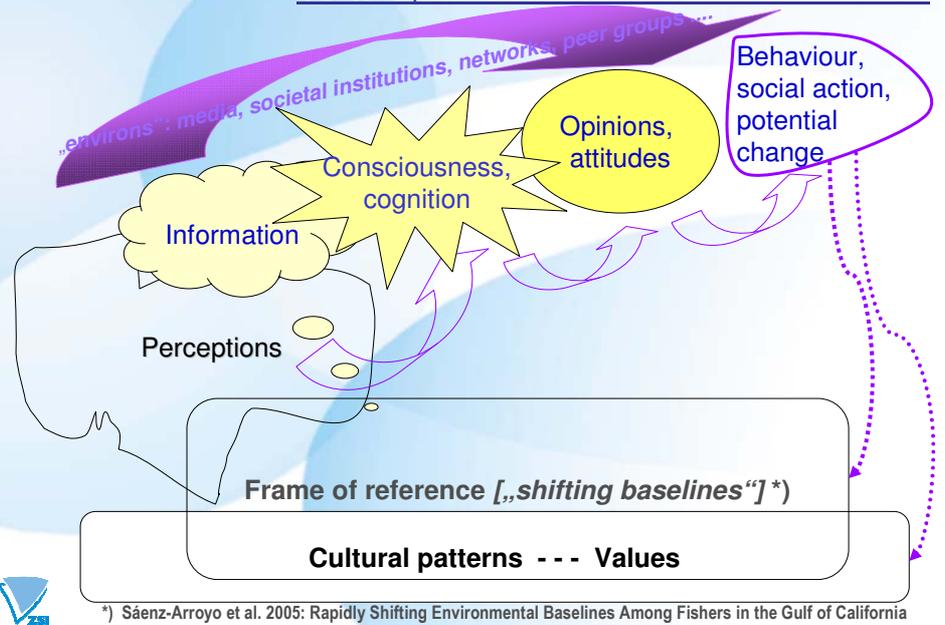
Preferential treatment of producing and service sectors, in comparison to critical parts of finance industries: wealth tax, taxes on revenues from speculation, ban of speculation on foodstuffs

Just distribution of „energy for all“ as a global policy principle instead of (intended/inefficient) regulation of emissions (cf. „The Hartwell Paper“)

Increasing real prices on carbon based energy , investment of state revenues in local and global access to clean energy and renewable resources



LEARNING CYCLE IN INNOVATION Culture, consciousness and social action



*) Sáenz-Arroyo et al. 2005: Rapidly Shifting Environmental Baselines Among Fishers in the Gulf of California

Turning perceptions and knowledge to action

How to stimulate and implement innovations, creating impact on social change towards a socially just and more equal „knowledge society“?

Concepts	Competencies	Capabilities	► Innovation resources
Data	abstraction	processing, segregation	facts & figures
Information	pattern recognition	attribution, conflict	forecasts, scenarios
Knowledge	linear thinking	cognition, empathy	strategies, conventions
Wisdom	lateral th.	creation, balancing	joint action: cooperation




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