

Sustainable entrepreneurship and innovation

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This paper aims to systematise existing conceptual approaches of sustainable entrepreneurship and to outline the role sustainable entrepreneurs can play for the implementation of innovations in the context of sustainable development. Based on a review of existing literature on ecopreneurship, social entrepreneurship and sustainable entrepreneurship the first section gives an overview of existing conceptual approaches of entrepreneurship in the context of sustainable development. Having a closer look on this context, the second section outlines the discussion about sustainable development and analyses the role of innovation for sustainable development by reviewing the relevant literature. Founded on this analysis the process of implementing sustainable development is defined as a multi innovation process. From this perspective the implementation of sustainable development is a problem of successful innovation management. Therefore, in the third section the promoter model – a model of innovation management – is suggested to identify the role of sustainable entrepreneurs for sustainable development. Promoters are – similarly to entrepreneurs – persons who actively foster innovation. In a fourth step the role of sustainable entrepreneurs for implementing sustainable development is compared to the role of promoters for successful innovation processes. The profiles of technological promoters, power promoters, process promoters and relationship promoters are applied to the concept of sustainable entrepreneurship. Finally, it is concluded that a concept of sustainable entrepreneurship should consider factors that provide an innovative environment and thus foster the appearance of promoters and facilitate entrepreneurial behaviour.

Existing conceptual approaches of ecopreneurship, social entrepreneurship and sustainable entrepreneurship

In the reviewed literature the terms ecopreneurship and environmental entrepreneurship are used synonymously meaning innovative behaviour of single actors or organisations operating in the private business sector which see environmental aspects as a core objective and competitive advantage. Ecopreneurs identify environmental innovations and their market opportunity and successfully implement these innovations resulting in new products or services (Lober 1998, 26; Pastakia 1998, 157; Petersen & Schaltegger 2002a, 13). Most authors do not restrict their definition of ecopreneurship to single actors such as founders of environmentally oriented organisations or environmental intrapreneurs who are operating within an existing organisation. Instead, most definitions also consider *ecopreneurial organisations*, i.e. organisations that behave ecopreneurial and foster ecopreneurs and environmental intrapreneurs. In addition most authors agree that ecopreneurship is about the implementation of innovations. In the following, existing conceptual approaches of ecopreneurship shall be discussed according to their main perspective and according to the way they treat innovation.¹

One category of authors views ecopreneurship as a matter of strategy (Schaltegger & Petersen 2000; Petersen & Schaltegger 2002a; Petersen & Schaltegger 2002b; Volery 2002; Azzone & Noci 1998; Isaak & Keck 1997; Isaak 1999, Lober 1998, Pastakia 1998, Farrow et al. 2000, Larson 2000, Welsh 1998). The contributions in this category have in common, that they assume that ecopreneurial activities provide a competitive advantage. Most contributions in this category highlight that a main characteristic of ecopreneurship is that ecopreneurs view environmental issues as one of their main business objectives (Azzone & Noci 1998, 99; Isaak 1999, 89; Schaltegger & Petersen 2000). Schaltegger & Petersen (2000, 12) define ecopreneurship as actors who recognise, create and make use of market opportunities arising from ecological innovations. In some degree all approaches of this category discuss factors that foster or hinder ecopreneurship (Isaak 1999, pp. 107; Petersen & Schaltegger 2002a, 15; Azzone & Noci 1998, pp. 108 Lober 1998, pp. 27).

A second group of authors takes a cognitive approach asking how the identification of environmental opportunities can be encouraged in order to support environmental intrapreneurship (Krueger 1998; Hostager et al. 1998) or which role environmental commitment and attitudes play in ecopreneurship

¹ As this paper focuses on case studies and conceptual approaches which contribute to the scientific discussion, it does not consider practical *how-to-do-guides* on ecopreneurship or (later on) social entrepreneurship such as Bennet (1991) or Brinckerhoff (2000).

(Keogh & Polonsky 1998). Krueger (1998) as well as Hostager et al. (1998) start from an intentions-based model of opportunity perception which they apply to ecopreneurial issues in order to point out factors that increase the perceptions of desirability and feasibility of innovative activities concerning environmental issues (Krueger 1998, 179; Hostager et al. 1998, 14, 17).

A third category is formed by two authors who approach the topic from a socio-historical perspective (Anderson 1998, Kyrö 2001). Kyrö (2001) examines the roots of environmental economics and entrepreneurship whereas Anderson (1998) starts from analysing the roots and essences of environmentalism and enterprise. Both approaches of this category state that entrepreneurship can be used as an instrument for changing society (Anderson 1998, 142; Kyrö 2001, 24). Table 1 gives an overview of the conceptual approaches of ecopreneurship.

Perspective	Strategic	Cognitive	Socio-historic
Research question	Which features characterise an ecopreneurial strategy / Which ecopreneurial strategies are in use? / Why and how should they be fostered?	How can identifying environmental opportunities be fostered? / Which role play environmental commitment or attitudes for ecopreneurship?	Which role plays ecopreneurship in society?
Addressing innovation	Environmental Innovation is viewed as a competitive advantage ²	<ul style="list-style-type: none"> • Concentrating on the first stage of innovation: opportunity recognition; • innovative climate is an important factor of fostering environmental innovation. 	Ecopreneurship as instrument for social change (social innovation)
Authors	Schaltegger & Petersen 2000; Petersen & Schaltegger 2002a; Petersen & Schaltegger 2002b; Volery 2002; Azzone & Noci 1998; Isaak & Keck 1997; Isaak 1999, Lober 1998, Pastakia 1998, Farrow et al. 2000, Larson 2000, Welsh 1998	Krueger 1998; Hostager et al. 1998; Keogh & Polonsky 1998;	Anderson 1998, Kyrö 2001

Table 1 Existing conceptual approaches of ecopreneurship

Considering the findings above, one would expect that social entrepreneurship means innovative behaviour of single actors or organisations operating in the private business sector which see social aspects as their core objective. Partially this is true. Social entrepreneurs are defined as important source of innovation, as actors who – by combining a social mission with business skills – identify under-utilised resources and create new welfare services (Leadbeater 1997, 8; Dees 1998b; Thompson et al. 2000, 328; Bent-Goodley 2002, 291).

However, taking a closer look, there are two obvious distinctions between the concepts of social entrepreneurship and ecopreneurship. Firstly, used in a very broad sense of “concerning society” the term ‘social’ includes environmental issues. Thus, in some approaches social entrepreneurship encompasses ecopreneurship as a subcategory (Dees 1998a, 56). Secondly, in contrast to the ecopreneurship approaches – that mainly address business organisations with environmental objectives – most of the social entrepreneurship approaches address a different group of actors: non-profit organisations. According to most authors a main characteristic to identify social entrepreneurs is that their core objective is a non-profit objective (Drucker 1989, 89; Leadbeater 1997, 19; Brinckerhoff 2000, pp.1). According to the precedingly discussed conceptual approaches of ecopreneurship, the main focus of this paper is social entrepreneurship in the business sector. The following section therefore discusses the approaches of social entrepreneurship according to this criterion. Table 2 gives an overview.

Numerous authors do, at first sight, integrate business organisations into their concepts of social entrepreneurship. Yet, most of them mainly address non-profit-organisations (Dees 1998a; Drucker 1989; Dees 1998b; Fowler 2000; Amalric 1998; Thompson 2002; Thompson et al. 2000; Leadbeater 1997; Bent-Goodley 2002). For example, Thompson (2002) states that social entrepreneurs can be found in profit-seeking businesses, social enterprises and the voluntary sector, yet he restricts this

² Many of the contributions of this category refer to Porter & van der Linde (1995) who state that innovations which enhance resource productivity not only lead to dramatically lower environmental impact but also result in lower costs, better product quality and enhanced competitiveness (Porter & van der Linde 1995 S. 120–121).

idea by emphasising that “the main world of the social entrepreneur is the voluntary sector” (Thompson 2002, 413).³ Social entrepreneurs from this perspective are driven by their social mission. The authors of this category view innovation as a means to fulfil unmet social needs.

A second category is formed by three contributions that concentrate on social entrepreneurship in the business sector. Hodgkin (2002) creates a framework of business social entrepreneurship by integrating the three concepts of sustainable community development, social responsibility and social entrepreneurship (Hodgkin 2002, pp. 35) and applies the concept to four case studies in order to derive recommendations how to support business social entrepreneurship. Still the concept she develops does not give business issues top priority. The business social entrepreneur is not in the first place profit-driven but value-driven (Hodgkin 2002, 79).⁴ This does not correspond with the strategic perspective of seeing social issues as a competitive advantage which would suggest that implementing innovations concerning social issues can be a tool for making profit rather than the other way round - using profit as a tool to create social change (Hodgkin 2002, 74). Two other contributions in this category each present a case study of a profit-oriented organisation seeing social issues as a core objective (Schäfer 2003; Tenenbaum 1996).

Focus	Non-profit organisations	Business organisations
Research question	What are the differences between businesses and non-profits and what can they learn from each other? Which are the skills and characteristics of social entrepreneurs? How can social entrepreneurship in the voluntary sector be fostered?	How can the business social entrepreneur profile be described? Which criteria characterise business social entrepreneurs? What examples of business social entrepreneurship exist in practice? How can business social entrepreneurship be fostered?
Addressing innovation	Innovation as means to respond to unmet social needs.	Innovation as means to make profit in order to pursue social objectives; profit as tool for social change
Authors	Dees 1998a; Drucker 1989; Dees 1998b; Fowler 2000; Amalric 1998; Thompson 2002; Thompson et al. 2000; Leadbeater 1997; Bent-Goodley 2002	Schäfer 2003; Tenenbaum 1996, Hodgkin 2002

Table 2 Existing conceptual approaches of social entrepreneurship

Though many authors mention sustainable development (Schaltegger & Petersen 2000, 9; Pastakia 1998, 157; Welsh 1998, 145; Kyrö 2001, 16; Anderson 1998, 135; Amalric 1998, 35), the conceptual approaches reviewed for this paper are not primarily based on the concept of sustainable development.⁵ This paper aims to link sustainable development and entrepreneurship. By drawing on the concept of sustainable development, especially highlighting the importance of innovations in this context, it identifies the role sustainable entrepreneurs can play for sustainable development.

Based on the results of the literature review, sustainable entrepreneurship can be defined in a broad sense as innovative behaviour of actors in the context of sustainability, including actors from governmental and non-governmental, profit and non-profit organisations. In a more narrow sense, sustainable entrepreneurship is defined as innovative behaviour of single actors or organisations operating in the private business sector who are seeing environmental or social issues as a core objective and competitive advantage. This paper adopts the narrow definition and thus takes a business perspective. Sustainable entrepreneurs identify market opportunities for innovations concerning sustainability, successfully implement these innovations and create new products or services. From the view of this paper the concept of sustainable entrepreneurship encompasses founders and owners as well as intrapreneurs and entrepreneurial organisations in the business sector.

³ Leadbeater (1997) also expresses that there are three main sources of social entrepreneurship: the public sector, the private sector and the voluntary sector (Leadbeater 1997, 17). But: “Social entrepreneurs are most usually found in what is called the voluntary sector.” (Leadbeater 1997, 20).

⁴ Moreover, the conception is restricted to local businesses (Hodgkin 2002, 74).

⁵ For an exception see Volery 2002 or Hodgkin 2002. Though both of these contributions concentrate on either environmental responsibility or social responsibility.

The role of innovation for sustainable development

To create a framework for analysing the role of sustainable entrepreneurs for implementing sustainable development, an analysis of the discussion of sustainable development from the perspective of innovation is required. This section first gives a brief overview of different types of innovations, then presents crucial issues of the discussion on sustainable development and at last analyses the role of innovations for implementation strategies of sustainable development. In literature, definitions of innovation range from narrow perspectives that restrict the meaning of innovation to the (initial) commercial exploitation (Hauschildt 1997, 6), to broad views encompassing not only the first adoption but also the invention and the diffusion of new ideas, practices or products (Brockhoff 1994, pp. 28).⁶ In this paper innovation is defined as adoption and diffusion of a new idea, practice or product aiming at market success. In particular, the focus lies on innovations that enhance sustainability. A successful sustainable innovation is accomplished when entrepreneurial actors achieve competitive advantages, i.e. economic success by applying innovative environmental and/or social practices.

Innovations are mostly classified according to their degree of novelty (radicalness) or according to the object of innovation. Concerning the former, Mensch (1977) distinguishes fundamental innovations and improvement (incremental) innovations (Mensch 1977, pp. 56). Fundamental innovations result in radical course changes that widely differ from existing alternatives concerning technological or socio-cultural areas whereas improvement innovations lead to incremental changes based on further development of preceding fundamental innovations.⁷ Employing the object of innovation as criterion to classify innovations, most authors distinguish product innovations (including new products and services), process innovations and social innovations (Thom 1992, 8). The latter refer to social changes within the organisation (Thom 1992) or within the society (Zapf 1989). Figure 1 shows the integration of the two distinctive features – degree of novelty and object of innovation and illustrates them with examples from the area of mobility and of passenger cars in particular.

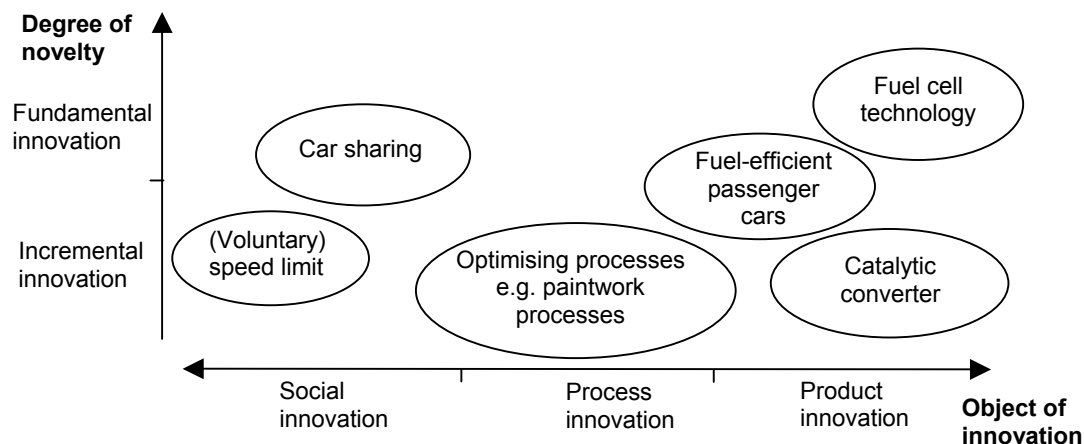


Figure 1 Categories and examples of innovations concerning mobility by passenger cars

To point out the role of innovation in sustainable development, the discussion of sustainable development is outlined and the innovation categories described above will be applied to this context.

As starting point of the discussion on sustainable development authors unanimously mention the WCED-report „Our Common Future“ (1987)⁸ and the conference of the United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro in 1992. Since then many actors have developed various concrete approaches to the concept of sustainable development (McNeill 2000, 10;

⁶ For an overview of definitions see Hauschildt 1997, pp. 3

⁷ The criterion this distinction is based on is the extent to which an innovation differs from existing alternatives (Knight 1967, 482; Zaltman et al. 1984, 23). Other classifications according to innovation radicalness draw on the extent to which the innovation implies changes in behaviour, e.g. concerning established consumption patterns (Robertson 1971, 7; Zaltman et al. 1984, 24).

⁸ The report of the World Commission on Environment and Development (WCED) – apart from Agenda 21 (Bundesministerium für Umwelt Naturschutz und Reaktorsicherheit (BMU) 1992) – is considered to be one of the basic documents of the sustainable development process.

Dryzek 1997, 124). Most approaches start with the definition of the WCED-report: „*Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.*” (World Commission on Environment and Development (WCED) 1987, 8). The definition is intentionally kept wide and allows various interpretations. Though hundreds of variations exist, the WCED definition still is generally valid (Hardtke & Prehn 2001, 58). Considering the various groups of actors involved in the process of conceptualising and implementing sustainable development, the process has been referred to as multi-stakeholder process (UNED Forum on 03.04.2003).

Some authors describe sustainable development as a diversely structured area of discourse (Brand & Jochum 2000; Dryzek 1997, 123- 125, Springett 2003). The idea of weighing, negotiating and reconciling interests and different perspectives suggests that areas of consensus as well as lines of conflict occur (Brand & Jochum 2000, 175) depending on overlapping or contradicting interests. Dryzek (1997) summarises the areas of consensus⁹: “Economic growth should [...] be promoted but guided in ways that are both environmental benign and socially just. Justice here refers not only to distribution within the present generation, but also to distribution across future generations” (Dryzek 1997, 129). This comprises three widely accepted aspects (Brand & Jochum 2000, 175):

The *aspect of integration* highlights that the ecological, social and economic dimension of sustainable development are complexly linked (Boersema & Bertels 2000, 85, 92, McNeill 2000, 17) which demands to consider the interdependencies between the three dimensions. This perspective is based on the assumption that the current global problems cannot be solved separately but have to be treated as interconnected elements of a whole complex of problems (Siebenhüner 2001, 61; Dryzek 1997, 7-8). The *aspect of intergenerational equity* of the concept of sustainable development emphasises the responsibility for future generations. This demands long-term protection of natural resources (Brand 2002, 19). The *aspect of intragenerational equity* focuses on questions of distribution (both within a country and between countries) and the responsibility of maintaining access to natural resources, nutrition, health and education.

As sustainable development is a normative concept its implementation calls for changes compared to the status quo. Therefore, implementing strategies seem to be a crucial point for the analysis of sustainable development and innovation. Huber (1995) describes three main strategies to achieve sustainability: sufficiency, efficiency, consistency.¹⁰ These three strategies will be analysed regarding the role of innovation for implementing sustainable development.

The central idea of the *sufficiency strategy* is that natural resources are limited which implies a restriction of economic growth (Sachs 1999, 39). According to the question “how much is enough” proponents of sufficiency demand a rethinking of current consumption and production patterns. They call for changes of current life styles based on principles of precaution, modesty and frugality in which they see a key to well-being (Sachs 1999, pp.209, Huber 1995, 123). Thus sufficiency clearly focuses on social innovations to implement sustainable development (Huber 1995, 125). The radicalness of these innovations is probably restricted by lacking social acceptance.

The *efficiency strategy* is based on the concept of resource productivity (Sachs 1999, pp. 175). The economic principle is applied to an ecological and social context (Huber 1995, S. 131).¹¹ Proponents of the efficiency strategy have developed factor X approaches (von Weizsäcker et al. 1996) that are supporting dematerialisation of production processes. Concerning innovation, these approaches focus on improving current products and processes rather than searching for substitutes. Critics state that proponents of efficiency “[...] concentrate on the revision of means, rather than on the revision of goals” (Sachs 1999, 41). The impact of efficiency concerning the implementation of sustainable development is criticised to be constrained in that achievements of less resource use on the micro level may be diminished by an increased resource consumption on the macro level caused by effects of rebound, volume and growth (Huber 1995, 134; Sachs 1999, 183).

⁹ Dryzek calls this the core story line of sustainable development (Dryzek 1997, 129).

¹⁰ It has to be noted that all of these strategies strongly focus on the ecological dimension of sustainability. Their core issues are the use of natural resource and material flows.

¹¹ The term “eco-efficiency” defines the ratio between the environmental damage caused per value added (Schaltegger & Sturm 1994, 32; Schaltegger & Sturm 1990).

The consistency strategy – in contrast to the other two strategies – does not focus on measures of quantitative growth but concentrates on the quality of materials and consumption patterns. In the figurative sense, consistency means compatibility or correspondence. Applied to the context of sustainable development, consistency refers to material flows that are compatible with the cycles of natural resources (Huber 1995, 138). Whereas the efficiency strategy aims at reducing the quantity of materials, the consistency strategy aims at changing the quality of material flows. (Huber 1995, 139). In consequence, the aim of innovating is to substitute compatible material flows for ecologically harmful material flows. This demands fundamental innovations (Huber 1995, 156).

The three strategies should not be thought of separately. Instead it is probable that successful implementation strategies in practice combine all three of them (Sachs 1999, 41, 185; Huber 1995, 157). Figure 2 summarises the considerations on innovation and implementation strategies.

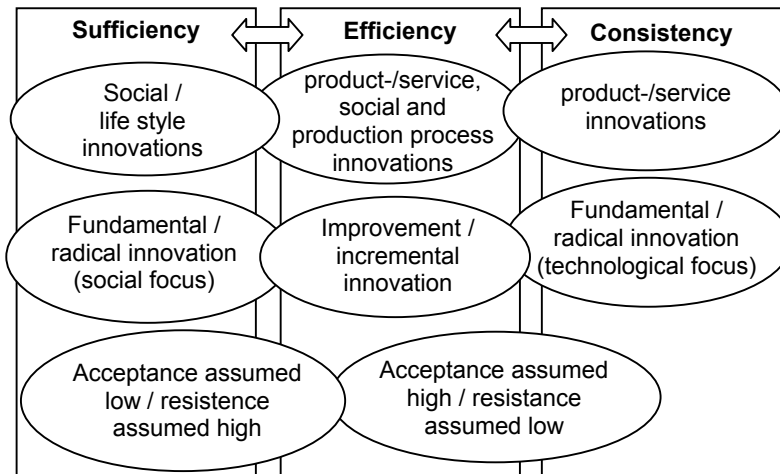


Figure 2 The role of innovation for implementation strategies of sustainable development

The findings of the analysis of implementation strategies for sustainable development and innovations suggest that sustainable development can – in addition to the term multi-stakeholder process – be referred to as a multi-innovation process (Hauschildt 1997, 30). This implies that many innovation processes take parallel courses, overlap and influence each other.

Actors in innovation processes – the promoter model

As a success factor for an implementation of sustainable development by means of innovation Huber (1995, 156) suggests the occurrence of promoters referring to the promoter model by Eberhard Witte (1973).¹² The basic idea of this model is that innovations are impeded by barriers that occur during the innovation process and that two or more promoters collaborate closely to overcome these barriers (Witte 1973). The promoter model assumes that the invention already exists and concentrates on the adoption phase of innovation.

Witte distinguishes two types of barriers: barriers of willingness and barriers of capacity. Barriers of willingness are caused by executives who are lacking commitment to the innovation process and instead strive to maintain the status quo (Witte 1973, 6). Barriers of willingness can be overcome by incentives, promising benefits to those who give up their opposition and announcing negative sanctions for those who stick to their resistance (Witte 1973, 8). Barriers of capacity depend on the novelty and the complexity of innovations. They can be overcome by expertise enabling the actor to solve complex new problems or tasks (Witte 1973, 8-9).

The innovation barriers are personified by human individuals who lack either the willingness or the capacity to innovate (Witte 1973, 15). The energy to overcome these barriers is also linked to human

¹² Huber states that the promoter model appropriately describes incremental innovation processes whereas it does not adequately depict fundamental innovation processes (Huber 1995, 156). But as the perspective of sustainable development as a multi-innovation process highlights the many single innovation processes influencing each other it may be possible to apply the promoter model also to fundamental innovation processes.

actors. Promoters are actors who actively and intensively foster the innovation process (Witte 1973, 15-16). Corresponding to the types of barriers Witte distinguishes two types of promoters: power promoters and expert promoters. Power promoters foster innovation processes by means of hierarchical power and by their specific behaviour which includes convincing, encouraging and motivating other individuals who are involved in the innovation process (Witte 1973, 17-18). They contribute material and non-material support and tolerate mistakes. Technology promoters foster the innovation process by their specialist knowledge (Witte 1973, 18). Their main task is to provide arguments in favour of the innovation and thus passing his knowledge on to supporters and opponents of the innovation process (Witte 1973, 19). The technology promoter is not necessarily the inventor.

The original promoter model has been extended twice. Hauschild and Chakrabarti (1988) have added the process promoter who establishes the connection between the power promoter and the expert promoter (Hauschildt & Chakrabarti 1988, 384). The main tasks of process promoters are communication, motivation and coordination. The activities of power promoters, expert promoters and process promoters are restricted to an intra-organisational level. With adding the relationship promoter Gemünden & Walter have extended this perspective to an inter-organisational view (Gemünden & Walter 1995, 972; Gemünden & Walter 1999, 114). They define the relationship promoter as an actor who fosters inter-organisational exchange processes by means of his social network in order to provide access to critical resources (Gemünden & Walter 1995, 976). Relationship promoters help to overcome barriers of inter-organisational cooperation. Their tasks correspond to those the process promoters fulfil on an intra-organisational level.

The differentiation between the promoter roles is rather analytical. In practice it is probable that different roles, and the roles of the process promoter and the relationship promoter in particular, can be adopted by the same individual.

Sustainable entrepreneurs – promoters of innovation processes for sustainable development

Promoters are actors who cooperate to put innovation plans into action. Sustainable entrepreneurs have been defined as innovative actors who foster the implementation of sustainable development. Thus the role of sustainable entrepreneurs for implementing sustainable development seems to be comparable to the role of promoters for the innovation process. Applying the promoter model to the context of sustainable development, two aspects have to be considered. First, the promoter model has been designed to explain the implementation of technological innovations in the first place. Therefore it seems rather straight forward to apply the model to technological innovations in the sustainability context. Problems may arise when the model is applied to social innovations. Second, the promoter model has been developed to explain single innovation processes within organisations. Viewing sustainable development as a multi-innovation process requires far reaching cooperation not only within organisations but also between various types of organisations.

Applying the promoter model to sustainable entrepreneurship two perspectives can be distinguished. First, the promoter model can be applied to sustainable intrapreneurship considering individuals as entrepreneurial actors. Second, looking at organisations as entrepreneurial actors, the model can be applied to sustainopreneurial organisations. From the intrapreneurship perspective, cooperation between technological promoters, power promoters and process promoters is viewed as success factor for innovation processes within an organisation. Taking an organisation concerned with putting up or repowering wind turbines as an example, entrepreneurial actors with technological expert knowledge and the power to implement innovations and enhance the acceptance are required. The cooperation between power promoter and technology promoter can possibly be encouraged or improved by another actor with special communication skills (process promoter). In a similar sense as the process promoter, based on communication skills, the relationship promoter seems to play a crucial role as he or she builds bridges to other sustainopreneurial organisations and thus fosters innovation processes for sustainable development on an inter-firm level. It seems probable, that relationship promoters occur in marketing or public relations departments of sustainopreneurial organisations.

Adapting the promoter model to sustainopreneurial organisations, again two viewpoints can be distinguished - according to the narrow and the broad definition of sustainable entrepreneurship. From the narrow perspective the promoter roles are adopted by various business organisations, whereas the broader view also considers cooperations between different types of organisations, including governmental and non-profit organisations. From this inter-organisational perspective, the roles and tasks of the promoters have to be reconsidered. It can be assumed that organisations operating in certain

sectors are likely to adopt certain promoter roles. For example, governmental organisations may be compared to power promoters as they have the power to set a certain frame of regulations. Business organisations are likely to adopt the role of a technological promoter. In the voluntary sector success depends to a high degree on networking and on communication which suggests that sustainopreneurial non-profit organisations are comparable to process promoters.¹³

It is assumed that within each of the sustainopreneurial organisations all four promoter roles may occur. The relationship promoters take up a special role as they connect the intra-organisational and the inter-organisational perspective. Acting on an intrapreneurial level relationship promoters foster inter-organisational innovation processes.

Implications and questions for further research

In this paper the promoter model has been applied to the context of sustainable development in order to highlight different roles that sustainable entrepreneurs, and sustainable intrapreneurs in particular, can adopt for the implementation process of sustainable development which has been defined as multi-innovation process.

As the promoter model concentrates on describing the roles and tasks of the promoters and their contributions to overcome innovation barriers it neglects two important factors for innovation processes. First the individual motivation that drives an actor to support an innovation and second the circumstances under which promoters with different roles meet and cooperate (Witte 1973, 21; Hauschildt 2001, 335). This implies the question of how innovative behaviour occurs in the context of sustainable development and how it can be fostered. Innovativeness is mostly discussed in the context of organisational culture (Kieser 1986; Hauser 1998; Hauschildt 1999, 280; Gemünden & Walter 1995, 982). Existing research in this area does not focus on sustainable development issues. Further investigations could reveal helpful advice concerning factors which foster or hinder sustainable development. Therefore a concept of sustainable intrapreneurship should consider not only structural and strategic but also cultural issues of innovation.

Concerning further elaboration of the idea of applying the promoter model to the sustainable entrepreneurship concept the following questions arise: Which are the most important barriers of the multi-innovation process of implementing sustainable development and which combinations of promoters can overcome these barriers?

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¹³ Of course, this is by no means meant to be a final order, instead it is very flexible. For instance, scientific organisations which may be private or governmental are most likely to embody the technological promoter role; and surely governmental and private business organisations may play the role of a process promoter fostering communication and cooperation processes.

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