

Chapter 20

Innovation and Knowledge Management for Sustainability: Theoretical Perspectives

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ABSTRACT

This chapter supports the argument that innovation is a special case of knowledge management; it is about knowledge creation. With economic profit as its driving force, innovation is mostly short term and commercial, feeding the question whether innovation really can be applied to ecological and social systems. The problem concerns the goal of innovation: what does it suppose to realize? In this chapter, we combine knowledge management (KM) and innovation concepts with sustainability and we argue that as long as the emphasis in innovation is on “profit” and not on “people” and “planet” (the three P’s of sustainability) we have no guiding mechanism for innovation, namely the existence of a sustainable future. In a sustainable perspective, innovation becomes an instrument that benefits society at large. In this chapter, we explore concepts behind issues of KM and innovation through literature review and we argue along three lines of thinking. First, we demonstrate that innovation is knowledge creation at an individual and collective level. Second, we argue that innovation should be a means and not a goal. Third, we offer a perspective to operationalize the relationship between knowledge, innovation and sustainability. Sustainability as an issue requires adaptation of human and social systems to ever-changing environments. This continuous need for change demands people to constantly develop and obtain new knowledge to realize the balance between system and environment. We conclude this chapter by introducing concepts on Knowledge of Sustainability (KoS) and Sustainability of Knowledge (SoK) that form the synthesis of our discussion, and we set the outline of a framework for sustainable innovation.

DOI: 10.4018/978-1-61350-165-8.ch020

INTRODUCTION

The debate about the value of innovation is not new. Beginning in the 80s and getting stronger in the 90s, the EU has continuously stimulated innovation. One might say, metaphorically, that innovation looks like a medicine that can cure almost all social, technical and economic ailments. (Kleinknecht, 1990; Nooteboom, 2003; 2008). Of course, continuous innovation is an illusion. Improvement is often possible, but realizing something new often also brings along “destruction” as we know from Schumpeter (1934). We therefore make a distinction in innovation as improvement and innovation as an ideology. When one argues that conservatism is the general mentality, or that our economic climate is too weak or that the entrepreneurial spirit has to be stimulated and then concludes that we have to put more effort in innovation, innovation is used as an ideology. Innovation as improvement is different, but has the assumption that one has goals in mind or knows the present shortcomings. We then have to answer questions like “which goals?” or “why changes and therefore destruction?” or “is innovation a common remedy?”

It should be obvious that an answer to the abovementioned questions cannot be given by one slogan. Innovation lends itself to a multitude of meanings. Often innovation is realized with the sole purpose of propelling economic growth. A broader orientation that looks at long term changes, for example with respect to ecological and social sustainability is missing if one focuses on this short term economic growth. This opens the debate to (1) mindlessness in innovation regarding its consequences, and (2) sustainability as an “answer” to address these consequences. The present basic attitude is primarily a profit orientation in which innovation leads to the development of *new* products, processes and services, and if they are available (supply), there will be a demand. Therefore, economic activity will increase and so will growth, which is - as

economists argue - favorable for us all. On the other hand, innovation is initially nearly always a continuation of the (successful) past. It does not come out of “the blue” and very often innovation destroys existing products and services and in this way seems to decrease economic strength (“creative destruction”). It seems that everyone knows what innovation is and that it simply has to be realized. We believe that this perception is at least incomplete, especially if one looks at innovation from a knowledge management and sustainability angle.

In this chapter, innovation will be considered as a special phase of knowledge management, or to be more precise, innovation is about knowledge creation and knowledge acceptance. Although we need a general definition of innovation, we will not dig into the many definitions of innovation. Many adhere to an interpretation of innovation as an instrument that leads to more (economic) growth. That is not our focus. As far as innovation is concerned, we want to show that the realization of “something new” can or perhaps should be related to an increasingly important issue that is relevant for humankind in general. We are talking about sustainability, the dynamic balance of a system - of whatever kind - and its environment. This complicated dynamic balance is not beyond innovation, it is the kernel of innovation and in realizing this balance we have to create knowledge. We have to innovate in order to make our social and natural system sustainable, not to make it endlessly grow. To our knowledge, no existing physical or biological system can grow endlessly. Utterly important for any discussion about innovation are two things: the presence of knowledge (of sustainability) and the creation of (new and sustainable) knowledge. One has to know facts, rules, practice and theories on the one hand. On the other hand, one must have the conviction that risks and uncertainties, which are implicit in any innovative activity, will be such that “something better” is realized. We will argue that the issue of sustainability requires a perspec-

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