

Social and Business Innovations: Close links in practice – but two worlds apart in theorising?

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Motivation

Social innovation (SI) is a widely used buzzword: a solution to all sorts of problems?(!?)

⇒ a lot to do to clarify its meaning
actors, objectives, processes, outcomes, impacts
[measurement], policy implications, ...

Business innovation studies and SI analysis: different schools (theoretical frameworks) in isolation (?)

Crossing borders ⇒ mutual learning?

Can the tools and results of economics of innovation enrich the analysis of SI – and the other way around?

Outline

Definitions of innovation

Models of business innovations: causal links and processes **vs.** focussing devise

Innovation systems

Business innovations in various economics paradigms

Measurement of innovation

STI policy rationales derived from mainstream and evolutionary economics

Business innovations to support social innovations

Conclusions

DEFINITIONS OF INNOVATION

The Eurostat–OECD definition of (business) innovations

“an innovation is the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organisational method in business practices, workplace organisation or external relations” (OECD, 2005: 46)

This definition has been devised for statistical purposes: what can be measured at firm level

Schumpeter had a broader view of innovation, incl.

- the opening up of a new market
- the conquest of a new source of supply of raw materials or semi-manufactured goods
- the carrying out of the new organisation of any industry (creation of a monopoly or breaking up of a monopoly)

Plethora of definitions of social innovations

Godin (2012): *Social Innovation: Utopias of Innovation from c.1830 to the Present*

“social innovation goes back almost two hundred years” (Drucker, 1957)

76 definitions are reviewed in Edwards-Schachter et al. (2012)

12 “archetypal definitions” are reviewed in Benneworth and Cunha (2015)

- four layers of meaning
- a general six-step model

More definitions have been devised since then ...

Social innovations are ...

- new solutions (...) that simultaneously meet a social need – more effectively than existing ones – and lead to new or improved capabilities and relationships or collaborations and better use of assets and resources (Young Foundation, TEPSIE)
 - acceptable progressive solutions for exclusion, deprivation, alienation, lack of wellbeing; (...) actions that contribute positively to significant human progress and development (...) improvement of social relations – micro relations between individuals and people, but also macro relations between classes and other social groups (Moulaert et al., 2013: 17)
 - “changes in the cultural, normative or regulative structures (or classes) of society that enhance its collective power resources and improve its economic and social performance” (Heiskala, 2007: 74)
- ⇒ The unit of analysis is different in the above definitions; they are applicable for different tasks

Unit of analysis – various SI definitions

Unit of analysis	SI definition
a single social innovation project	
a 'bunch' of social innovation projects occurring concurrently – or even in a co-ordinated way	Heiskala (2007)
both types (both units/ levels of analysis)	Young Foundation, TEPSIE (2012), Moulaert et al. (2013)

The CrESSI definition of SI for the marginalised:

The development and delivery of new ideas and solutions (products, services, models, modes of provision, processes) at different socio-structural levels that intentionally seek to change power relations and improve human capabilities, as well as the processes via which these solutions are carried out.

“Levels” of SI

- i) Incremental: goods (products and services) that „address social need more effectively or efficiently” (Nicholls et al., 2015: 3)
It covers both incremental and radical innovations
- ii) Institutional: „harness or retool existing social and economic structures to generate new social value and outcomes” (ibid: 4)
These are structural changes; not ‘rules of the game’!
(North, 1990)
- iii) Disruptive social innovation “aims at systems change” (ibid: 3)
changes in power relations, social hierarchies, and cognitive frames
An overarching term with a rather ‘wide arch’ – but could be a good starting point for more detailed empirical analyses

Definitions of social innovation according to the scale and scope of change that they encapsulate

Scale and scope of change	Examples
Structural SI	Innovation in social institutions or relationships as a result of wide political/ social/ economic change
Targeted radical SI	Activities that radically reshape how essential goods and services are delivered to improve welfare and that challenge power relations
Targeted complementary SI	New processes and relationships that can generate inclusive solutions to societal challenges
Instrumental SI	Rebranding of political agendas, community development, corporate social responsibility

Source: Marques et al. (2017)

Disentangle different units of analysis when studying SI

Subject (or level) of change

The degree of novelty

Subject of change	Incremental change	Radical change(s)	Relevance for SI
Goods products and services	A more convenient, less noisy horse-driven carriage	Animal-powered vehicles → automobiles	Relevant
Processes production or delivery	A better organised, more efficient assembly line	Automation of certain tasks at an assembly line	Could be relevant in some cases
Organisations internal structure: units and their connections; behaviour and rules, routines, management and financial methods, business models guiding behaviour/ operations	A reorganised (better managed, more productive) firm	Workshop → factory; Fordist mass production → lean production; R&D units of large firms (19th century)	Relevant, with some amendment; besides business organisations, several other types, including 'hybrid' ones need to be considered

Disentangle different units of analysis when studying SI (2)

Subject of change	Incremental change	Radical change(s)	Relevance for SI
Markets	Better connected regional markets in a given national economy	New markets discovered and 'conquered' to obtain inputs and sell outputs (Far East, Americas, Africa, ...)	Relevant, with crucial amendments: how to serve the previously unmet needs of people, what other changes are needed?
Technology systems	More efficient electric lighting systems	Gas lighting → electric lighting; manual household devices → electric ones	Relevant if re-interpreted as a set of socially, organisationally, and economically interconnected social innovations
Techno-economic paradigms	A given paradigm becomes more efficient, more widely accepted due to various types of improvements	Shift from a certain paradigm to a new one	Could be a relevant starting point to refine the notion of "disruptive social innovations" (Nicholls et al., 2015)

Further observations and caveats

Difficult to establish the degree of novelty of a given social innovation

New to a certain community, region, country or the world?

To what extent is it important? Usually intellectual property rights are not an issue for social innovators

Yet, social status – being inventive and obtaining recognition for that – might play an important role: could give impetus to initiate or be involved in certain social innovation projects

It is an empirical question to establish the role of prestige (respect and thus higher social status of social innovators) in SI endeavours

Further observations and caveats (2)

Difficult to identify whether a given social innovation is an 'isolated' new solution or an element in a set of interconnected social innovations, affecting several groups of people or an entire community at the same time, occasionally leading to the emergence of new social structures, norms, institutions, behaviour, value systems and practices at a higher level of aggregation (sub-national regions, nations or supra-national regions [for example, the European Union])

Techno-economic paradigms: could be a useful guiding principle in SI analyses, namely the interconnectedness of technological, organisational and business model innovations, together with the emergence of a new, widely accepted 'common sense'

Does innovation always bring a positive change?

„acceptable progressive solutions for a whole range of problems” (Moulaert et al., 2013)

„changes (...) that enhance its collective power resources and improve its economic and social performance” (Heiskala, 2007)

Similarly, profit-seeking innovations are supposed to lead to improvement in quality of goods, productivity and performance of firms, health conditions of people, use of inputs and so forth

Does innovation always bring a positive change? (2)

Yet, there could be undesirable consequences of innovation, including SI

Some discussions in the literature on these issues since the 1980s

Innovation – But For Whose Benefit, For What Purpose? (Hull and Kaghan, 2000)

Lock-ins (e.g. QWERTY **vs.** other keyboards; Betamax **vs.** VHS)

‘Destructive creation’ (Calvano, 2007; Soete, 2013)

Does innovation always bring a positive change? (3)

SI might also have its 'dark side' (Nicholls et al., 2015):

- no society is homogenous, not even those members of it, who are marginalised and disempowered: they still have their own values and views, and thus might perceive the same change process and its effects in different ways
- a certain measure/ solution that improves the situation of some groups can, in fact, affect other groups negatively – and not because they perceive in that way, but as an actual ('objectively measurable') impact

Function of SI

“(...) the function [of a national innovation system, NSI] is to contribute to economic performance on the basis of processes of creation and diffusion of knowledge. This corresponds to the normative focus of those who pioneered the NSI-concept.” (Lundvall, 2007b: 15)

Refine the definition of SI: a positive impact could be stated as a function (the main objective) of social innovation – instead of assuming (expressing) favourable change in the definition itself
see the CrESSI definition

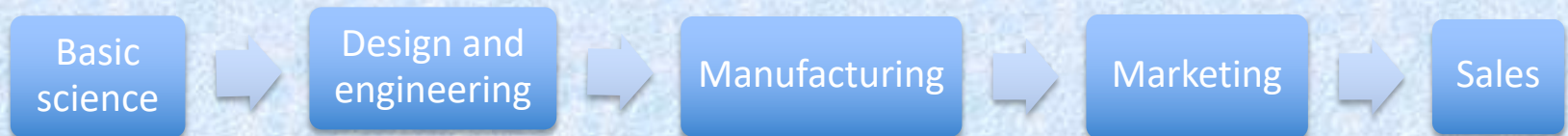
“There is no single model of the innovation process: enterprises can differ very significantly in their approaches to innovation.” (Smith, 2002)

MODELS OF BUSINESS INNOVATION

Models of innovation

Linear models

science-push: basic research is the main source of innovation



market-pull: demand is the main source of innovation



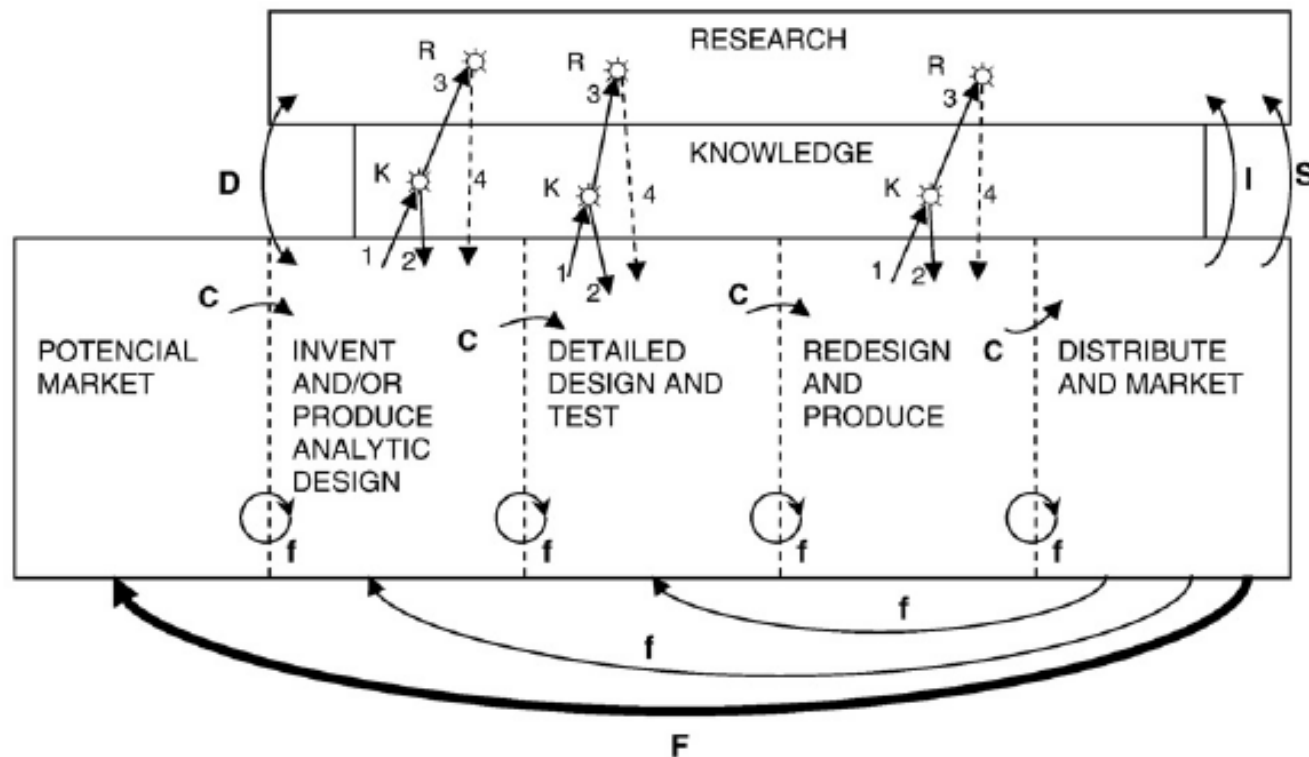
A schematic view of innovation: identifies stages, casual links

Models of innovation (2)

Systemic (or: networked) models

- 'chain-linked' model
- 'multi-channel interactive learning model'

Focussing devices



Chain-linked model showing flow paths of information and cooperation.

Symbols on arrows: **C** = central-chain-of-innovation; **f** = feedback loops; **F** = particularly important feedback.

K-R: Links through knowledge to research and return paths. If problems solved at node **K**, link 3 to **R** not activated. Return from research (link 4) is problematic - therefore dashed line.

D: Direct link to and from research from problems in invention and design.

I: Support of scientific research by instruments, machines, tools, and procedures of technology.

S: Support of research in sciences underlying product area to gain information directly and by monitoring outside work. The information obtained may apply anywhere along the chain.

Fig. 2. The chain-linked model. Source: Kline and Rosenberg (1986), [10].

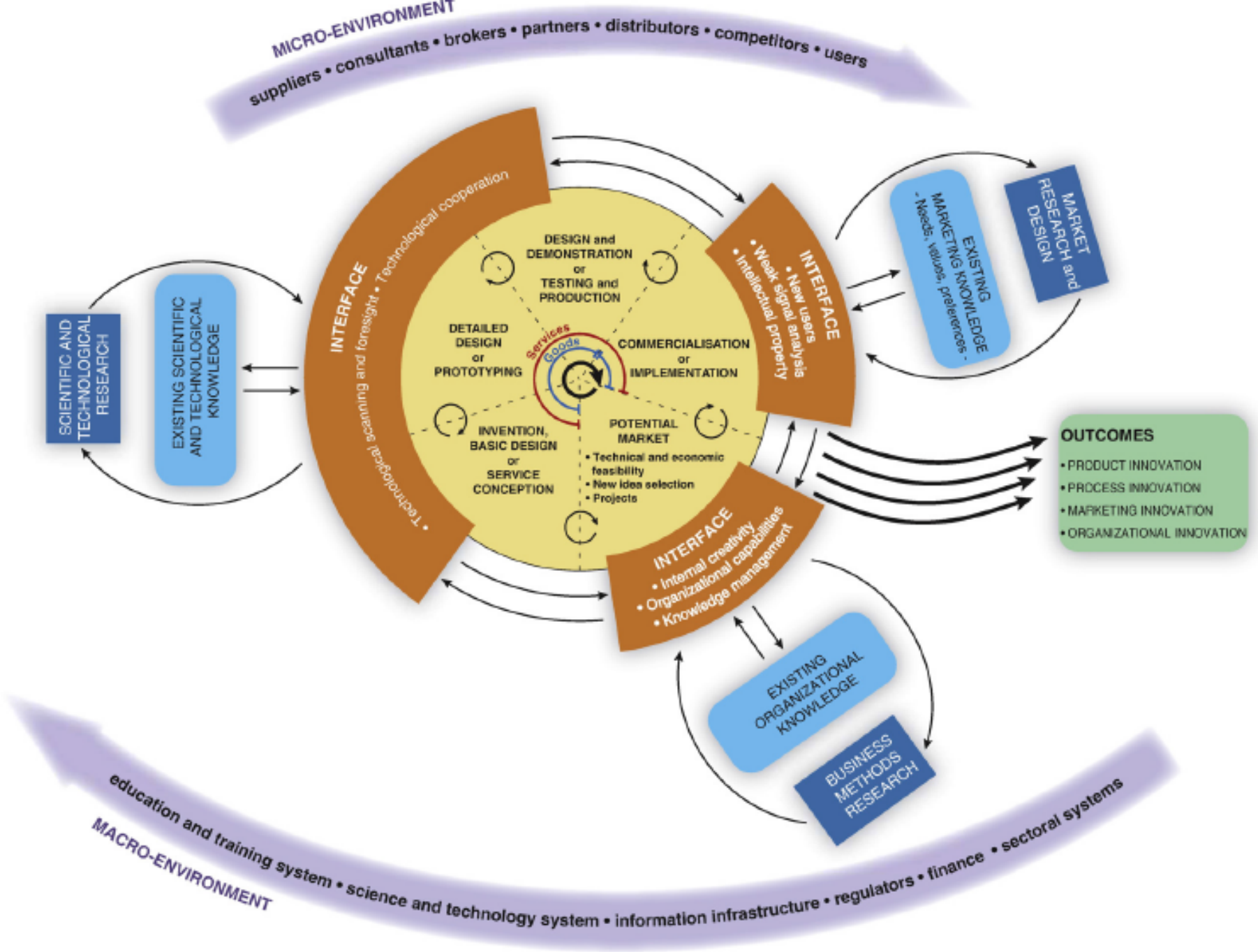


Fig. 3. The multi-channel interactive learning model. Source: J. Caraça et al. (2006), [1] and text.

Innovation processes: an evolutionary view

Cumulative, path-dependent, evolutionary process
(variety generation; selection)

Different types (S&T and practical) and forms of knowledge
(codified and tacit) are required, stemming from various
sources, possessed by a diverse set of actors

Learning capabilities are key

Co-operation among actors (knowledge flows, mutual benefits)

Selection mechanisms (processes)

Diffusion: innovations are tailored to new contexts
⇒ 'scaling up' is a somewhat misleading notion

Relevance for analysing SIs

Models of innovation

Social innovations mobilise many different types of actors, who generate and exploit a wide variety of knowledge for various purposes

⇒ *the multi-channel interactive learning model of innovation* seems to be the most relevant to analyse these processes [e.g. Kiútprogram, CrESSI]

Business innovations: the market selects among business innovation attempts

Social innovations: much more complex selection process; more actors play a role, and thus bring their own assessment (values) into play
social innovators; beneficiaries; policy-makers; politicians;
other potential sponsors; and to some extent the media and other opinion-leaders

INNOVATION SYSTEMS

Innovation systems – social innovation

Innovation systems: a widely used notion, but no strict, generally accepted definition

boundaries, actors, and their interactions: depends on the questions and units (level) of analysis

The systems approach could be a useful ‘focusing device’ (Lundvall, 2007a: 98-99); it could

- help organising and focussing the analysis of social innovations
- explain what and how has happened
- offer a sound basis for drawing policy proposals, as well as recommendations for social innovators for effective actions

The functions of innovation systems (Bergek et al., 2005, 2008, 2010; Edquist, 2005, 2011) can be reinterpreted for analysing social innovations

Evolution of innovation systems

Changes at various levels

- actors (their routines, strategies, ...)
- knowledge bases (or knowledge infrastructures)
- technological paradigms and trajectories, (or 'search and problem solving heuristics', 'technological guideposts', 'dominant design', ...)
- sub-systems (e.g. R&D performers; STI policy governance sub-systems; financial, management, legal, IPR, S&T information and other service providers specialising in meeting the needs of innovators ...)
- institutions (legally binding and voluntarily set regulations and codes of conduct, unwritten rules of the game, commonly respected norms, ...)
- functions
- ...

Two types of dynamics in economic analyses

	Continuous adaptation (learning, gradual improvements/ fine-tuning)	Transition
Products	Improved manual (mechanical) typewriters	Mechanical → electric typewriters → PCs, laptops → tablets
Firms	Continuous adaptation to the external environment, fine-tuning of practices, methods, structures (demand in a market economy; new control mechanisms and incentives in a planned economy)	Change in ownership (nationalisation; or privatisation) Fundamental changes in products/ technologies/ markets (IBM, Nokia, Toyota, ...)
Economic sector	Entry/ exit of firms Expansion or contraction of the sector (without radical changes in products and technologies)	Existing sectors shift to a new principal product (analogue → digital camera) Emergence of entirely new sectors to exploit new patterns in division of labour (preparation and preservation of food by households → food industry), and/ or new technologies and business models (chemicals, pharmaceuticals, steel, automotive, electronics, ...)
National economy	Evolution of capitalism Economic reforms in a planned economy	Feudal → capitalist economy Planned → market economy

Systems approach – social innovation

Can be a relevant focussing device when analysing SI

Helps identifying

- the level(s) of change
- types of dynamics

ECONOMICS PARADIGMS – SOCIAL INNOVATION

Economics paradigms – social innovation

Neo-classical economics cannot accommodate social innovations

- the major goal is not optimisation in a strict economic sense
- social innovators do face uncertainty, too, not only calculable risks
- dynamic aspects are crucial
 - changes in the environment, in which social innovations take place
 - to induce this change is among the major goals of social innovation
- various types of changes – economic, technological, organisational, social (e.g. structural, behavioural) and political – are endogenous from the point of view of social innovations, and co-evolve. Policy governance sub-systems and the level of governance need to be considered, too.
- social innovators are neither ‘representative agents’, nor do they act on their own
 - have their own specific features, partly shaped by the context, in which they operate
 - need to interact with several other actors, and often form (formal or informal) networks to do so

Economics paradigms – social innovation (2)

Mainstream economics does not provide an adequate theoretical framework, either

Evolutionary economics offers some hints that can be relevant when analysing social innovations

- dynamics
- uncertainty
- heterogeneity, generating diversity
- systemic view (actors, interactions, 'rules of the game')
- co-evolution of various types of changes
- differences among contexts (**vs.** an ahistorical, highly abstract approach)

MEASUREMENT OF INNOVATION

Selection of indicators

Systematic efforts to measure RTDI since the 1960s

Widely used guidelines: Frascati (R&D), TBP, Oslo (innovation), Patents, and Canberra (HR) Manuals

Yet, it is not straightforward to find the most appropriate way to assess R&D and innovation performance

R&D: a complex, multifaceted process $\Rightarrow$ it cannot be sufficiently characterised by 2-3 indicators

That applies to innovation *a fortiori*

The choice of indicators: an important decision; reflects the explicit or implicit views of those experts and policy-makers who have chosen them.

$\Rightarrow$ Indicators are 'subjective' in that respect, but perceived as 'objective' (expressed in numbers)

Measurement practices

Measurement of innovation activities **vs.** performance

No proper, direct measure of innovation performance

European Innovation Scoreboard (EIS)

- provides data for international comparison
- covers a relatively long period
- a strong bias towards R&D-based innovation
- focuses on inputs and activities
- pros and cons of using the Summary Innovation Index **vs.** individual indicators

Crude proxies

- the share of innovative enterprises
- turnover from innovation
- labour productivity

The relevance of EIS indicators

The EIS indicators could be useful in settings where the dominant mode of innovation is the ST mode (R&D-based)

In practice both the ST and DUI modes of innovation [learning by doing, using and interacting] are fairly important

The SII could be low for an innovation system with

- a low level of innovation activities altogether, or
- a low level of R&D-based innovation activities (while other types of innovations are abundant)

Social innovations can certainly rely on R&D-based technological innovations

Yet, their essence tends to be organisational, managerial and behavioural changes

The EIS indicators do not capture these types of changes

SI: Measurement issues

Be aware of the differences between measuring

- (a) social innovation activities (efforts) themselves
- (b) the framework conditions (pre-requisites, available inputs, skills, norms, values, behavioural patterns, etc.) of being socially innovative, and
- (c) the economic, societal or environmental impacts of social innovations

BUSINESS INNOVATIONS TO SUPPORT SOCIAL INNOVATIONS

A simple distinction

The underlying objectives of a given innovation:
addressing a societal challenge **vs.** making profits

The nature of innovation itself (or the subject of change):

- goods (products and services)
- production processes
- organisational set ups and managerial methods
- business models
- financial and marketing methods
- cognitive frames
- institutions
- networks
- power structures

Social housing

Various types of innovations are needed to tackle the challenge of providing affordable housing at an acceptable level of comfort, hygiene and safety for those in need

Social housing as a social innovation and all the necessary business innovations (technological, organisational, business model, financial, and market innovations) have co-evolved over time
⇒ shaped each other

Social housing (2)

Building a large number of flats for social housing required

- new, cheaper, mass-produced building materials (incl. bricks, floor, tiles, windows, doors, fittings for kitchens, bathrooms and toilets)
- new business models for companies producing building materials
- new modes of logistics to transport building materials in huge volumes
- new approaches when designing blocks of flats for social housing
- modified or new methods, tools and equipment to build these blocks of flats
- a large number of semi-skilled workers, in some cases that include would-be tenants
- new types of mass-produced furniture, lamps, kitchen ware, carpets, curtains, etc. to furnish these flats
- setting up new companies or some established companies introducing and following new business models

Social housing (3)

Actual business innovations necessitated by social housing

(Schimpf et al., forthcoming):

- pax bricks; new types of glass, iron and concrete as building materials
- new processes and building techniques (e.g. steel casting, iron trellis construction, glass columns)
- the introduction of the co-operative working methods at the construction sites
- new, more efficient heating technologies
- improved infrastructure at various phases of social housing, incl. the broad-scale electrification allowing the widespread diffusion of electronic household devices after WWII
- the adoption and adaptation of a set of new technologies originally developed for industrial buildings
- new organisations (for self-help, as well as those offering technical expertise and advice)
- the new concepts of 'house with one wall' and 'core house'
- new layout for the flats in different phases and different models of social housing
- the so-called reform furniture
- the emergence of new 'techno structures'
- new funding modes

Further examples: business innovations are key for successful social innovations

Fresh water supply (Schimpf and Ziegler, forthcoming)

Smart cities (Trencher, 2018)

Technologically assisted independent living for elderly in Scotland (Kinder, 2010)

ICT-enabled social innovation (Alijani and Wintjes, 2017; MloIR project)

Sustainability transitions (Wolfram, 2016)

The hygienic transition from cesspools to integrated sewer systems (Geels and Kemp, 2007)

STI POLICY RATIONALES DERIVED FROM ECONOMICS PARADIGMS

The market failure argument

A strong intellectual property rights (IPR) regime is needed to induce profit-seeking innovations

This logic does not provide a sound basis for devising effective policies to promote social innovation

Gaining the recognition of being a creative social innovator is likely to be a stronger driver than protecting IPR

Policies should rather promote the dissemination and exploitation of knowledge to foster social innovation than constrain these processes

The systemic failure concept

This way of thinking can be extended to social innovation without any theoretical constraint

Yet, system failures cannot be identified easily

It is a demanding and thus time-consuming task to establish

- what elements of an innovation system are missing or fledgling
- what types of connections/ interactions are missing, weak or inappropriate
- what institutions ('rules of the game') hamper innovation processes

Systemic failures: their relevance for SI

Failures hampering business innovation	Relevance for analysing social innovation
<i>Evolutionary failures</i> • generation of technological opportunities • learning by firms (accumulation of capabilities) • lock-in in inferior technology (competence trap), trade-offs ○ exploration vs. exploitation (current vs. future profits) ○ variety generation vs. selection ○ tight IPR vs. exploration of new approaches/ diverse competence base	Not directly relevant, but could be used as a source of inspiration, e.g. as failures to generate opportunities for social innovation, learning by social innovation actors.

Systemic failures: their relevance for SI

Failures hampering business innovation	Relevance for analysing social innovation
<i>System failures (problems)</i> • missing or weak elements ('nodes', actors) • missing, weak, or inappropriate connections among the actors • transition (system dynamics)	Directly relevant (with minor adjustments)
<i>Policy failures</i> • weak learning (e.g. from previous practice, interactions with other actors, and good practices) • inflexibility in implementation • lack of understanding of sectoral characteristics • poor (or no) vision-building • ineffective co-ordination of policies	Directly relevant

Source: Types of system failures are identified by Malerba (2009)

Creating new opportunities, addressing societal challenges, promoting transformative change

Forward-looking approaches, going beyond correcting failures, stressing the importance of new roles for STI policies

Highly relevant for social innovation without any theoretical constraint

It is not a trivial task to

- change the mindset of policy-makers and other stakeholders
- devise new policy tools
- implement these new policies
- monitor implementation
- evaluate impacts

CONCLUSIONS

Diversity

Both business and social innovations are cumulative, path-dependent, evolutionary processes draw on different types (S&T and practical) and forms (codified and tacit), stemming from various sources (organised and systematic R&D activities, other types of search processes, e.g. those 'informed' by practitioners)

Diversity is, therefore, a key notion

Analysts and decision-makers should be aware of the *diversity of social innovations* in terms of their nature, drivers, objectives, actors, and process characteristics

Diffusion

‘Scaling up’: disregards the crucial importance of context

What works well in context A, can only work in context B if that new solution is adapted to that particular context (skills and knowledge of social innovators, values and norms of those people whose problems are to be addressed, intellectual and other resources available, the formal and informal rules of the game, etc.)

Diffusion is a more appropriate term for SIs, too

Diffusion of SI should be a major concern for SI policy-makers (and analysts), paying close attention to the changing features of SIs while being diffused

Dichotomy

Reconsider the widely used dichotomy of social **vs.** technological innovation

Understand social innovation as a co-evolutionary process of social innovation and all the necessary business innovations
relevant for analysts, SI practitioners, and SI policy-makers

SI as part of STI policies

SI needs to be considered by STI policy-makers, too

STI policy-makers need to pay more attention to

- (a) the interactions between business and social innovations
- (b) “frugal innovation”, which aims at solutions for poor customers
- (c) inclusive innovation, aimed at inclusive economic growth and involving various stakeholders in the innovation processes, thereby mobilising a diverse set of knowledge and experience

A new rationale for STI policy-making (grand challenges, transformative changes, creation of new opportunities) ⇒

- could be a useful starting point for SI policy-making
- might make it easier to accept that STI policies should consider SI as a legitimate “target”

Issues for further discussions

A systematic comparison of SI definitions

Recent literature reviews

Taxonomies of SI (e.g. by the type and degree of participation, Amanatidou et al., 2018)

Comparing social innovation and other types of innovation (Rehfeld and Trestriep, 2017)

...

Thank you!

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Further notions (with many uses, definitions; debates among authors)

Frugal innovation: serving people with little means

Responsible research and innovation

a transparent, interactive process by which societal actors and innovators become mutually responsive to each other with a view to the (ethical) acceptability, sustainability and societal desirability of the innovation process and its marketable products in order to allow a proper embedding of scientific and technological advances in our society

Further notions (with many uses, definitions; debates among authors)

Inclusive innovations

- *process*: including disadvantaged groups in production
- *outcome*: meeting previously unmet demand or need
- systems of *production and delivery*: integration of different market and non-market mechanisms
- *inclusion in the innovation system*: including marginalised knowledge systems and practices in the innovation process

“Sustainable innovations”, should be: innovation for sustainable development