

RETHINKING INNOVATION: SOCIAL INNOVATION AS IMPORTANT PART OF A NEW INNOVATION PARADIGM

The concept of innovation has become more and more important for societies to cope with the great societal challenges, while technological innovation encounters limitations in resolving them. To understand the variety and diversity of innovations in society and to cope with the challenges we need a new understanding of innovation focusing on social innovation and the capacity of the whole society.

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INTRODUCTION

Although there is widespread recognition of the need for innovation and a long history of academic debate, there is no clear understanding of how innovation leads to a sustainable and inclusive society. “To find a way to bring together the triple objectives of smart innovation-led growth, inclusion and sustainability, we must first answer the critical question of how to direct innovation to solve the pressing global challenges of our time” [1, p. 2]. For most of the challenges summarised in the Sustainable Development Goals of the UN there are no pure technological innovations available. To cope with the great societal challenges a new understanding of innovation focusing on social innovation and the innovation capacity of the whole society is indispensable. Against this background, the article traces the emergence of a New Innovation Paradigm as a basic condition for a mission-oriented innovation policy.

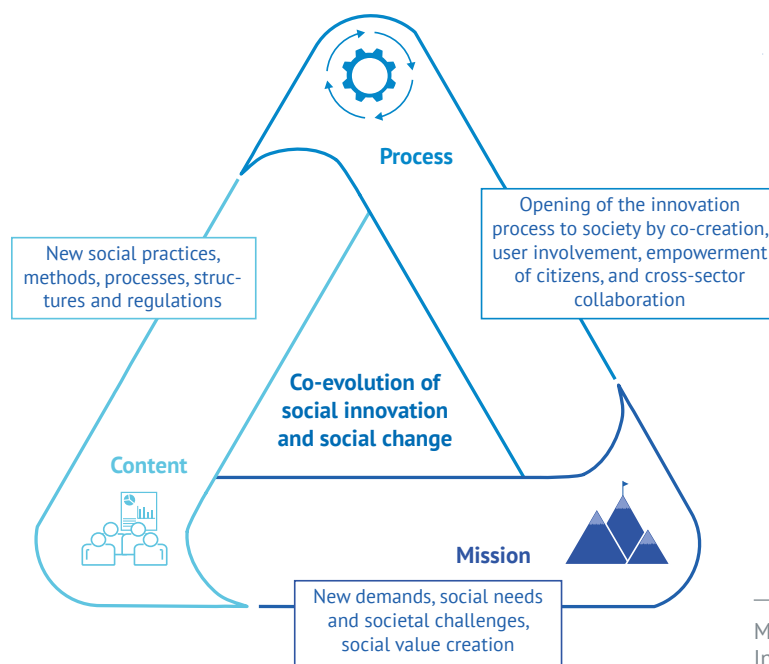
SCIENCE, THE ENDLESS FRONTIERS

The idea that innovation should help societies to cope with societal challenges and lead to growth and social welfare formed the starting point of modern innovation policy. More than seventy years ago, Vannevar Bush, in his report to President Roosevelt, directed the pioneering spirit of the US towards exploring the “endless frontiers” of natural science research, hoping that this would promote social welfare: *“The Government should accept new responsibilities for promoting the flow of new scientific knowledge and the development of scientific talent in our youth. These responsibilities are the proper concern of the Government, for they vitally affect our health, our jobs, and our national security. It is in keeping*

also with basic United States policy that the Government should foster the opening of new frontiers and this is the modern way to do it” [2, para. 17].

These ideas were strongly connected with Schumpeter's Economic Theory in which innovation plays an important role for understanding the dynamics of the economic system. According to this work, economic development takes place as a permanent process of ‘creative destruction’. What propels this dynamic, the impetus, and origin of economic fluctuation, is innovation in the sense of the ‘execution of new combinations’, of ‘establishing a new production function’. Inventions become innovations if they successfully take hold on the market. Introducing and realising innovations is considered the actual work and function of the entrepreneur. Schumpeter focuses not only on technical innovation, but also distinguishes between product-related, procedural, and organisational innovations, using new resources, and tapping new markets. Moreover, he underscores the necessity of social innovation occurring in tandem in both the economic arena as well as in culture, politics and a society's way of life in order to guarantee the economic efficacy of technological innovations.

Influenced by the works of Schumpeter, the concept of innovation was increasingly reduced to technological innovations. Remarks on social innovation in literature after Schumpeter are scarce and marginal. Innovation research in the social sciences has been dedicated, by contrast, primarily to the relevance of innovation's social framework conditions. The central focus is on the social preconditions and influencing factors for (predominantly) technological innovations, the correlation between the technological and the social, between technological and social innovations, between innovations and societal development, the



institutional context and the interaction between those involved in the process of innovation. Innovation research in the social sciences has made great contributions to the development and spread of an enlightened sociological understanding of innovation. Its interpretative possibilities have become widely and ‘successfully’ practical. However, the belief in the central role of science and technologies is still the basis for the contemporary innovation policies and large areas of innovation research.

THE EMERGENCE OF A NEW INNOVATION PARADIGM

In recent years, there has been a growing realisation that innovation policy is falling short of its potential to address the multiple globally derived challenges that affect contemporary and future societies. However, attempts to address these challenges through innovation demand an understanding of ‘the new nature of innovation’, including the changing role of technologies [3]. These challenges are not only grand in scope and scale, but also complex, made up of wicked problems. To better understand the variety and diversity of innovations in society and to cope with the great societal challenges we need a broader concept of innovation or a New Innovation Paradigm [4].

In that spirit, international innovation research provides numerous indications of a fundamental shift in the innovation paradigm. New economic sectors and industries increasingly determine the look of the economy and society and are changing the modes of production and innovation. Challenges such as social inclusion or climate change entail social demands and action, for which traditional ways, in which markets, states and civil society responded so far, are no

longer sufficient. At the same time, technological innovation encounters limitations when it comes to resolving pressing societal challenges.

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This New Innovation Paradigm is characterised by three major aspects, which are closely interlinked and benefit from each other:

1. its orientation towards the major societal challenges which find practical expression in a mission-oriented innovation policy,
2. a stronger recognition of non-technological innovations geared at changing social practices, and
3. innovation processes opening up to society.

1. ORIENTATION TOWARDS THE MAJOR SOCIETAL CHALLENGES

Since the beginning of the 1990s, innovation policy in the European Union is more and more oriented to the major societal challenges. For many years, innovation policy had been directed to technological innovation that promotes

economic growth and increases the competitiveness of the national economy. However, in recent years large parts of the European research programmes as well as the German Hightech Strategy have been structured in accordance with the major societal challenges. *“Mission-oriented policies can be defined as systemic public policies that draw on frontier knowledge to attain specific goals ... Missions provide a solution, an opportunity, and an approach to address the numerous challenges that people face in their daily lives. Whether that be to have clean air to breathe in congested cities, to live a healthy and independent life at all ages, to have access to digital technologies that improve public services, or to have better and cheaper treatment of diseases like cancer or obesity that continue to affect billions of people across the globe. To engage research and innovation in meeting such challenges, a clear direction must be given, while also enabling bottom-up solutions”* [1, p. 4].

The SDGs of the UN constitute a more and more important point of reference and inspiration for a mission-oriented innovation policy building a collection of 17 global goals set by the United Nations General Assembly in 2015 for the year 2030. A closer look reveals the complexity and social embeddedness of these goals. For many of them pure technological solutions are not available. To meet the ambitious challenges expressed in the SDGs, we need a broader understanding of innovation beyond the traditional focus on Science and Technology.

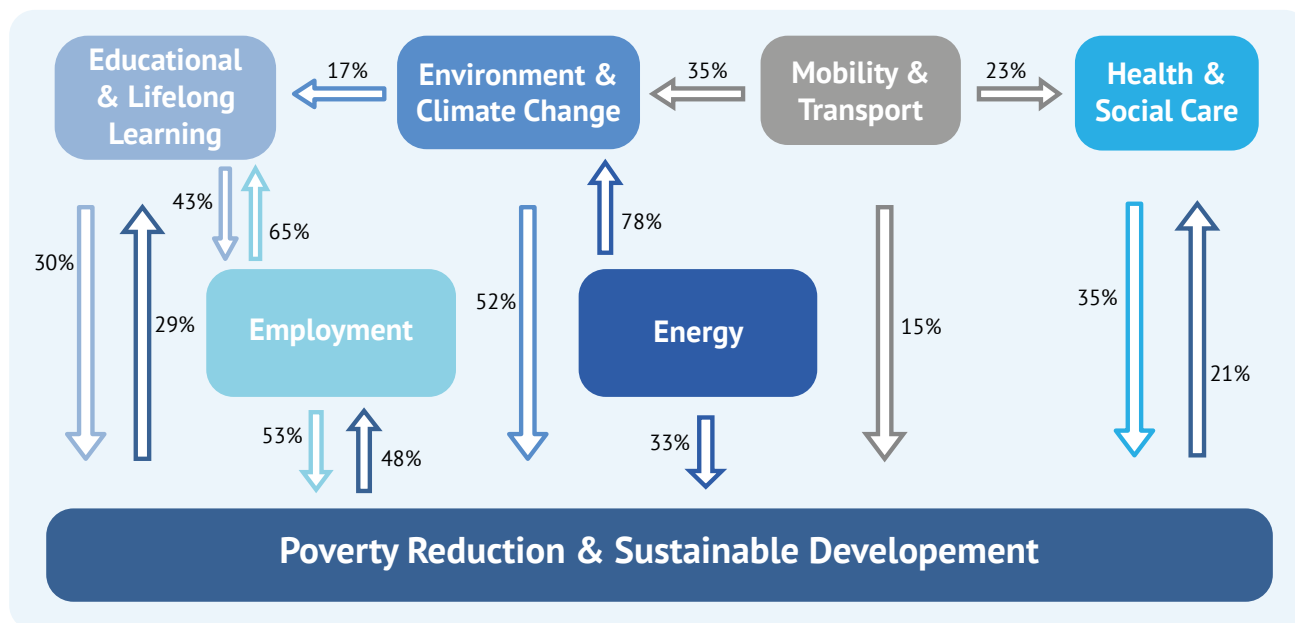
In the face of the depth and development of change in modern societies and the rising dysfunction in established practice, social innovations are gaining greater importance, also in terms of economic factors, over technological innovations. They are not only necessary, but can also contribute proactively to anticipated macro-trends, such as demographic developments or the effects of climate change to modify, or even transform, existing ways of life.

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The logo features the United Nations emblem on the left, followed by the text 'SUSTAINABLE DEVELOPMENT GOALS' in blue. The word 'GOALS' is significantly larger and has a colorful circular graphic integrated into the letter 'O'.





Social innovation related policy fields

2. FOCUS ON SOCIAL INNOVATION

Since the publication of the oft-cited Meadows report on the state of humanity at the Club of Rome [6], if not earlier, there has been discussion on the limits of permanent and exponential growth in a confined system and the considerable role technological development has played in this context. Explicitly assuming a non-oppositional stance towards technology, Meadows suggested that the use of technological measures did not solve the world's central problems, but tended to intensify them. Furthermore, he highlighted, that unforeseeable social side effects and new social problems were generally associated with even very useful new technologies and that no technical answers existed whatsoever for the most significant problems in the modern world. For solving these extensive "social changes", or rather "non-technological measures", were needed [5, p. 140].

This prompted a discussion regarding the necessity of a different way of life and a different economy, particularly in affluent industrial economies. Many governmental and nongovernmental organisations from around the world participated in this discussion in Rio de Janeiro, at the 1992 UN Conference on Environment and Development. Agenda 21, the key document that was adopted, laid out an agenda for a departure from a purely technology-driven growth dynamic. It also stated objectives for an alternative form of development that was ecologically, socially, and economically sustainable. In this context, the term social innovation consciously extends beyond the term reform that focuses primarily on action undertaken by the state. The latter are components of social innovations that can be seen on a political level as well as every other social arena where they are also increasingly called for and realized.

Similar to the European Commission, many governments of European Member States, other states (e.g. Australia, Canada, China, Colombia, New Zealand, USA) and UN Organisations, acknowledge social innovation as essential to ameliorate future innovation policies. The global mapping conducted as part of the SI-DRIVE project [6] uncovers countless approaches and successful initiatives that illustrate the strengths and potentials of social innovations in the manifold areas of social integration through education and poverty reduction, in establishing sustainable patterns of consumption, or in coping with demographic change. At the same time, social innovations are gaining in importance not only in relation to social integration and equal opportunities, but also in respect to the innovative ability and future sustainability of society as a whole.

3. INNOVATION PROCESSES OPENING UP TO SOCIETY

Moulaert et al. emphasize that social innovation means innovation in social relations: "As such we see the term as referring not just to particular actions, but also to the mobilization-participation process and to the outcome of actions which lead to improvements in social relations, structures of governance, greater collective empowerment, and so on" [7, p. 2]. With innovation processes opening up to society, companies, technical schools, and research institutes are no longer the only relevant agents in the process of innovation. Citizens and customers no longer serve as suppliers for information about their needs (as in traditional innovation management); they contribute to the process of developing new products to solve problems. Terms and

concepts such as open innovation, customer integration, and networks reflect individual aspects of this development. At the same time, innovation – based on economic development – becomes a general social phenomenon that increasingly influences and permeates every aspect of life [3].

Thus, social innovations need to mobilise citizens to take an active part in innovation processes and thereby enhance society's generic innovative capacity [8]. This requires new models of governance in favour of self-organisation and political participation, allowing sometimes unexpected results through the involvement of stakeholders. This also requires interplay between actors, their networks, policy makers, and the market on the one side, and processes in support of scaling-up and diffusion on the other. This shift in perspective towards social innovation directs the focus to the experimental shaping of social learning processes, to mechanisms of imitation, and hence, to non-linear, non-sequential forms of diffusion, institutionalisation and routines.

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CONCLUSION

To better understand the variety and diversity of innovations in society and to cope with the great societal challenges we need a broader concept of innovation or a New Innovation Paradigm. This is the foundation for a mission-oriented innovation policy exploiting the potential of social innovation and enhancing the innovation potential of the whole society. Just as the conditions to explore the potentials of the natural sciences and to make them usable for society were created through a systematic innovation policy in the middle of the last century, at the beginning of the 21st century we need just as great a pioneering spirit in search for new social practices that enable us to secure the future and allow people to live a richer and more fulfilled human life.

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