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# Identification of ecopreneurs' business competencies for training program development

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#### ORIGINAL AND APPLIED RESEARCH



# Identification of ecopreneurs' business competencies for training program development

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#### **ABSTRACT**

The aim of this qualitative study was to increase understanding of the business competencies necessary for established ecopreneurs to foster green growth. The results imply that the ecopreneurs need specific business competencies to succeed: in particular, an ability to make green values a part of their business operations, product offerings, and business relationships. It is essential to have competencies in developing high value-added products reflecting green values and communicating them to the consumers. When developing a business training program for the ecopreneurs, it is also crucial to consider competencies related to sustainable development and frame the program with its values.

#### **KEYWORDS**

Business competence; ecopreneurship; natural resources; sustainability; training

#### Introduction

Sustainability-related entrepreneurship is an important subfield of entrepreneurship research because there is a need to focus on conducting business in a greener and more sustainable way (Gast, Gundolf, & Cesinger, 2017). In the present study, I explore sustainabilityrelated entrepreneurs (i.e., ecopreneurs) and the business competencies necessary for them. The term ecopreneurship is a combination of the words entrepreneurship and ecological (Schaltegger, 2002) and refers to a form of business behavior committed to sustainability (Isaak, 2010). Ecopreneurs operate for-profit businesses with a strong connection between their business and their personal green values (Allen & Malin, 2008; Galkina & Hultman, 2016; Kirkwood & Walton, 2010). Additionally, ecopreneurs are strongly motivated to proliferate their green values to others (Kirkwood & Walton, 2010).

Ecopreneurship is also a market-oriented and personality-driven form of value creation through environmental products (Schaltegger, 2002). Ecopreneurs offer innovative products and services to established markets and rely heavily on market niches (Affolderbach & Krueger, 2017). These entrepreneurs observe market opportunities, and they can respond to new demands and markets quickly (Lordkipanidze, Brezet, & Backman, 2005). A growing demand for new products and services is also the most important driver

for innovations (McEwen, 2013), which will give the enterprises a competitive advantage. Due to these distinctive traits, the ecopreneurs have been characterized as individual innovators, environmental problem solvers, and agents of social change (Affolderbach & Krueger, 2017; Allen & Malin, 2008; de Bruin, 2016).

The ecopreneurs have good prospects for growth. Consumption patterns are reconfigured (de Bruin, 2016) and consumers tend to purchase and consume environmentally friendly products (Kumar Ghodeswar, 2015). To respond to these new demands and markets, the ecopreneurs need specific business competencies. They should be able to exploit business opportunities and to convert innovative business ideas into profitable business operations and product and service offerings. However, higher education institutions have failed to recognize and take into account the specific, business-related training needs of the ecopreneurs. Thus, in the present article, I argue that it is necessary to provide subject-specific business training to increase the business competencies of those ecopreneurs who own and manage an established business to foster green growth.

The ecopreneurs of this study run a micro or small enterprise employing 10 or fewer employees. They are already equipped with green values to help achieve economic, social, and ecological well-being. Training in the business competencies enables ecopreneurs to deal with business problems and run more sophisticated yet profitable businesses. In addition, it will increase their capabilities of discovering and exploiting business opportunities (Unger, Rauch, Frese, & Rosenbusch, 2011; Yusuf, 1995). Because the success of an enterprise is heavily dependent on the competencies of the entrepreneur, the competences become a key issue (Santini, 2017). Therefore, a deeper insight of the very nature of doing sustainable business is required to better understand the established ecopreneurs' business competencies and for higher education institutions to be able to develop relevant contents for their professional training programs. When the special characteristics of ecopreneurship are taken into consideration in the training program development, the entrepreneurs will gain competence, confidence and tools to develop and grow their business in accordance with their own values.

The business competencies identified in this study will be utilized in practice, when a new, disciplinespecific training program, "Business from Nature," is developed for established ecopreneurs for their continuing professional development. Sustainability is integrated into business education through a discipline-specific focus and by creating a new structure (i.e., a stand-alone training program; cf. Godemann, Herzig, & Moon, 2011; Rusinko, 2010). The identified business competences will be translated into course contents by reviewing the categories of competencies, choosing the topics of the courses and developing course descriptions. The course descriptions include the purpose of each course, the keywords describing the course contents, and the most important learning outcomes.

The present article is structured in the following way. The first part deals with the context of the study. The literature review explores previous studies on competencies for sustainable entrepreneurship. Then, I introduce the data gathering and analysis and present the main results of the empirical research. Last, I offer a discussion, conclusions, and limitations.

#### Literature review

Competence-based education focuses on a clear definition of competences to be achieved and assessed during the education program (Lambrechts, Mulà, Ceulemans, Molderez, & Gaeremynck, 2013). Competencies provide a framework for developing distinct profiles of professions (Wiek, Withycombe, & Redman, 2011) and indicate what needs to be trained and studied (Lambrechts et al., 2013). Higher

education for sustainability-related entrepreneurship aims at developing those individual competencies, which are required from competent business owners considering sustainable development as their primary value and as an opportunity for the strategic renewal of their enterprise (Mindt & Rieckmann, 2017). In addition, many authors claim that the key competence of sustainability professionals is to act as a change agent (Heiskanen, Thidell, & Rodhe, 2016; Hesselbarth & Schaltegger, 2014; Svanström, Lozano-García, & Rowe, 2008) i.e., to generate, implement, and adopt change within and outside organizations.

There has been considerable growth of interest in sustainability as a topic in business and business education (Cullen, 2017; Erskine & Johnson, 2012). Previous studies have mainly focused on integrating competencies for sustainable development and entrepreneurship from the perspective of would-be entrepreneurs into business programs (Lans, Blok, & Wesselink, 2014; Ploum, Blok, Lans, & Omta, 2018) or on advocating the inclusion of sustainability in the structure of business education (Godemann et al., 2011; Painter-Morland, Sabet, Molthan-Hill, Goworek, & de Leeuw, 2016; Rusinko, 2010). In particular, several previous studies have demonstrated various solutions on how to integrate sustainable development into undergraduate business curricula. In other words, it has been considered important to assess how well sustainability is embedded in business education and how it could be developed further.

The most relevant studies related to the topic of this study have explored the competencies for sustainable entrepreneurship. In particular, the previous studies have explored which competencies are necessary for future change agents in a business environment. They have for example identified competencies for sustainable entrepreneurship within the context of higher education (Lans et al., 2014) and tested this competence framework among would-be entrepreneurs in terms of construct validity (Ploum et al., 2018). According to Lans et al., seven key competencies, which encompass skills, knowledge, and attitudes directed at the integration of the worlds of entrepreneurship and sustainability (Table 1), include systemsthinking competence, embracing diversity and interdisciplinarity, foresighted thinking, normative competence, action competence, interpersonal competence, and strategic management competence. Ploum et al. suggested the inclusion of six competencies and merged strategic management competence and action competence. Ploum et al. also noted that future researchers should focus on established sustainable

**Table 1.** Key competence categories of sustainable entrepreneurship.

Lans et al. (2014) Biberhofer et al. (2019)

- 1. Systems-thinking competence. The ability to identify and analyze all relevant (sub)systems across different domains (people, planet, profit) and disciplines, including their boundaries.
- 2. Foresight thinking competence. The ability to collectively analyze, evaluate, and craft "pictures" of the future in which the impact of local and/or short-term decisions on environmental, social, and economic issues is viewed on a global/cosmopolitan scale and in the long term.
- 3. Normative competence: The ability to map, apply, and reconcile sustainability values, principles, and targets with internal and external stakeholders, without embracing any given norm but based on the good character of the one who is involved in sustainability issues.
- 4. Interpersonal competence: The ability to motivate, enable, and facilitate collaborative and participatory sustainability activities and research.
- 5. Embracing diversity and interdisciplinarity competence. The ability to structure relationships, spot issues, and recognize the legitimacy of other viewpoints in business decision making processes; be it about environmental, social, and/or economic issues.
- 6. Strategic management competence: The ability to collectively design projects and implement interventions, transitions, and strategies for sustainable development practices.
- 7. Action competence. The ability to actively involve oneself in responsible actions to improve the sustainability of socialecological systems.

- 1. Systemic competence. The ability to analyze complex systems across different domains and scales and to cope with complexity by focusing on cyclic thinking.
- 2. Anticipatory competence. The ability to think in long-term horizons, consider future generations' needs, and envision future scenarios by integrating uncertainty and risk.
- 3. Normative competence. The ability to reflect, negotiate, and apply sustainability values, grounded on deeper concepts of justice, equity, and ethics.
- 4. Interpersonal competence. The ability to motivate, enable, and sustain collaborative and participatory working relations, embracing diversity of multifaceted teams and networks.
- 5. Strategic competence. The ability to design and implement transitions toward sustainability, requiring solution orientation and innovative thinking.

entrepreneurs because the data on the sustainable entrepreneurship framework were only collected among would-be sustainable entrepreneurs.

In addition, a recent study by Biberhofer, Lintner, Bernhardt, and Rieckmann (2019) explored the key competencies for sustainability-driven entrepreneurship, that is, abilities to identify and pursue sustainability-driven entrepreneurship opportunities within a specific position and context with underlying values and worldviews as well as opportunity structures enabling effective work to provide better learning settings in higher education. Biberhofer et al. argued that sustainability-driven entrepreneurs need specific key competencies to perform sustainability-driven economic action and identified five areas of key competencies for sustainability-driven entrepreneurship: systemic, anticipatory, normative, strategic, and interpersonal competencies. Biberhofer et al. also underlined the relevance of strong values and worldviews motivating and enabling entrepreneurs to initiate change. These values and trust in the transformation capacities of entrepreneurs should be recognized in sustainability-driven entrepreneurship education.

#### Statement and significance of the problem

There is only a limited number of studies based on findings from the work contexts of established ecopreneurs. Furthermore, no prior studies have examined business competencies necessary

ecopreneurs, despite that many authors (Lans et al., 2014; Mitchelmore & Rowley, 2010, 2013) have identified business competencies as the backbone of their entrepreneurial competence. Therefore, the aim of the present study was to increase understanding of the business competencies necessary for the ecopreneurs to support the development of those competencies, and in turn, contribute to the long-term success of the ecopreneurs. These business competencies emphasize the exploitation of business opportunities and the implementation of business operations based on resources found in nature (i.e., the sustainable utilization of natural resources for developing new products to respond to the market needs; Lahdesmaki, 2005; Nikolaou, Ierapetritis, & Tsagarakis, 2011). The research question was the following: What are the business competencies the ecopreneurs need to exploit the available business opportunities and to implement business operations based on the sustainable utilization of natural resources?

#### Method

The present study was carried out in Finland, Northern Europe. The country has abundant natural resources. It is Europe's most forested country, with three quarters of its land area covered by forests, and a land rich in water, with 179,584 islands and 188,000 lakes. In Finland, everyone has a right to enjoy nature freely on the basis of a Finnish legal concept, so-called

Table 2. Interview sample characteristics.

	Business development organization		
Sector	Enterprise $(n=8)$	and sectoral agency $(n=6)$	Total
Herb farming	2	3	5
Well-being services, nature experiences	3	2	5
Local food production	1	3	4
Wild berry sector	1	3	4
Natural cosmetics	2	1	3
Eco-friendly clothing and handicrafts	1	1	2

everyman's right. Finnish nature provides plenty of natural, wild raw materials that offer growth opportunities for value-added products, which are produced by further processing from local natural and wild raw materials such as berries, mushrooms, herbs, wild plants, and other nonwood forest products. The largest companies producing natural products operate in the wild berry sector, because Finland has the world's largest certified organic wild collection area of natural products (Ministry of Economic Affairs Employment, 2018).

Qualitative research methodology was chosen for this study, as its aim was to increase understanding of the business competencies necessary for established ecopreneurs. An inductive research approach was chosen to address the research aims as it is subjective in nature within an interpretative paradigm.

The main data were collected by semi-structured interviews (n = 14) during spring 2018. The interviews (Table 2) were conducted with the owners of micro and small enterprises (n = 8) related to local food production, herb farming, wild berry sector, natural cosmetics, well-being services and nature experiences, and eco-friendly clothing. Other informants worked in relevant business development organizations and sectoral agencies (n=6) representing these sectors. The same enterprise or business development organization could operate simultaneously in/with one or more sectors. The duration of each interview was from 45 min to 1 hr and 30 min. A snowball method (cf. Berg, 2001; Krippendorf, 2013) was used as a means of identifying the relevant informants to ensure that the selected entrepreneurs embraced sustainability in their business operations and were equipped with green values. Thus, I received new informants through contact information provided especially by business development organizations, and the sample snowballed from a few subjects to fourteen subjects.

In the interviews, the framework of themes and questions related to the business opportunities was based on the sustainable use of natural resources and the necessary business competencies to exploit them. For example, the following questions were asked: How do you perceive ecopreneurship as a form of entrepreneurship and business? How do you use natural resources in your business/how are natural resources used in the sector you represent? How would you like to develop your business/how should businesses be developed in the sector you represent? What hinders business development? Which business competencies should be increased? The questions were adapted to each situation with extra questions and new themes if needed. The sample size was determined when the received information reached a saturation point, which is one of the standard criteria for qualitative data gathering.

In addition, the most recent and relevant national strategies on the use of natural resources (e.g., National Forest Strategy, National Natural Resource Strategy, National Development Plan for Blue Bioeconomy) and sector-related reports and programs (e.g., Local Food Program, Natural Products Sector Report) of the sectors represented in this study were selected as data sources. The strategies and the sectorrelated reports (n = 12) cover the natural product sector, the use of forest and water resources, and local food. The texts related to the exploitation of natural resources in business operations and the necessary business competencies were separated from the rest of the text in the selection process.

The data were analyzed by qualitative content analysis. Content analysis is a research technique for making replicable and valid inferences from texts to the contexts of their use (Krippendorf, 2013). In this study, qualitative content analysis was conducted by transforming a great number of texts systematically into an organized and concise summary of key results. The analysis was inductive, and new categories describing the business competencies necessary for ecopreneurs were formulated out of the existing data. In inductive content analysis, the qualitative data are organized by open coding, creating categories, and abstraction (Elo & Kyngäs, 2008).

Thus, I conducted the interviews and also transcribed the interview data. The data were studied several times in their entirety to acquire a sense of the

**Table 3.** Business competencies necessary for ecopreneurs.

Category	Keywords	Competencies
Product development competence	High value-added products; ecological and ethical prod- ucts; market niches; segmentation; consumer demand and values; diversification of resource use; further processing of local raw materials; product safety; prod- uct legislation	The ability to develop sustainable, profitable, high value- added products reflecting green values by utilizing and further processing natural and local raw materials to meet the demand.
Consumer communication competence	Information about the sustainability of business opera- tions and products; consumer guidance; influencing consumer choices; education on raw materials, prod- uct use and holistic well-being; motivating and inspir- ing consumers	The ability to inform consumers about sustainability of business operations and products, raise their awareness, and guide how to create a sustainable lifestyle and enhance well-being in nature, inspire consumers, and accomplish change by influencing their choices.
Brand management competence	Product brand development; development of the entre- preneur's brand identity; brand community; brand refresh; use of storytelling as a method; product ori- gin; product packaging design; sustainable packaging	The ability to develop the enterprise, the entrepreneur, and the products' brand identity, reflecting green values, and form brand communities of people sharing the same green values.
Supply chain management competence	Networks and partnerships; raw material availability; sup- pliers and retailers; B2B cooperation in product devel- opment, packaging, distribution and sales; outsourcing; cross-sectoral cooperation; international cooperation	The ability to identify and cooperate with different organizations in the supply chain representing the green values from the transformation of raw material to the product delivery to the consumer.
Digital competence	Advancement of digitalization; new business opportunities provided by technology; production of new types of products and services; utilizing digital technologies in business processes; digital sales channels; online sales; online visibility; social media use; content management in digital channels	The ability to use the means of digitalization in business processes and identify and reach domestic and international market niches through different digital communication and sales channels.
Strategic management competence	Strategic business planning; competition analysis; financial performance analysis; profitability of operations and products; pricing; cost efficiency; sales management; willingness to pay	The ability to plan and manage business operations and financial activities of an enterprise effectively.

whole and to identify the essential features of the content for further analysis. In this process, the texts were divided into meaning units. Each identified meaning unit was labeled with a preliminary code while reading the text. The codes were generated from the phrases and sentences related to necessary business competencies (i.e., the codes were derived from the data).

In the following stage, categories (i.e., groups of content), which share a commonality (Krippendorf, 2013), were generated by grouping similar codes under higher order headings that described the necessary business competencies. At the same time, the preliminary codes were revised and refined, if necessary. Subcategories related to each other through their content were sorted into broader categories. The aim of grouping the data was to reduce the number of categories by incorporating those, which were similar or dissimilar into broader higher-order categories. As a result, mutually exclusive categories of necessary business competencies were generated. The categories are presented Table 3.

#### **Results**

Six major categories describing the business competencies necessary for the ecopreneurs (i.e., their ability to apply business knowledge, skills, and attitudes in a professional context) emerged from the data. Each

category was named by using content-characteristic words in the following way: (a) product development competence, (b) consumer communication competence, (c) brand management competence, (d) supply chain management competence, (e) digital competence, and (f) strategic management competence. Table 3 summarizes the competence categories, the keywords describing the content of the category and the competence descriptions of the behavior an ecopreneur should be able to demonstrate.

Because the core activity of ecopreneurs is to respond to the growing demand, a major theme, which emerged from the results, describes an ability to develop innovative, high value-added products to market niches. The ecopreneurs should be able to understand the demand and the markets and to identify a variety of consumer needs and market changes as well as trends in customer behavior to reach diverse domestic and international customers. In other words, the business should be developed by following the market demand.

It is crucial to meet the demand by utilizing local natural resources in the products and services reflecting environmental and ethical values. Thus, it is necessary to increase business competencies in valueadded, innovative product development to be able to utilize and further process natural and local raw materials. Entrepreneurs should be able to invest in processing the products further and in diversifying the use

of resources to extend their product range. The products need upgrading to increase value for consumers and profit for entrepreneurs. It is important to realize that entrepreneurs also need knowledge about product safety and product legislation.

A precondition for growth is that consumers are aware of the alternatives offered. It explains the significance of consumer communication in the context of ecopreneurship. However, the aims of communication differ from traditional marketing communication. In ecopreneurship, consumer communication should focus on increasing awareness, guidance, and educating and motivating consumers-not on creating and sustaining demand. Because the consumers cannot make informed decisions themselves and often misunderstand what sustainable and ecological mean, they must be guided and made aware of green, high valueadded products and services.

Additionally, it is essential to distribute easily absorbed information to consumers on holistic wellbeing. Change in consumer behavior is accomplished by means of active communication, which results in appreciation of the products. In fact, the entrepreneurs have a strong desire to inspire people. They want to give them perspectives of how to create a sustainable lifestyle and enhance well-being in nature. In sum, the results indicate that customer communication in ecopreneurship emphasizes the role of the ecopreneurs as change agents (i.e., their ability to generate and implement change).

Furthermore, the analysis reveals that an ability to develop and manage brands is also connected with green values. Competencies in brand management include the development of product brands, the brand identity of entrepreneurs and brand communities. Because ecopreneurship is a personality-driven form of entrepreneurship, the ecopreneur's person and his or her green values are important in building a brand. Therefore, the ecopreneurs need to brand themselves with a personal brand and personify their companies. The products are an integral part of the brand, and they reflect the green values of the ecopreneurs.

The ecopreneurs should be able to develop and utilize a good relationship with the consumers and even form brand communities to achieve competitive advantage. The product brands are designed to consumers who are open to and share the same values. Consumers' strong personal identification and engagement with a brand leads to a brand relationship with others sharing the values and passion. Thus, the ecopreneurs do not just sell their products to consumers but also their values.

Because the consumers are increasingly interested in the origin of the products and the background of the entrepreneurs, another necessary competence involves using narratives to strengthen the brand and giving the enterprise and its products an identity. Competencies in sustainable packaging are also needed because the development and use of packaging that results in improved sustainability also contributes to brand management.

The results highlight that the role of supply chains is unquestionable for the ecopreneurs. This means that strong networks and partnerships contribute to business development, and new business opportunities are created in supply chains. Supply chain management is especially critical in securing the availability and delivery of raw materials. It is essential to understand the roles of suppliers and retailers, find partners, and even train one's own suppliers of raw materials in product packaging and distribution and sales. Furthermore, the ecopreneurs should be able to understand the needs and reasons for outsourcing and hire a party from outside to perform certain tasks and handle operations. Cooperation has also great significance when creating competitive advantage and when entering international markets with new products and services. In addition, the results revealed that it is important for the ecopreneurs that the retailers and of products represent their own their range green values.

The next category relates to digitalization. The advancement of digitalization provides new business opportunities and enables the production of new types of products and services. It is vital to understand and utilize the possibilities of digital technologies in business operations. In addition, there should be a strong focus on the competencies in digital marketing communication and sales (e.g., the ability to incorporate effective visual content into a marketing strategy and to use various sales channels). In particular, the online sales of products are growing. If entrepreneurs want to increase the export of their products, it is necessary to develop their own online stores.

Finally, the results show the importance of competencies in strategic management. The ecopreneurs should have an ability to do strategic business planning, such as creating a long-term vision and setting priorities and goals. Strategic management also involves focusing on resources, strengthening operations and assessing and adjusting the enterprise's direction in response to a changing environment. The ecopreneurs should have competencies in analyzing competition, business ideas, concepts, models and

**Table 4.** Sample responses in the six categories.

Category	Sample response
Product development competence	"Value can be added to traditional products, and they can be tuned by nuances from nature, e.g., herbs.  But how can you further process the raw materials from nature in such a way that it makes profit? This is the greatest challenge."
Consumer communication competence	"The consumers' opinions are very subjective. They have their own views of what is sustainable and ecological, and they can have false ideas. Therefore, facts should be communicated and information is needed."
Brand management competence	"Entrepreneurs should bring themselves better forward as a brand and show their own faces boldly."
Supply chain management competence	"You must know, what to do yourself and what can be outsourced. We have different kinds of B2B cooperation: we sell products to another company or they bring their raw materials to us for further processing. We also have all kinds of markets, where we deliver the products: consumers, catering firms and retail shops."
Digital competence	"Export constitutes about 10 % of our sales now. It is necessary to develop online sales to increase export. Online sales reach the consumers and retailers directly."
Strategic management competence	"We need more skills in economic issues. You must be able to follow the sales and understand, what kind of things make profit and turnover. It is important to have skills in pricing and in counting coverage."

products critically. Other requirements include competencies in analyzing financial performance and the profitability of operations and products. Furthermore, the ecopreneurs should be able to price the products correctly. They need understanding of the consumers' willingness to pay to set the price, because in Finland people are used to having free access to natural resources at their doorstep. The ecopreneurs should also be able to plan and monitor sales: what are the best-selling products to generate revenue and the most important sales channels.

Finally, the Table 4 shows sample responses in these six categories describing the business competencies.

#### **Discussion**

In sum, the present study clarifies the business competencies necessary for the ecopreneurs. Because of the special features of ecopreneurship as a valuedriven business approach and a personality-driven form of entrepreneurship, the ecopreneurs need specific business competencies to succeed. In particular, it is essential to have an ability to run a value-driven business and make green values a part of their business operations, product and service offering and business relationships. Important business competencies also include an ability to develop innovative products reflecting green values and an ability to communicate and sell the values to the consumers. The ecopreneurs need business competencies in branding themselves and their products. They should be able to create even brand communities with people sharing green values. The results also demonstrate that all the stakeholders (i.e., the entrepreneurs and their workers, consumers, suppliers, and retailers) are joined by the same green values.

The results show that the identified business competencies, in particular, product development competence, consumer communication competence and brand management competence, reflect competencies in sustainable development. According to the results, the ecopreneurs need supply chain management competence, digital competence, and strategic management competence, which are also necessary in conventional businesses.

However, it is clear that the key business competencies the ecopreneurs should have are connected with normative competencies that differentiate sustainability-related entrepreneurs from conventional entrepreneurs (cf. Biberhofer et al., 2019; Lans et al., 2014). The results of this study and also previous studies (Biberhofer et al., 2019; Lans et al., 2014) emphasize an ability to apply green values and principles and to take these values as an axis for entrepreneurial decision making. In addition, the identified business competencies have a close connection with interpersonal competence (cf. Biberhofer et al., 2019; Lans et al., 2014), because the ecopreneurs work and cooperate in multistakeholder networks and communicate their values to various stakeholders in their everyday business operations.

Furthermore, the business competencies are connected with strategic management competence (Lans et al., 2014) and strategic competence (Biberhofer et al., 2019). Biberhofer et al. emphasized that strategic competence (i.e., creating a corporate philosophy, working according to a well-defined organizational model, setting up milestones and monitoring processes) as well as management skills such as monitoring revenues and costs from sustainability activities are important for the sustainability-driven entrepreneurs. In particular, they highlight performance management and instruments to measure an entrepreneur's impact on society, the environment and the economy, as this constitutes sustainabilitydriven business success. The results of this study stress strategic management, profitability of business operations, and monitoring revenues and costs in general but not related to sustainability activities. Thus, the informants failed to identify performance management related to the measurement of an entrepreneur's impact on society, the environment, and the economy. It is recommended that more attention be paid on sustainability targets, evaluating and measuring the impact of sustainability when developing business training for ecopreneurs.

Higher education institutions benefit from the results of this study, when planning their educational activities. The results have a number of implications for higher education institutions aiming at providing business training for the ecopreneurs. The most important result shows that it is essential to consider the specific characteristics of ecopreneurship in the development of business training. The ecopreneurs do not benefit from increasing general, horizontal business competencies. Instead, they need customized training focusing on the essential features of their business. This means that higher education institutions need to design and deliver more specific business training programs and courses, which are framed with the ecopreneurs' worldviews and values. In addition, relevant competencies for sustainable development should be integrated in the programs.

By applying the results in training program development, the ecopreneurs can develop subject-specific business competencies. The results also provide a means to modernize professional business training and redirect competencies that help to adapt to a changing business environment. Business support organizations and business advisors can utilize the results when consulting the ecopreneurs and when identifying their competence development needs. The results can also be used in quantitative studies to explore further the integration of business competencies and competencies for sustainable development and entrepreneurship.

#### Limitations

Although this study only deals with Finland, it nevertheless contributes to a more detailed understanding of the business competencies necessary for the ecopreneurs. However, the application of the results is limited by the fact that the results are strongly characterized by the available natural resources, the use of forest resources and forest-based wild raw materials in Finland. Hopefully, the necessary business competencies identified in the present study will be used in a broader geographical context in future studies. There is a need for further research in other European regions and even in regions outside Europe. Furthermore, it should be noted that the ecopreneurs have very different attitudes and differ in their ecological orientation (cf. Linnanen, 2002; Walley & Taylor, 2002). Therefore, other data sources in addition to the ecopreneurs' interviews were included in this study.

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