Barriers to Sustainable Business Model Innovation in Swedish Agriculture

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Abstract

Sweden’s agriculture industry has faced many challenges in recent years. Among the most severe challenges are the decrease in the number of small and medium-sized farms, the decrease in the number of people employed in agricultural activities, and the increase in governmental regulations and legislation governing such activities. At the same time, the demand that agriculture contributes to sustainable social and ecological development has increased. Although research shows that sustainable business model innovation (SBMI) contributes to the creation of sustainable businesses and to the development of a sustainable society, Swedish agriculture has not been at the forefront in the use of SBMI. The purpose of this paper is to examine the barriers to SBMI in Swedish agriculture in order to understand why farmers seldom engage in SBMI. This qualitative study follows the Gioia methodology and data for the analysis were acquired in semi-structured interviews with entrepreneurs at six family farms in Sweden. The paper makes a theoretical contribution to the research on SBMI with its focus on sustainable entrepreneurship in the Swedish agricultural industry. The paper concludes that the barriers to SBMI are external, internal, and contextual.

Keywords: sustainable business model innovation, barriers, agricultural entrepreneur, sustainable entrepreneurship.

INTRODUCTION

A sustainable world requires a sustainable agriculture industry that produces enough food to feed the world’s population that is said to be increasing annually. The claim is that by the year 2050, global food production will need to increase by 70% (FAO, 2009; Öborn, 2011). Because food sustainability is a global problem, various government institutions and departments have called for more research on business model (BM) innovation in the agriculture industry (Griggs et al., 2013; Jordbruksverket, 2017). There is a grave concern,
largely based on the environmental challenges posed by climate change, whether many areas of the world will be able to increase their food production sufficiently to meet this challenge. In addition to food shortages, environmental damage, depopulation, and an overgrown countryside are likely consequences if the agriculture industry fails to become more sustainable.

Predictions indicate that Sweden will continue to have a favorable farming climate (Lantbrukarnas Riksförbund, 2009)\(^3\), and the Swedish government’s goal is that its agriculture industry will be globally competitive, innovative, and sustainable by the year 2030 (Jordbruksverket, 2017). Moreover, there is a focus on Swedish agriculture on the environment, food safety, and animal welfare (Lantbrukarnas Riksförbund, 2009).

However, declining profitability and decreased production in recent years have created severe challenges in the Swedish agriculture industry. Both the number of farms and the number of farm employees have decreased significantly (Jordbruksverket, 2017). Increased competition from imported foods and increased administrative and statutory requirements contribute to the difficulties (Jordbruksverket, 2017; Tell et al., 2016). In addition, there are inheritance issues as well as management issues because many Swedish farms are family farms inherited from older generations and managed along traditional lines, with relatively constant BMs. If the Swedish agricultural industry is to meet the challenges of a globalized and rapidly changing world, more focus is needed on sustainable business development in this context.

This paper answer the question: What is hindering farmers when engaging in SBMI? In order to answer the research question, this paper draws on literature about sustainable business model innovation (SBMI), which can create opportunities for sustainable and successful businesses (Bocken et al., 2014; Boons & Lüdeke-Freund, 2013, França et al., 2017). Further, literature about entrepreneurship and innovation, two key concepts often referred to in the SBMI literature, is used (Schaltegger & Wagner, 2011; Stubbs, 2017), as well as the emerging research field of sustainable entrepreneurship, that addresses innovative ways to achieve sustainable ecological, economic, and social goals (Belz & Binder, 2017).

This paper contributes to the research with its understanding of the development process, an examination and illustration of the barriers, and the relationships between them. It also contributes an explanation of how these barriers can affect the development of both the agricultural and agri-food industry, since agriculture is the first step in the food production value chain. Here, a definition of agricultural entrepreneurship is useful and,

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\(^3\) Lantbrukarnas Riksförbund is the Federation for Swedish Farmers.
as discussed in the literature (e.g., Pindado & Sánchez, 2017), agricultural entrepreneurship can be defined as the conduct of the non-agricultural businesses by established farmers (Seuneke, Lans & Wiskerke, 2013) or as the production of processes and goods in the agricultural industry (Vik & McElwee, 2011). Both definitions are applicable in this paper.

The next section, literature review, summarizes the literature on sustainable entrepreneurship, sustainable business models, sustainable innovation, and barriers to the creation of sustainable BMs. The research methodology is described next, followed by a description of the six farms, analysis of the identified SBMI barriers and results of the study. Finally, the conclusion section includes implications and suggestions for future research.

**LITERATURE REVIEW**

**Sustainable entrepreneurship research**

Sustainable entrepreneurship is an emerging sub-area of entrepreneurship research (e.g., Binder & Belz, 2015, 2017; Gast, Gundolf & Cesinger, 2017; Stubbs, 2017). This sub-area, which is connected to strategic management and organization, focuses on social and environmental sustainability (Kurowska-Pysz, 2016). Sustainability and management researchers generally agree that sustainable development in society is associated with sustainable development of organizations and that BMIs are drivers of sustainable entrepreneurship.

The sustainability management literature emphasizes the importance of entrepreneurship and leadership in SBMI (França et al., 2017; Lambert & Davidson, 2013; Schaltegger, Hansen & Lüdeke-Freund, 2016; Stubbs, 2017). Hernández-Perlines and Rung-Hoch (2017) highlight the importance of sustainable entrepreneurship and corporate social responsibility (CSR) in family businesses. According to Jansson, Nilsson, Modig and Hed Vall (2017), this research, in its focus on large companies, often neglects small and medium-sized enterprises (SMEs). However, Schaltegger et al. (2016) claim that CSR and process- and product innovation alone cannot make the changes needed to achieve real sustainability in society, hence creating sustainable value for customers has to include creating value to a broader range of stakeholders. They call for more research on how to change or create BMs at all levels.

Various factors influence internal management processes, strategies, and actions when sustainability is in focus. For example, Sullivan and Gouldson (2017) found that businesses in general only invest in sustainability when it is economically profitable. Jansson et al. (2017) note the importance of working with external and internal perspectives on sustainability at both business and policy levels. Companies that take a long-term growth perspective, instead
of a short-term, can contribute to a sustainable society (Acs, Audretsch, Braunerhjelm & Carlsson, 2012; Evans et al., 2017; Shepherd & Patzelt, 2011) and sustainability should be emphasized when discussing the strategic management of agricultural businesses (Chen, Yueh & Liang, 2016).

Various related topics now appear in the sustainable entrepreneurship literature. For example, Woodfield et al. (2017) examine the issues related to sustaining family businesses. Further, family business research has found collaborative innovation to be an effective way to overcome innovation barriers (Feranita, Kotlar & De Massis, 2017), which is a part of SBMI. Increasingly, studies on the sociology of rural life, family farms, and farm entrepreneurship appear in the Scandinavian sustainability and entrepreneurship literature (e.g., Gaddefors & Anderson, 2017; McElwee, 2008; Tell et al., 2016; Vik & McElwee, 2011; Vesala & Vesala, 2010). However, none of these studies examine the barriers to SBMI in Swedish agriculture.

**Business model and business model innovation research**

Although definitions of BMs differ in both scope and concept, usually these definitions take an individual company perspective focusing on creating and delivering value (Lambert & Davidson, 2013; Zott et al., 2011). BM innovation (BMI) research typically examines various activities such as selection of suppliers, creation of value propositions, development of customer relationships, and exploration of revenue models (Breuer, 2013; Osterwalder and Pigneur, 2013; Zott, Amit & Massa, 2011).

There is not a great amount of BM research or BMI research related to the agriculture industry. BM and BMI research mainly focuses on media, information technology, and biotechnology industries (Lambert & Davidson, 2013). However, a few studies examine BMI in the agri-food industry as a whole (e.g., Tell et al., 2016). The Swedish Agriculture Department reports a gap in research on strategic development and management linked to the countryside and rural businesses (Jordbruksverket, 2006).

The emergent field of sustainable entrepreneurship had begun to address advanced strategies for sustainable development, such as SBMI (e.g., Provasnek, Schmid, Geissler & Steiner, 2017), and emphasize the importance of the long-term perspective when addressing sustainability (Acs et al., 2012; Shepherd & Patzelt, 2011; Stubbs, 2017).

more entrepreneurial mind-sets and better entrepreneurial skills. Research by Vik and McElwee (2011) reveals that agricultural activities create opportunities for new product development and innovation in business processes.

A comprehensive review of the early BM literature (Wirtz, Pistoia, Ullrich & Göttel, 2016) emphasizes its focus on change and development but without a linkage to social and environmental sustainability. This is also emphasized by Biloslavo, Bagnoli and Edgar (2018), who try to close the sustainability gap by proposing the “Value Triangle,” a SBM framework with society incorporating the natural environment and a long-term perspective being at the core, and with public, partner and customer value being co-created and co-delivered. However, SBMI research, which emerged in the mid-1990s with e.g., Elkington (1997) stressing the importance of all businesses needing to help society achieve the three inter-linked goals of economic prosperity, environmental protection and social equity, has increased significantly in the last decade (Bocken, Short, Rana & Evans, 2014; Boons & Lüdeke-Freund, 2013; Teece, 2010; Upward & Jones, 2015), and research about SBMs is suggested to be both multi-, inter- and transdisciplinary when developed as an integrative field (Lüdeke-Freund & Dembek, 2017). In this research, nature is identified as a stakeholder (Stubbs & Cocklin, 2008) that links sustainable innovations and BM concepts (Boons & Lüdeke-Freund, 2013).

The Business Model Canvas (BMC) is a well-known practical tool to work with BMI and create an understanding of customers, distribution channels, partners, revenue streams, costs, and core value propositions (Osterwalder & Pigneur, 2013). The BMC has been developed to include sustainability (Foxon et al., 2015; França et al., 2017; Upward & Jones, 2015) and now encompasses sustainability and shared value creation (Lüdeke-Freund & Musango, 2016). The adapted BMC posits that normative values, corporate identity, intentions, networks, and strategic orientation are relevant in the creation of BMs (Bocken et al., 2014; Breuer & Lüdeke-Freund, 2017; Lüdeke-Freund & Musango, 2016).

BMI for sustainability (i.e., SBMI) highlights the importance of intentional choices and changes in philosophy, values, products, processes, and methods. The aim of SBMI is to create social and environmental value in addition to economic return (Adams et al., 2015).

Barriers to sustainable business model innovation

The literature emphasizes the need for organizations to quickly adapt their BMs in response to industry change and the appearance of new opportunities. However, organizations often encounter barriers when they try to respond to such external events. Chesbrough (2007, 2010) observed two cognitive barriers: leadership resistance to innovating operations, and leadership resistance to innovating BMs. Cognitive barriers can cause leaders to miss opportunities...
to make BM changes because of either not recognizing such opportunities or because of an unwillingness to make the needed changes (Engelken et al., 2016).

One way to categorize barriers to SBMI is to divide them into internal and external barriers. Internal barriers relate to company leadership, mindsets, and other human factors while external barriers relate to company environment such as the behavior of competitors, consumers, and governments (Sandberg & Aarikka-Stenroos, 2014).

Another way to categorize barriers to SBMI is to divide them into cultural and structural barriers. Structural barriers arise from unclear policies and regulations or from market and financial issues. Cultural barriers involve behavioral and social issues with, e.g., customers and stakeholders (Laukkanen & Patala, 2014).

Larger companies tend to encounter different barriers than SMEs. It is possible for a company to overcome a barrier, depending on, for example, the efforts exerted, the size of the company, and the nature of the barrier itself (Sandberg & Aarikka-Stenroos, 2014). Because they have more resources, including access to industry knowledge, larger companies may have greater success in overcoming barriers than SMEs (Lüdeke-Freund & Musango, 2016).

Research shows that entrepreneurs find it easier to overcome barriers to innovation if they have certain cognitive abilities. These abilities include sufficient knowledge, access to information, and decision flexibility. Shepherd (2015) found that positive attitudes can influence how well entrepreneurs innovate whereas negative attitudes hinder such activities. Positive attitudes toward work and others can enhance individual performance and creativity, support new relationships, and expand the use of intellectual and social resources.

Innovation in the agriculture industry
The rural context for SMEs can create barriers to SBMI because of the pressure of social norms and local values (Jack & Anderson, 2002). In addition, agricultural entrepreneurs differ from entrepreneurs in other sectors. Some farmers, with weaker entrepreneurial capabilities, tend to be less proactive in making changes and adopting new strategies. These farmers are more likely to be older, established farmers. According to Pindado and Sánchez (2017), however, younger farm entrepreneurs are just as proactive as entrepreneurs in other industries. An SLR of 570 peer-reviewed journal articles categorized barriers to BMI in the agri-food industry and showed that internal barriers on an individual level were the least studied, while recommending that future research should focus on the cognitive barriers of entrepreneurs to enhance the development of BMI (Ulvenblad et al., 2017).
In Sweden, family-owned farms focus on creating socio-emotional wealth and supporting the family. To some extent, farms prioritize these goals above economic goals (Maloni, Hiatt & Astrachan, 2017). Family succession is an important consideration for family farms (Pindado & Sánchez, 2017). For most Swedish farms, the entrepreneurs and their families have influential operational and administrative roles. However, such leadership may be problematic with an unwillingness to make changes and implement new working methods. It is also necessary to strategize around, and scale up, opportunities in agricultural BM development (Torkkeli et al., 2015).

RESEARCH METHODS

Semi-structured interviews with six agricultural farm owners/managers were conducted for 3-4 hours each, aiming to 1) learn how the entrepreneurs had developed their present BMs (and planned their future), 2) understand the entrepreneurs’ ideas about sustainability and barriers to SBMI. Swedish advisory groups recommended three of the farms for the study. The other farms were selected from network activities. All six cases demonstrated some degree of novelty (Flyvbjerg, 2006), each of them having a distinctive business focus, to include the main focus of agriculture and avoid the influence of market factors for certain production orientation. Further, they are small family businesses with employees and with developed BMs. Table 1 summarizes the farms’ business focus, BM, and sustainability priority.

Because the entrepreneurs had previously developed BMs, it seemed probable that they had the ability and the willingness to innovate their BMs (Chesbrough, 2007, 2010), and that they could describe encountered barriers to SBMI and the efforts they had (or had not) taken to overcome them.

The interview guide was based on the BMC (Osterwalder & Pigneur, 2013) with additional questions related to sustainability (Breuer & Lüdeke-Freund, 2017; Upward & Jones, 2015). The interviews were taped, transcribed, and together with secondary data (e.g., provided documents and webpages, newspaper articles and media), analyzed using content analysis.

A qualitative approach was taken, following the Gioia methodology, where the research process developed from inductive to abductive, considering data and literature in tandem, not knowing the literature in detail too early to avoid bias, while allowing for discovery without reinventing the wheel (Gioia, Corley & Hamilton, 2012, p. 21).
Table 1. The six farms: business focus, business models, and sustainability priority

<table>
<thead>
<tr>
<th>Farm</th>
<th>Business focus</th>
<th>Create value to customers and stakeholders</th>
<th>Deliver value to customers and stakeholders</th>
<th>Sustainability priority</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adair</td>
<td>Meat producer selling to stores, restaurants and slaughterhouse</td>
<td>Deliver fresh meat all year</td>
<td>Meet quality- and traceability requirements</td>
<td>Economic, Ecological Social</td>
</tr>
<tr>
<td>Bethia</td>
<td>Diversified business with crop cultivating, animal farming and breeding, selling to stores and restaurants</td>
<td>Cycle reasoning, use all parts of production, most profitable business partner, cooperative activities</td>
<td>Top quality, fresh meat all year</td>
<td>Economic, Ecological Social</td>
</tr>
<tr>
<td>Cullodina</td>
<td>Organic milk and meat producer selling to Swedish and German dairies and Swedish slaughterhouse</td>
<td>Develop breeding with beef</td>
<td>Meet quality requirements</td>
<td>Economic, Ecological Social</td>
</tr>
<tr>
<td>Dougie</td>
<td>Cultivation business growing vegetables, selling to grocery stores through wholesalers</td>
<td>Control of entire chain, delivery all year</td>
<td>Meet quality- and traceability requirements</td>
<td>Economic, Ecological Social</td>
</tr>
<tr>
<td>Eddeen</td>
<td>Diversified business with milk, beef and lamb production, forest and tourism activities with lodging, cafe, shop, dairy and bakery, selling to dairy, slaughterhouse and end consumer</td>
<td>Diversification, products without additives, the whole chain on the farm, farm activities</td>
<td>Meet quality requirements, locally produced foods without additives</td>
<td>Economic, Ecological Social</td>
</tr>
<tr>
<td>Forba</td>
<td>Organic beef producer developing breeding and social business, selling to demerged sales company</td>
<td>Minimal disturbance of the ecosystem, breed to develop high quality, create socially sustainable environment</td>
<td>Deliver ecologic, grass grazed meat</td>
<td>Ecological Social, Economic</td>
</tr>
</tbody>
</table>
Comparisons of similarities and differences in the interview material were conducted and text elements were categorized to increase the understanding of the perceptions of barriers that was experienced. Barriers to SBMI were identified and categorized as concepts, themes, and aggregated dimensions (Gioia et al., 2012). Figure 1, which exemplifies this analysis, illustrates how entrepreneurs’ responses (i.e., using informant-centric terms and codes) lead to the development of researcher-centric concepts, themes, and aggregate dimensions. This tandem reporting show the links between data and concept development.

Transcribed interviews and secondary data were analyzed in cycles, using content analysis, with meaning units that were condensed and grouped into groups of barriers and challenges. I strived to include all barriers that were found, in order to be able to convey different perspectives, experiences and learnings. After the initial stages of the analysis, a framework about barriers to SBMI (e.g., Laukkanen & Patala, 2014; Sandberg & Aarikka-Stenroos, 2014), family business research (Maloni et al., 2017), and cognition research (Chesbrough, 2010; Shepherd, 2015) were considered in tandem with the data to analyze what barriers could be explained with existing framework and to find what barriers that did not fit into existing theory. Since the most appropriate description of the findings was to use the model of internal and external barriers (Sandberg & Aarikka-Stenroos, 2014) this was expanded to include new knowledge about contextual barriers. Finally, the relations between the different categories were analysed and theory was developed with new knowledge about the interrelations.

As qualitative studies are criticized for being subjective (Flyvbjerg, 2006) reliability is focused on the whole process with detailed explanations, since case study is needed to understand a complicated question like the one in
this study (ibid.). The interview guide ensures that intended parts are covered when collecting data and continuing reviews of the study are performed by other researchers during the process.

ANALYSIS AND RESULTS

The Swedish farms

The six farms in this study are described with fictitious names.

Adair Farm has seven employees and an annual turnover of about 17 million SEK. Its main activities are cattle breeding, production of premium meat, and sawmill work. Anna and her husband are the owners. She works primarily with management and sales. The couple are well educated and have work experience in other industries. The farm’s main customers are Swedish grocery stores and restaurants that require high-quality products and verifiable product traceability. Under its own brand, the farm promotes safety and environmental/social sustainability. External consultants advise on strategic development.

Bethia Farm has ten employees and an annual turnover of 25 million SEK. The farm grows crops, breeds sheep, pigs and cattle and produces wind energy. The farm sells produce and lifestyle products, under its own brand, to stores and restaurants. Brian, who has worked in other industries, has a large network of contacts to consult. The goal is to be a diversified business with long-term sustainable production of high-quality produce. The farm aims to be the qualitative customer’s first choice when purchasing produce, and tries to minimize waste and deliver best quality raw materials in accordance with the entrepreneur’s ethical philosophy. Economic sustainability is defined as a positive cash flow. Environmental sustainability is achieved through minimization of resource consumption and strategic crop rotation and social sustainability is achieved by participation in local activities.

Cullodina Farm has four employees and an annual turnover of 8 million SEK. The farm mainly produces organic milk but also produces meat, forestry products, and crops. The farm rents residential and business machines to customers. Carl manages farm operations and Claire, with experience from other industries, manages the administrative work. Dairies and slaughterhouses are customers. As far as strategic development is concerned, their aim is to increase annual turnover, maintain a stable workforce, and provide more leisure time for themselves. Outside consultants provide business and financial advice. Customer relationships are maintained through satisfactory deliveries. The entrepreneurs have a large network within and outside the industry, and collaborate with neighbors and other entrepreneurs by land swaps, equipment
loans and rentals. Ecological sustainability is achieved by organic production. Economic sustainability is achieved when the revenues are covering expenses.

**Dougie Farm** has 20 employees and an annual turnover of 50 million SEK. The farm produces and processes organic premium vegetables and grain via participation in crop rotation with neighbors. David, who is in charge of sales and administration activities, operates the farm with his sister, Diana, who is responsible for the production. The farm’s aim is to control the entire chain – from the farm to wholesaler warehouses to Swedish grocery stores. Some of the produce is sold under their own brand. The entrepreneurs have a large network in the agri-food industry. Strategic issues are discussed with the family and with external advisors. Sustainability means being able to pass the farm on to the next generations.

**Edeen Farm** has three employees and an annual turnover of 4 million SEK. The farm primarily produces milk although it also produces meat (beef and lamb), has forestry activities and is a tourist destination with accommodation, as well as a cafe, shop, dairy and bakery. Eric, who is responsible for crop production and administration, manages the farm with Eliza, who is responsible for animal care, the shop, dairy, and bakery. Milk is sold to a Swedish dairy. Most of the meat is sold to a slaughterhouse except for a small amount that is processed on the farm. The farm cooperates with contractors and others in an agriculture network. Strategic development is discussed within the family. The entrepreneurs’ goal is to achieve financial sustainability to work less. Environmental and economic sustainability is achieved by crop rotation and care in the breeding of healthy animals. Activities are considered economically sustainable when repayment of loans is possible.

**Forba Farm** has five employees. [Past annual sales figures are irrelevant because the farm has recently undergone a structural reorganization]. The farm produces organic beef and is engaged in animal breeding. Frank, who has previous experience in the slaughterhouse industry, manages the farm. The sales company, which was split off from the farm in 2015, has an annual turnover of about 16-17 million SEK. This company sells organic grass-fed beef that it purchases from 30-35 farms. The farm and the sales company split off in order to develop a socially sustainable agricultural business, to increase sales, and to better manage costs. Today, the sales company is responsible for the farm’s sales, marketing activities, and pricing strategies. The sales company has a board of directors, and the farm plans to appoint one. Strategic issues are discussed with network contacts. The entrepreneur’s goal is to advance social sustainability in the local area. For the entrepreneur, environmental and social sustainability are connected. Economic sustainability means producing a sufficient surplus that will pay for all development costs.

Table 2 summarizes the barriers, drivers, and solutions used for each farm.
## Table 2. Barriers, drivers, and solutions

<table>
<thead>
<tr>
<th>Farm</th>
<th>Barriers</th>
<th>Drivers</th>
<th>Solutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adair</td>
<td>Accepts a farmer’s life, liquidity, water protection area, local slaughterhouse closure, administration, lack of competence in marketing and pricing, quick changes, changes in rules, labelling, consumer behavior, workload, safety, time for family</td>
<td>Positive attitude, business focus, possibility oriented</td>
<td>Good communication, have fun, involve family, delegating, synergies, collaboration, minimizing waste, storytelling, focus on core business, cost awareness, strategic board</td>
</tr>
<tr>
<td>Bethia</td>
<td>Accepts a farmer’s life, liquidity, public procurement, economic and emotional process, business culture and politics, cheap food, lack of market knowledge, administration, low price, no strategic board, time for family</td>
<td>Positive attitude, possibility focus, curiosity, innovative, risk averse, competitive, another future</td>
<td>Time off, entirety fit, cost awareness, focusing on cash-flow, outsourcing, cooperation, strategic network, teamwork, risk diversification</td>
</tr>
<tr>
<td>Cullodina</td>
<td>Accepts a farmer’s life, liquidity, delegating difficulties, control needs, lack of good consulting, pricing from cooperation, carefulness, geographical location, strategic development, lack strategic work, self-control and influence over production, unknowing consumer, workload, family time, rapid growth</td>
<td>Positive attitude, another future, possibility focus.</td>
<td>Cost awareness, focusing on core business, captured occasions, network</td>
</tr>
<tr>
<td>Dougie</td>
<td>Accepts a farmer’s life, administration, social media, workload, expansion, self-leadership, large customers pricing, delivery requirements, expensive value chain expensive, eagerness to develop, time for family, quick growth, owner differences, seasonal workforce</td>
<td>Positive attitude, business focus, risk averse, possibility focus, owner differences, competitive, another future</td>
<td>Cooperation, network, cost awareness, strategic network, teamwork, leadership skills, rent land, opportunity to buy packing plant</td>
</tr>
<tr>
<td>Farm</td>
<td>Barriers</td>
<td>Drivers</td>
<td>Solutions</td>
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<tr>
<td>Edeen</td>
<td>Accepts a farmer’s life, liquidity, price from cooperatives, administration, lack of good consulting, business culture, lack of marketing knowledge, family discipline, small scale, workload, self-leadership, unknowing consumers, sales</td>
<td>Positive, curiosity, willingness to learn, innovative, risk averse</td>
<td>Network, cost awareness, only family employees</td>
</tr>
<tr>
<td>Forba</td>
<td>Accepts a farmer’s life, lack of good consulting, Swedish support system, impatience, submit to new leader, release control, consumer knowledge</td>
<td>Possibility focus, risk averse, curiosity, sustainability focus</td>
<td>Sustainability focus, cost awareness, focusing on core business</td>
</tr>
</tbody>
</table>

**ANALYSIS**

The analysis revealed similarities and differences in the nature of the barriers and the approach to them. When reducing concepts into themes and dimensions, consistency with existing theory about External and Internal barriers was discovered to some extent. However, those were insufficient for analysis of the barriers to SBMI in the agricultural context (Pindado & Sánchez, 2017), a third aggregate dimension was needed, and hence theory was developed with the addition of contextual barriers. See Figure 2 for a listing of the concepts and themes related to the three aggregate dimensions, explained in the following text.

**External barriers** relate to the behavior of competitors, consumers, and governments (Sandberg & Aarikka-Stenroos, 2014). The entrepreneurs explained that the barrier of resistance or lack of support from actor(s) was evidenced by several factors. Since the agri-food industry is more adaptive to larger production, small-scale production is more costly than large-scale when measured on the basis of per unit of output. Further, changing consumer behavior, consumers’ unawareness of differences between labels, and unwillingness to pay for added value, also create barriers. Consumer ignorance is exemplified by Eliza, saying:

“People demand organic without knowing the meaning of it.”
Further, Claire illustrates the consumer power:

“If customers would abandon organic, we have to change to conventional...the biggest risk is mainly the milk price and changing consumer behavior.”

The entrepreneurs found unsupportive government limiting the scope of changes. First, difficult and complicated legislation and regulations for the
agri-food industry have increased administrative requirements that take time from actual productive work, as expressed by Anna:

“That’s why I am sitting here in the office. If we haven’t had this [the rules], I would not been needed here.”

Although strict rules may drive development and sustainability in new ways (Vik & McElwee, 2011), such rules often limit both development and sustainability when new fees and new requirements are imposed. David express frustration:

“I sometimes feel limited and it has to be enough with written procedures. It is frustrating.”

Second, the governmental advisory groups (with a long history in Swedish agriculture) seem to lack the relevant knowledge and skills for development. The entrepreneurs request advice that is less focused on traditional production and more on strategic business management and new methods, as explained by Eric:

“I’m very skeptical about many of the advisory organizations. I will happily take advice, but they do not have the knowledge I need.”

Frank reflects on the impact of advisory organizations on business development, and states:

“Advisory organizations are slowing down development. If I had not listened to them, I would have progressed much further. They come here to learn.”

The entrepreneurs explain that the business culture in Swedish agriculture is a barrier to SBMI, making it difficult to interest young people in farm work and careers. They often feel the need to resist the media pressure to be more competitive and more profitable, as reflected by David:

“Media focuses on negative news as if milk price is lowered a few pennies. If we focus on bad things, we get a Swedish agriculture that is hard to develop.”

Another aspect of this barrier is the pressure of the so-called Law of Jante, a peculiar Nordic unwritten law of behavior that can influence the business culture. Under Jante, individual success and wealth are seen as inappropriate, and sometimes leads to disrespect for hard work and ambition. Therefore,
entrepreneurs may be unwilling to appear more successful than others or to boast about their success, as expressed by David:

“I never talk to anyone about how we are doing - because then we have this Jante.”

**Internal barriers** relate to human factors (Sandberg & Aarikka-Stenroos, 2014). Individual emotions and attitudes largely influence entrepreneurial processes (Shepherd, 2015), and a *restrictive mind-set* can hinder attempts to make changes to BMs and be damaging to self-leadership (Manz & Neck, 2013). The entrepreneurs realize that they should view their farms as professional companies rather than as traditional, family-run small businesses (Vesala & Vesala, 2010), but traditionally do not, as explained by Eliza:

“Farmers have never seen themselves as entrepreneurs; we are not used to it.”

Because they look at farming as a ‘lifestyle’, they find the leap to a professional’s way of conducting business a challenge. They recognize the difficulties the farming ‘lifestyle’ creates (e.g., never a day off and long hours), but generally they do not see a transition to professional management either as a clear possibility or as a goal. More farm networking might help overcome this mind-set, but such networks are rare in Sweden. Anna explains:

“A goal is to have a job where I don’t have to work all night. It should be a lifestyle, sure – if you go into this profession you have forgotten about holidays long ago.”

More farm networking might help overcome this mind-set, but such networks are rare in Sweden, as Carl reflects:

“My dad and his generation would never network with others.”

The entrepreneurs describe their *lack of competences* with respect to strategic management, organization, and self-leadership that hinder their development and commercialization of innovation (Shepherd, 2015; Laukkanen & Patala, 2014). They also find lack of marketing and sales competence as a hindrance, as illustrated by Eliza saying:

“Producing is easy, but then it will be sold too ....”
Insufficient resources refer primarily to the entrepreneurs’ lack of adequate financing. Lack of capital to finance operations and to preserve the family farm for future generations is a barrier to development (Lüdeke-Freund & Musango, 2016). Many of the farms have liquidity problems hindering them, e.g., to hire qualified employees.

**Contextual barriers** relate to the setting for the farms. The ecological philosophical considerations create barriers, for example, based on inherited cultural and rural values. The entrepreneurs view the world in a way that influences their lives and their businesses. Frank illustrates a picture of the farming considerations, explaining:

“We have a larger universe below the ground than above... and farming is a complex business.”

Nature (i.e., the land) are valued second after financial return, and the land is considered to be managed to pass to the heirs. Brian explains the value and the mind-set saying:

“We have to leave the earth as a better place than it was when we came... I would never have done this for money. It is about completely different values.”

Long-term sustainability through generations requires safety and care. However, this attitude creates a barrier to economic profitability because many decisions do not mean greater production and greater revenue, sometimes with lost financial opportunities as a result (Engelken et al., 2016).

**Socio-emotional wealth** describes a barrier that is the result of a focus on family needs and values instead of the attainment of financial goals, e.g., achievement of social status and acquisition of a good reputation among neighbors (Maloni et al., 2017). The awareness and restriction are expressed by David saying:

“Numerous talks are being conducted about us at the home of employees; it is both an opportunity and a large risk.”

In fact, some of the farms in this study were specifically developed to create jobs for family members, as for example in the case of Eliza and Eric:
“When our son was being educated to become a baker, the oven was replaced at his school, and he was allowed to take it. Then we build a bakery.”

Figure 3 depicts the overlaps and the intertwining of the three barrier groups, illustrated as transparent circles filled with nets that link the barriers, symbolizing the interconnections and influences. Many of the barrier groups share characteristics and effects each other, which also means that it can be difficult to work with an isolated group of barriers, and that actions in one group affect the other groups. Since cognitive aspects affect how to approach challenges and barriers, internal barriers is a large and important dimension to understand, further discussed below.

![Figure 3. Interrelated barriers to SBMI](image)

**DISCUSSION**

In general, Swedish farmers seldom engage in SBMI (Tell et al., 2016). The reasons, found in this study, are that they meet different barriers and approach them in different ways. The entrepreneurs in this study have developed their BMs, and hence they have managed to conquer many barriers. This depends on, e.g., the entrepreneurs having a positive attitude, being possibility oriented, being innovative, and using their network (see Table 2). Most of them also have education and work experience from other industries, and have chosen to take over the family businesses, which is likely to affect their approach, motivation and actions. These characteristics and skills are probably not typical of the majority of Swedish farmers. On the other hand, we can learn from studying what challenges they face and how those entrepreneurs approach various barriers.
Barriers to SBMI are examined and illustrated and relations briefly discussed. Since cognitive aspects affect how to approach challenges and barriers, internal barriers are the absolute largest group, largely linked to both external and cognitive barriers, which are also interrelated in different ways (see Figure 3). However, enabling a thorough analysis of the relations and interrelations of the barriers would require a study focusing on the relationships. This study is the first step, contributing with knowledge about why farmers seldom develop their BMs, what the barriers to this development look like, how they can be categorized, how they affect agricultural entrepreneurs, and how the barriers are approached.

The most challenging external barriers are the pressure from large cooperatives, the complexity of ever-changing legislation and regulations, and the lack of relevant governmental and advisory support. The most challenging contextual barrier is the dilemma created by the need to strike a balance between environmental/social sustainability and individual economic stability. The entrepreneurs emphasize that land is loaned from future generations, a philosophy that also creates an internal barrier to SBMI, because it influences nearly all their decisions about internal management processes, strategies, and actions.

Since cognitive aspects affect how to approach challenges and barriers, internal barriers is an interesting and important dimension to understand; intertwined with both external and contextual barriers, which also are interrelated in different ways (see Figure 3). Mind-sets, attitudes, cognitions, etc., affects how the entrepreneurs approach challenges (Manz & Neck, 2013). These characteristics also highly affected if the challenges are transformed into barriers or remains challenges. Working with the internal barriers means that the entrepreneurs need to develop themselves and their cognitive abilities, which in turn requires both maturity, courage and self-awareness, and therefore can be a challenging dimension of barriers to conquer. Those self-leadership processes are individual and take time to change (Manz & Neck, 2013), but since leadership problems hinder the development of BMs (Chesbrough, 2010), and many of the entrepreneurs have minimal leadership/management training and experience, it is important to highlight this dimension. The lack of leadership competence results in the inadequate use of both time and workforce.

Strategic planning is a do-it-yourself exercise or do-it-family exercise. Several entrepreneurs have discussed developing a strategic forum, but seem to lack the drive to make the forum a reality.

Moreover, the pervasive philosophy of farming as a ‘lifestyle’ is an internal barrier connected to the contextual, caused by respecting cultural farming traditions and rural values, and resulting in a resistance to innovation. The
farmers are inclined to think of themselves as dependent sub-contractors to the large cooperatives rather than as independent contractors.

The entrepreneurs support environmental sustainability through “management and development of the earth and land.” Some entrepreneurs support societal sustainability through “local engagement” with neighbors and the community. Although they are not purely profit-driven, generally, however, they rank economic sustainability above environmental/social sustainability. As one entrepreneur states, “business goals serve family needs.”

CONCLUSION

The entrepreneurs describe barriers to SBMI, but they have not developed many solutions. They understand the necessary change if the farms are to survive in Sweden. Indeed, some farms have begun to diversify by adopting ecological farming methods and by diversifying their traditional farming activities. Such diversification means changing the conservative mind-set that is characteristic of traditional farming to a mind-set aligned with the goals and practices of professional farming. It means developing the professional leadership skills associated with strategic management as well as acquiring knowledge of modern marketing tools and methods.

It will be difficult for these entrepreneurs to prosper if they continue to look at farming as a ‘lifestyle’ rather than as a for-profit business. Food production on their relatively small scale is a challenging activity, especially when competitors are large enough to set prices, control markets, and take advantage of economies of scale. Larger competitors, with greater knowledge and expertise, are also better positioned to understand and comply with new legislation and regulations.

This study contributes to new knowledge about barriers to SBMI in the agricultural sector, specifically with the developed dimension contextual barriers, and the interrelations between the three dimensions; internal, external and contextual. Previous research has shown that cognitive abilities affect intentions, behaviors and actions, which is further confirmed in this study, showing that a significant part of the challenges lies in the entrepreneurs themselves and how they approach different barriers. This study highlights the need to work with leadership and self-leadership, and also emphasize previous research showing the pressure of social norms and local values in the rural context. Significant to this context is the fact that agriculture has a unique challenge in combining the difficulties it means to be both a farmer, entrepreneur and working in the countryside.
Practical and policy implications
This study identifies and illustrates three barrier groups to SBMI for agricultural SMEs in Sweden. In response to the Swedish Agriculture Department’s request for research that increases our understanding of barriers to the development of this sector, this study examines and illustrates the barriers. The main goal of this study is to educate policy makers, advisors, legislators, and farm entrepreneurs about these barriers. If the barriers to SBMI are better understood, then it is more likely solutions to overcome these barriers can be found. As explained in Figure 3, the barriers are intertwined, which also illustrates the importance to understand the internal influences. This study’s findings can be disseminated into existing national education courses for the development of the agricultural sector.

Future research
An interdisciplinary study examining the internal/psychological processes involved in the relationships and interrelations between the barriers would deepen the understanding. It would also be of interest to compare the barriers for farms without developed BMs, with the barriers identified in this study.

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**Abstrakt**

W ostatnich latach szwedzkie rolnictwo stanęło w obliczu wielu wyzwań. Do najpoważniejszych z nich należy spadek liczby małych i średnich gospodarstw rolnych, spadek liczby osób zatrudnionych w działalności rolniczej oraz wzrost regulacji rządowych i prawodawstwa regulującego taką działalność. Jednocześnie wzrosło zapotrzebowanie rolnictwa na zrównoważony rozwój społeczny i ekologiczny. Chociaż badania pokazują, że innowacyjne modele biznesu zrównoważonego (SBMI) mają wpływ na powstawanie zrównoważonych firm i do rozwoju zrównoważonego społeczeństwa, w szwedzkim rolnictwie stosowanie tychże modeli należy do rzadkości. Celem tego artykułu jest zbadanie barier dla wykorzystania SBMI w szwedzkim rolnictwie. To jakościowe badanie jest zgodne z metodologią Gioia, a dane do analizy zostały zebrane w częściowo ustrukturyzowanych wywiadach z przedsiębiorcami z sześciu gospodarstw rodzinnych w Szwecji. Artykuł stanowi teoretyczny wkład w badania nad SBMI, koncentrując się na zrównoważonej przedsiębiorczości w szwedzkim rolnictwie. W artykule zidentyfikowano zewnętrzne, внутренние и контекстовые bariery dla SBMI, gdzie wewnętrzne są największe i stanowią największe wyzwanie

**Słowa kluczowe:** zrównoważony model biznesu, innowacje, bariery, przedsiębiorcy rolni, zrównoważona przedsiębiorczość.
Biographical note

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