



“Gheorghe Asachi” Technical University of Iasi, Romania



Book Review

**THEORY AND PRACTICE ON INNOVATING FOR SUSTAINABLE
DEVELOPMENT**

Yoram Krozer

ISBN: 978-3-319-18636-8 (E-Book), 978-3-319-18635-1 (Print)
2016, Springer International Publishing
XI+195 pages

The innovation addressing sustainable development is a challenging issue, since it can include numerous problems in economic, environmental and social areas.

The author, Professor Yoram Krozer from Cartesius Institute, Institute for Sustainable Innovations of the Netherlands Technical Universities focuses on fostering a sustainable environment in the context of economic development by “doing things differently”. Policies are considered in relation to the mainstream neoclassic theory (focused mainly on prices), the evolutionary theory (about knowledge-related processes) and the behavioural theory (addressing social behaviour).

The book is structured in 13 chapters including also a subject index. Each chapter ends with a section dedicated to References.

The first chapter is in fact an Introduction in the subject of the book, since it covers valuable information about goals and terms, environmental debate, how to innovate for environment.

As in the first section, the second chapter deals with the analysis of statistical data about improvements of environmental quality fostering policies towards innovation-based income. Information from chapters 1 and 2 are discussed in the context of nine case studies which envisage innovators connected to sustainability, in areas such as: solar power, tourism, arts, sanitation technology.

One of the most interesting problems addressed by the author refers to the compatibility between income growth and environmental impact

correlated to sustainable innovation markets (how to decouple income growth and environmental impact), which is in fact the leading idea of the book. The subject on market of sustainable innovations is discussed in chapter 3., in terms of inducing innovations, demands for sustainable innovations, markets and impediments for sustainable innovations. The most remarkable development in this context refers to the need for environmental quality which induces the need for sustainable innovations associated to resources preservation, pollution prevention and control, sustainable and ethical consumption in the frame of smart policies. Therefore, the user is seen as a key actor and a discussion is developed by the author on this matter in chapter 4, taking into account the case of solar powered boats. It is highlighted the relevance of the relationship between the consumer –as potential innovator and the market for sustainable innovations, where from the consumer uses products and services. Therefore, the consumers’ initiatives/inventions as the main source of innovations support and are supported by stakeholders to overcome the barriers generated by costs and some deficiencies and imperfections of complex innovations (such as technologies).

An interesting discussion and analysis envisage the generation of innovations and knowledge for regional development. For this, the author selected the innovations in tourism as a case study (chapter 5), justified by the complexity of this activity, which involves the use of high-tech products and services, in particular for transport, information

and communication. The analysis shows that nongovernmental, tourism organizations were the most successful inventors, while experts and policy makers were the least successful. Therefore, there is a tacit knowledge at regional level, which is the source and support for sustainable innovations. The challenge is to transform these valuable skills into real achievements with the support of policymakers in terms of granting money with less formalities and more assistance than control, so as to improve the economic development of the region. Besides the above-mentioned areas where sustainable innovations can play a very relevant role, the author considers that arts services which combines the artists' and inventors' skills can also generate social benefits, by fostering cultural activities as a source of net income using environmental qualities. A particular case is the business plan for the European Capital of Culture, where social benefits can be generated since the artists are interested in using environmental qualities for cultural expression. This can be a way with potential rewards for artists. However, some care should be taken to avoid deficiencies caused by difference in perceptions of specialists and public.

A particular attention is given by the author (in chapter 7) to sanitation technologies, where sustainable innovation can solve numerous problems, most of them associated to costs. Considering the relevance of this service for social health and environmental quality, the author analyses three alternatives based on different policy criteria. Finally, the author concluded that the policy should enable communities to decide the best alternative for a sanitation technology network, based on a set of criteria, aiming at value creation, with pros and cons considerations.

An exciting issue about ethical consumers and producers is discussed in chapter 9, arising from the gap between consumers' preference for ethical consumption, which is sometimes inconsistent and deficient purchasing conditions, and suppliers who do not allow for sound assessment of their products in terms of functional qualities and ethical attributes. The conclusion is that the ethical consumption can grow if suppliers are interested and encouraged to innovate. This aspect can be correlated with another question, arising from the availability of public funders and private investors to foster sustainable innovators. The real context is described in chapter 10, as the innovators claim more subsidies to be successful, while the investors wish more challenging policies and tools for generating the frame and demand for sustainable innovations. Cooperative financing models for sustainable innovations are recommendable to reduce the potential risks for both innovators and investors.

The area of energy services for smart grid is addressed by author in chapter 11, in the context where the energy markets are assessed with regard to the rapidly increasing local energy initiatives. It is found again that the sustainable innovators on energy market can be promoted and encouraged in the particular frame of tax exemptions for energy production and consumption, able to generate a consistent policy for energy production and consumption and a transparent energy market. The problem of energy is analyzed in chapter 12 with focus on renewable energy business and policy relevant in the context of global energy demand and of the generation of new income and jobs, together with minimization of environmental impacts. The idea developed in this analysis is that the renewable energy business can be strengthened by a demand-driving policy, both in terms of costs effectiveness and regulatory tools for regional financing.

The author reserved a whole chapter for conclusions on sustainable innovations, which are very consistent and relevant in the perspective of increasing demands for income and the need for ensuring environmental quality. Sustainable innovations generate welfare, growth and should foster a fair distribution of wealth. However, it is remarked the unpredictable character of innovation success, as well as the relative role of innovation market and policies. Two key messages are expressed by the author. One is related to the demand of people for good environment which can be satisfied by a positive interlinkage between innovation-driven income and environmental quality. The other message addresses the driving factors for sustainable development, fostered by the diversity of innovators following private and social interests. The fundamental driving force in sustainable innovation is considered to be strongly linked to education, knowledge and stakeholders' interests.

The book is a very significant and welcome contribution in the area of sustainable development through innovation, since the author who has a large expertise in this context explained an argued the relevance of considering income growth and environmental quality together, in a mutual relationship, able to ensure social and economic progress, in a high qualify environment.

The work is a valuable source of information and learning for the specialists and readers from academic, economic, social, environmental fields, as stakeholders or policy makers.

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