

The technological innovation perspective

Dr. Matthias Weber

Head of Center

Center for Innovation Systems & Policy

Combining social innovation and technological development:

A holistic innovation process!?

What makes innovation „social“ or „technological“?

- The nature of „social“ innovation: focus on
 - Social means/practices, and/or
 - Social purpose/ends

➔ *Can „social innovation“ claim any exclusivity in these regards?*

- The „technological“ nature of innovation

➔ *How much innovation is there without technology?*

- Towards a new holistic innovation paradigm

➔ *What makes up this new paradigm?*

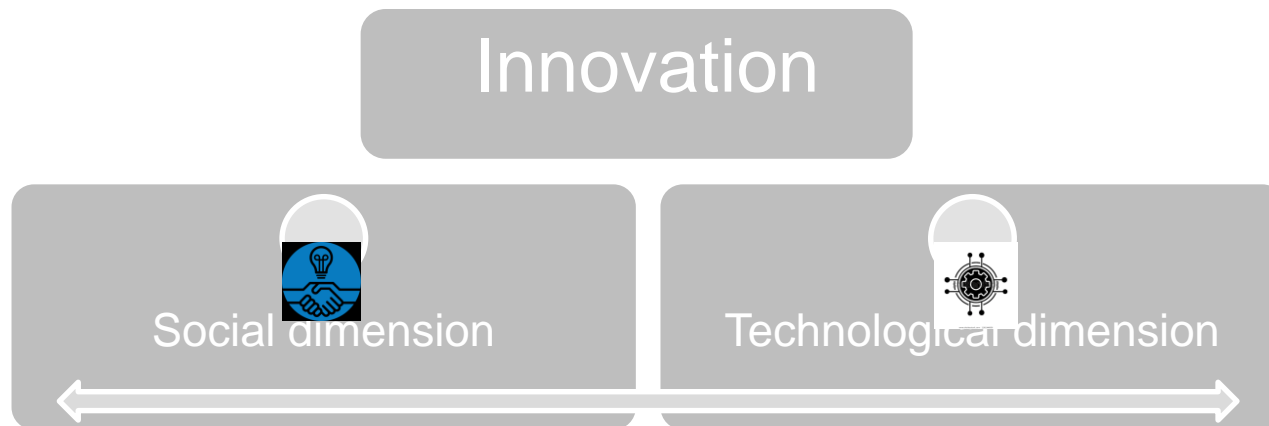
➔ *What are the contributions of technological and social innovation dimensions?*

The social „means“ and „ends“ of innovation

- **Economics of innovation/innovation systems**
 - Innovation systems research stresses the organisational and institutional aspects of innovation (Lundvall 1992)
 - With the „normative/strategic turn“ in innovation policy research (e.g. mission-oriented innovation policy), more attention is paid to various societal dimensions (e.g. SDGs) of innovation (Weber/Rohracher 2012)
 - Service innovation literature has addressed the non-tangible and non-technological nature of innovation (Rubalcaba et al. 2013)
 - Disruptive innovation and innovation ecosystems research stress the demand side of innovation (Edler/Georghiou 2007)
- **Management studies**
 - Have been dealing for decades with the organisational dimension of innovation (Henderson/Clark 1990)
 - Open processes of innovation/user involvement have been a long-standing issue (Chesbrough 2003)
- **Social Shaping of Technology/STS**
 - Has been stressing for decades that technology is socially shaped (Mackenzie/Wajcman 1985)
 - Has ironed out the distinction between the „social“ and the „technical“ (Latour 1996)
 - Has paid a lot of attention to politics and power in shaping technology (Williams/Edge 1996)
- **Transitions Research**
 - Addressed matters of socio-technical transformation with a clear societal ambition (Geels/Schot 2008)

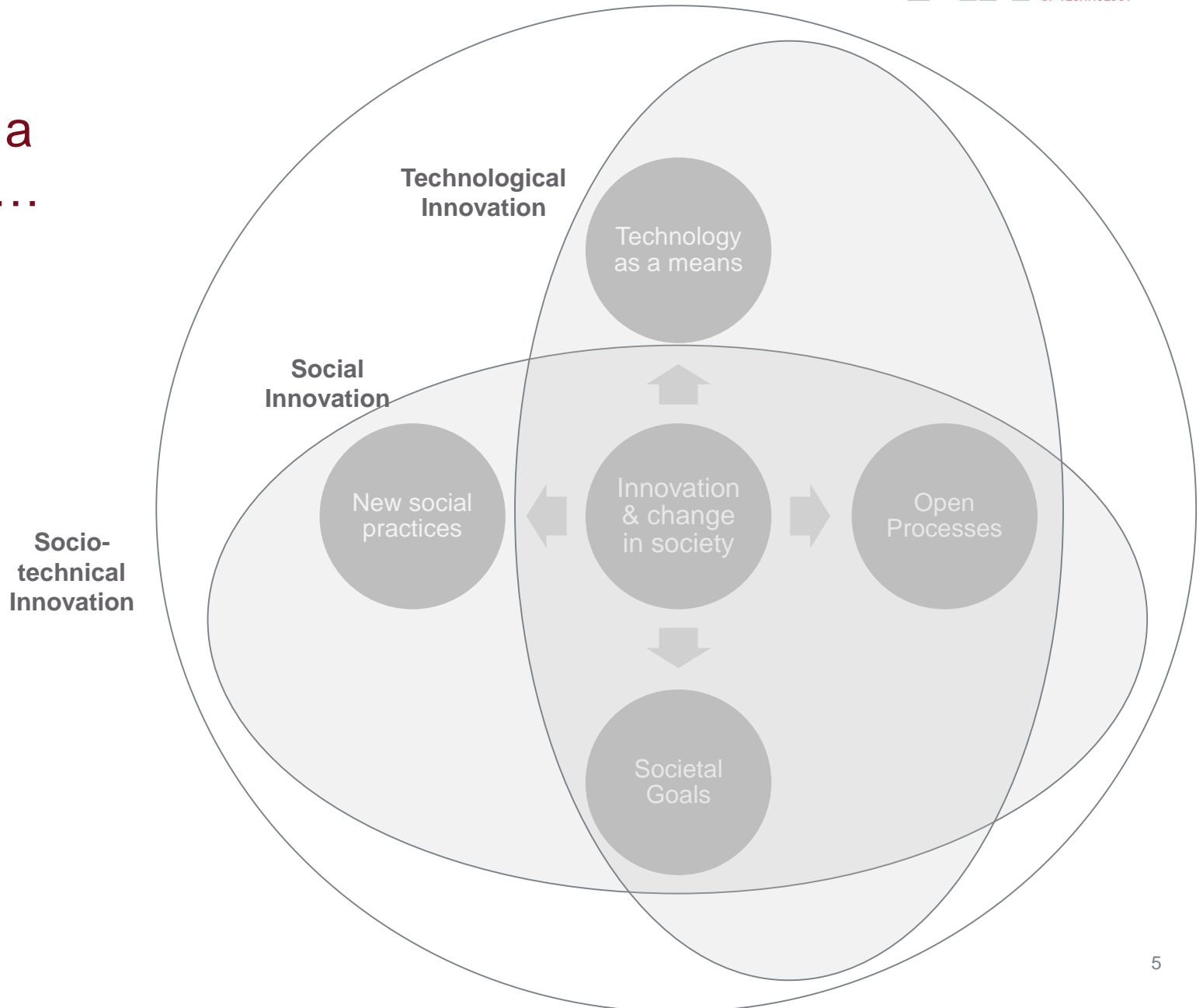
Are there purely „social“ or „technological“ innovations?

- SI-DRIVE project studied >1000 „social“ innovations in various fields
 - ~90% of these innovations were rooted in new technology (e.g. health, mobility, energy, environment, etc.) and tied to new social practices



- Most innovations have a social dimension
- Most innovations have a technological dimension
- Most innovations are socio-technical in nature

Moving beyond a triangle...



What's left for a new paradigm?

- Don't ignore the important role of technology for innovation
 - Technology as opportunity and enabler of socio-technical innovation and change
 - The pace of technological innovation is sometime „overwhelming“
- There is hardly such thing as purely „social“ or „technological“ innovation
 - There is not much point in opposing technological and social innovation
 - Most innovations are socio-technical in nature: co-evolution of social, technological, organisational and institutional dimensions of innovation
- More emphasis on „directionality“ in ALL areas of innovation research
 - Embedding of social as well as technological dimensions into debates about the societal purpose of innovation
 - The normative/strategic turn in innovation research affects all types of innovation
- More emphasis on earlier and bottom-up participation in innovation processes
 - Complementing a commercial by a societal logic driving socio-technical change

Some final suggestions

- Q1: Social innovation research cannot claim any exclusivity with regard to considering social means and ends in innovation
 - SI research adds specific and important features and mechanisms to six decades of research on innovation in society

- Q2: Technology remains a major driving force and enabler of innovation
 - The crux is with the embedding of technology into societal goals and ambitions

- Q3: We need to advance our understanding of the social dimension of innovation and learn how to strengthen it in practice
 - Normative/strategic turn, directionality of innovation
 - Integration of social and technological elements from the outset
 - Bottom-up participation of society in innovation

- ➔ Rather than chasing the ‚phantom‘ of technological innovation, the social innovation community should engage with it!