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WP3 Eco-Entrepreneurial Surveys and Network Development

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ENVIRONMENTAL ENTREPRENEURSHIP and ENTREPRENEURSHIP EDUCATION

Is environmental entrepreneurship something different from ordinary entrepreneurship? The right answer might be both no and yes. Most of the normal entrepreneurial laws, such as the correlation between risk and profit, the right timing for market entry and the need for adequate financial and human capital are valid also in environmental ventures. To be successful, environmental entrepreneurs should move fast, motivate others and take risks as well as anticipate and supply what large numbers of people want. However, the values-based leadership often rightly associated with environmental entrepreneurs gives a special flavour to these businesses. Most of the environmental start-ups also have something in common: a quest for more sustainable products and services.

Environmental businesses can be classified into four different segments. Each has a distinctive character, and their emergence has been influenced by a different combination of drivers. Three main drivers for environmental business and technology can be identified as follows:

- ✓ The geographical area of influence, ranging from local, to regional, to global. The balance has shifted from local point-source pollution, such as wastewater treatment, to global and more complex issues, such as climate change.
- ✓ Reason for market emergence, either by regulation or by voluntary decisions of market actors. Besides the traditional command-and-control approach, market-based instruments and voluntary actions have become increasingly important.
- ✓ Degree of enforcement, varying from high to low. The degree of enforcement differs from country to country and from one law to another.

The following four segments can be identified among the four different types of environmental businesses:

1. Nature-oriented enterprises

These are concerned with wildlife habitat preservation, eco-tourism and other close-to-nature concepts that utilise economic and human resources to improve the state of the environment. The purest segment of environmental entrepreneurs might consist of those trying to make their living through sustainable use of natural resources. Businesses in this segment are often run by individuals dedicated to serve good causes. They offer voluntary and local means to practise environmental resource management.

2. Producers of environmental technology

The production of environmental technology is driven by legislative pressure on communities or industrial enterprises to reduce their environmental load on water, air and soil. These aim to advise corporations to utilise environmental excellence as a source of competitive edge. Public perception of environmental business is often limited to environmental technology, an industry segment that is usually compliance-driven. The tightening of national legislation is the most important driver of these firms. However, the importance of market-based growth drivers is becoming more and more evident in environmental technology businesses. The tightening of international regulation may result in less binding agreements than seen in nationally enforced laws, but it will force global businesses to react more quickly and voluntarily. A typical eco-business situation with respect to environmental technology is to overestimate the legislative push and to underestimate the market pull.

3. Producers of environmentally friendly products

Such products are differentiated from existing products by their better environmental performance over the product life-cycle. Environmentally friendly products have markets as their driver. The demand for these products is derived from the increasing environmental awareness of consumers. These consumers constitute 10%–20% of all consumers in Western societies and have the willingness to pay an environmental premium in the purchasing price (. In addition to environmental criteria, this differentiation can be achieved by social criteria, such as the sale of fair-trade products.

4. Providers of environmental management services

Environmental management services achieve their aim by taking into account environmental protection criteria in all the company’s planning, implementation and control activities, aiming at decreasing the environmental load and achieving long-term corporate objectives. This industry segment includes but is not limited to environmental management system consulting, environmental accounting and communication, legal services and life-cycle assessments (LCAs). More recently, environmental management has expanded to cover the triple-bottom-line approach.

Barriers to ecopreneurship

It appears that there are a few critical issues that successful ecopreneurs must address and that conventional entrepreneurs do not. These can be classified into three broad categories:

1. The challenge of market creation,
2. The finance barrier and

3. The ethical justification for existence.

The challenge of market creation

The diffusion of environmental awareness is an important factor in supporting market creation for environmental technology, products and services. The diffusion of environmental awareness and, even more so, a change in consumer behaviour have proved to be slow. One potential explanation for this slowness lies in the complicated nature of the sustainability challenge. Environmental management and sustainable development can still be fairly discredited concepts in public discourse and it is therefore a natural inclination to require greater proof of these new and provocative ideas than for the view already believed to be true.

One problem in communicating environmental problems is the difficulty in providing clear cause-and-effect relations. Consider the following imaginary example with regard to carbon dioxide emissions: When you drive a car to a local hypermarket you will add to global carbon dioxide emissions, which contribute to global warming, which in turn might lead to food scarcity as the conditions in many productive agricultural areas will decline and, therefore, your food price rises in the long term. And, of course, you should calculate the fuel cost, which has a direct impact on the price of your food.

When you hear the argumentation above for the first time, would you buy the idea and reduce your driving in order to keep your food prices down? Probably not. Usually, it is not possible for a society to respond even to grave environmental problems until they become public by means of the social communication system. Environmental threats become social threats through communication. This socialisation of threats is also a prerequisite for their elimination.

A newly established company always faces a major challenge: the good business idea needs to be realised in practice. Market creation requires strong belief in the entrepreneur's own vision and capabilities. The need to create a new market for new products often proves difficult.

When the market creation challenge is combined with high-level capital investments to enable industrial-scale production, small companies often end up facing substantial financial barriers to launching themselves and to growth.

The finance barrier

On the one hand, environmental entrepreneurs with drive and ideas often find it difficult to find investors who share their objectives and ideals. On the other hand, people interested in direct investment in environmental businesses experience difficulties in finding the enterprises they can believe in and support. Many environmental companies seem to know little about the investment community, and many investors believe that ecopreneurs lack knowledge about the realities of financial markets and fail to grasp the investor’s interests. Whether these prejudices are justified or not, they create an obstacle to placing and obtaining capital.

Many ecopreneurs express the need for a period of product development to reach a market breakthrough that is longer than the period sought by typical venture capitalists, who may seek to exit their investment after two to three years. This may be not enough for eco-innovations to become commercially viable. As a result, environmental venture capital is marginal. One venture capital executive put it quite bluntly: The environment may be a successful screening criterion to find possible growth companies, but after that it does not influence [investment] decision making. It is difficult to sell investors a novel business concept containing positive environmental arguments.

The ethical raison d’être

Financial and market considerations are essential to all entrepreneurs. Therefore, maybe the most distinctive feature of many eco-businesses is their explicitly expressed ethical reasoning. This has positive and negative effects on the business and its corporate governance. The ethical dimension is a major issue to take into account when main-streaming environmental businesses and innovations.

On the positive side, most of the ecopreneurs are highly committed to their business. Their reason for running an enterprise is not solely to make money but involves also a willingness to make the world a better place in which to live. This personal commitment also increases their marketing credibility and trustworthiness as business partners.

Another issue is that sometimes this willingness to serve good purposes even exceeds the desire to make money. Eco-businesses are indeed measured by multi-dimensional success criteria, many of them being non-financial. The combination of fact-based and value-based issues linked with various impact levels—from the individual level up to a global level—leaves room for great diversity of performance indicators and makes it difficult to define success. Integration of the financial and the ecological perspectives has proved to be difficult, if not impossible. The current lack of clarity of sustainability criteria leads to the conclusion that ‘good business’ is continuously open to multiple interpretations.

It is also possible to identify negative issues relating to an ethical *raison d’être*. First, a quest for ethical excellence complicates management. For example, recruitment and outplacement decisions are never easy, but they might be even more difficult in values-led enterprises. In these enterprises, people coming in should naturally be talented and productive but they must also show an ability to commit themselves to the world- improving value base. Then, if the company faces a need to reduce its workforce, firing people will be difficult, as there will be a tendency to take into account a wider variety of factors than would be the case if the decision were based solely on rational reasoning. Second, many of those companies with a high ethical profile seem to resemble non-profit associations more than business organisations in their governance and decision-making.

The link between financial-sector values and ecopreneurial values deserves special mention. It is sometimes unclear whether the entry of venture capitalists into eco-businesses is solely a positive phenomenon. Too often, blind money-making intentions overrule the ethical orientation that is one of the positive features of many ecopreneurs.

Typologies of Ecopreneurs

Most researchers agree that there are two categories of environmental entrepreneurs –those who have a profit or economic orientation and those who have the sustainability orientation and want to help change or improve the environment refer to the categories as the two ends of the ecological orientation continuum. At one end are ecopreneurs who constantly adopt environmentally-friendly practices and at the other end are entrepreneurs who give no ecological consideration to the businesses at all. In other words, environmental entrepreneurs are either starting green businesses or making their businesses green.

Role of Entrepreneurship Education in Stimulating Environmental Entrepreneurship

How can we stimulate future ecopreneurial behavior? Currently the eco-entrepreneurial capacity of students and entrepreneurs is limited. Entrepreneurship education with a specific focus on sustainability, energy conservation, and renewable energy is one of the mechanisms that can be used to stimulate future entrepreneurial behavior in energy, sustainable production and consumption sectors. Entrepreneurship education has the profound responsibility to increase students’ environmental awareness, knowledge and skills, and values needed to create a just and sustainable future. The goal is to expose students and young entrepreneurs to ecopreneurship and sustainability issues.

Several universities are incorporating sustainability into their undergraduate curricula. In addition to the courses, there are also programs and multidisciplinary centers at the university level focusing on sustainability,

Integrating Environment Entrepreneurship into Entrepreneurship Education

Entrepreneurship students are an important target group for the expansion of innovation and entrepreneurial activities in the field of sustainability. However, the number of courses focusing on ecopreneurship and sustainability are still limited. In response to the need for more courses in ecopreneurship and sustainability entrepreneurship, this section describes integrating ecopreneurship into the entrepreneurship curriculum.

One of the challenging curriculum issues is whether to have a course entirely devoted to ecopreneurship or to integrate ecopreneurship into current course offering. If the second option is chosen, there is still the question of whether to infuse sustainability into the various topics within a traditional course or to include it as a separate, stand-a-alone module within a course. The selected particular pedagogical approach may depend on the resources of the department and the university, faculty interest and expertise, and students' interest in the topic, among other factors.

The knowledge base and skills sets needed to become an ecopreneur are very broad. The list may include awareness of both local and global issues, awareness of future trends, acquisition of environmental values, and engagement in ecological or systems thinking.

Sustainability (2008) also identified additional skills sets needed by the sustainability student: the ability to seek new ways to address needs, the ability to identify new business models that support the resulting innovative products and services, ability to develop buy-in and to gain support of a senior champion. In addition, ecopreneurship knowledge and skills must help graduates understand the critical challenge of ecopreneurs, i.e. producing goods that can be distributed, consumed, and disposed of in a manner that does not affect the environmental quality of the lives of future generations. Above all, ecopreneurship programs need to graduate students who understand environmental entrepreneurship and who can apply sustainability frameworks to design new products, services, and processes.

Working in groups, students will propose entrepreneurial solutions to pressing environmental problems. Some examples of topics would include products or services that will contribute towards reducing energy consumption, conserving energy and water, improving water purification and filtration, improving waste management systems, and exploring alternative energy sources. Other activities might be a written paper and presentation that will include

an industry study, a market study, and a description of the business concept. Also, students might be asked to present a sustainability plan/report for a given company or government entity.

The pedagogy for the course will emphasize active, experiential, inquiry-based learning and real world problem solving in the classroom, on the campus and in the local community. We all know from the conventional wisdom and from educational research, that students retain 80% of what they do and only 10 to 20% of what they hear or read. Therefore, to ensure long term retention of the knowledge, skills and values, the curriculum will provide learning experiences for students to work on actual, real-world problems facing their campus, community, government, and industry. The educational experience must be aligned with the principles of sustainability and it should help students to understand the ecological services that are critical for human existence and how to make the ecological and social footprint of human activity visible.

Finally, entrepreneurship education plays a critical role in harnessing the innovative potential of ecopreneurs and in improving the environmental performance of small firms. Also, entrepreneurship education helps to develop a greater sense of environmental awareness among students and encourage them to apply their ecopreneurship knowledge to improve processes within their own firms. The implication therefore is that academics and other trainers should identify the new competencies needed for the new environmental technologies, develop the necessary curriculum, and then assess the impact of the courses on the environmental performance of graduates [2].

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