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## Values underlying farmers' business development decisions: evidence from Swedish agriculture using Zaltman metaphor elicitation technique

Georgios Miaris , Sara Löfgren and Helena Hansson

Department of Economics, Swedish University of Agricultural Sciences, Uppsala, Sweden

### ABSTRACT

**Purpose:** This study aimed to uncover the values that underlie farmers' strategic choices for business development. In particular, we uncovered farmers' values related to business development through farm diversification and compared these with values regarding business development through non-diversified farm activities.

**Methodology:** We considered diversified and non-diversified farm activities as two possible strategic orientations related to farm development. For each strategic orientation, the study systematically uncovered its values grounded on in-depth interviews with 23 farmers in Sweden, using the Zaltman metaphor elicitation technique. We analyzed values in terms of use- and non-use values related to the choice of strategic orientation.

**Findings:** The results suggested that a heterogeneous set of use- and non-use values guide choices for farm strategic orientation. Particularly, for non-diversified farm activities, we identified eight values, of which three were categorized as use values and five as non-use values. For diversified farms, we found four values, all of which were categorized as non-use values.

**Practical Implications:** Our results highlight that policymakers need to approach farm development differently for each strategic orientation, considering that the underlying values between these two groups differ. Also, for farm advisors, results can be useful for improving and adapting the communication and interaction with farmers, which can further improve the content and influence of advisory services.

**Theoretical Implications:** The Zaltman metaphor elicitation technique expands the methodology of eliciting farmers' values and especially regarding farmers' strategic choices.

**Originality:** This paper extends the knowledge of the driving forces that underlie farmers' choices for farm business development.

### ARTICLE HISTORY

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Farmers' values; Zaltman metaphor elicitation technique; farm diversification; non-diversified farm activities; farm business development; use values; non-use values

**CONTACT** Georgios Miaris  [georgios.miaris@slu.se](mailto:georgios.miaris@slu.se)  Department of Economics, Swedish University of Agricultural Sciences, P.O. Box 7013, SE-75007, Uppsala, Sweden

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## 1. Introduction

Farm business development has attracted considerable interest in the literature (Damianos and Skuras 1996; van den Ban 1999; Methorst et al. 2016; Hansson and Sok 2021), and is instrumental for viable, profitable farms, and rural economic growth. Policy-makers in Europe prioritize the viability of rural areas and the development of farms high on their agendas. In particular, measures reflected in the Common Agricultural Policy and echoed at national policies target lively rural areas (Nègre 2021) and farm development. For decades, diversified farm activities have been considered a plausible measure to support rural areas (Chaplin, Davidova, and Gorton 2004) and farm business development. In other words, fostering farm diversification has been proposed to advance rural areas, stimulate economic activities from idle agricultural resources, provide employment opportunities, and enhance farm business growth (McNally 2001; Hansson et al. 2013; Barnes et al. 2015).

Much empirical work has been conducted to establish the determinants of farm diversification. For instance, Pfeifer et al. (2009) showed that a factor for diversification is the landscape properties, and Hansson, Ferguson, and Olofsson (2010) found that business structure and financial conditions influence diversification. In addition, Meraner et al. (2015) provided evidence that geophysical farm characteristics are critical determinants for choosing a diversification trajectory. There is also significant interest in the motives related to diversification. In particular, Barbieri and Mahoney (2009) found that risk reduction and a desire to cope with uncertainty were significant goals for diversification. Also, Northcote and Alonso (2011) supported that farmers' decisions to diversify are driven by lifestyle factors, and Hansson et al. (2013) highlighted the importance of family relationships as a motivating factor in making such decisions.

Notwithstanding the contributions made by previous literature related to diversification, we note that there has been only scant interest in the values that underlie decisions to diversify. In the psychological literature, values are viewed as concepts or beliefs that guide people's behavior (Schwartz 1992; Bardi and Schwartz 2003). The role of values in farmers' decision-making has been highlighted repeatedly by previous research. For instance, Darnhofer, Schneeberger, and Freyer (2005) investigated how values influence the decision for converting or not to organic farming, and Grubbström and Eriksson (2018) highlighted the role of values in land transfer decisions. Also, Chapman, Satterfield, and Chan (2019) indicated the importance of acknowledging farmers' values for participating in conservation incentive programs.

Accordingly, this study aims to uncover farmers' values regarding farm business development through farm diversification, and to contrast those with values underlying farmers' business development through non-diversified farm activities. We base the insights of this study on in-depth interviews, using the Zaltman metaphor elicitation technique (ZMET) (Zaltman and Coulter 1995), with a set of 23 Swedish farmers. The purpose of using ZMET in this study was to lead farmers to higher cognitive levels in their reasoning and to help them articulate aspects that had not been expressed previously. Therefore, ZMET is an appropriate approach to understanding their profound driving forces for strategic orientations and eliciting their values for farm development. Originally, ZMET was developed for marketing purposes and several studies have used it within this literature domain (Lee et al. 2009; Truong 2019; Lin and Yeh 2022). In the

agricultural literature, ZMET has previously been used successfully by Lagerkvist, Okello, and Karanja (2015) and Hansson and Kokko (2018). However, it has not previously been used to understand values underlying farmers' choices of strategic orientation.

Furthermore, in the previous literature focusing on diversification activities in agriculture, a lack of in-depth qualitative approaches was identified. In particular, existing studies that focus on farm diversification use various quantitative methods (Damianos and Skuras 1996; Evans 2009; Hansson, Ferguson, and Olofsson 2010; Barnes et al. 2015). While providing valuable insights about drivers for farm business development across large samples, these studies are not designed to provide in-depth insights into the underlying drivers or to allow for comparison of profound differences between the diversification and non-diversified strategic orientations, and thus offer limited information on farmers' individual experiences about their development activities. The present study contributes to this research using ZMET (Zaltman and Coulter 1995). This approach allows overcoming these limitations by enabling farmers to communicate their thoughts using images as metaphors in order to complement the verbal element of communication with the non-verbal. In this way, ZMET assists in understanding what farmers try to accomplish and what are the subtle differences between their decisions regarding strategic orientations. Such insights can complement the results of quantitative studies and provide a clearer picture of farmers' development decisions.

The results presented here provide insights that would be highly relevant from a policy perspective. In particular, policymakers could increase their knowledge and design policy themes for rural development and business development that align with farmers' values. This alignment will likely lead to higher acceptance of such policies because reaching a policy goal depends on farmers' willingness to embrace this goal. Also, farm advisors acknowledging these values could establish better communication channels with farmers, in the sense of a better understanding of what farmers try to achieve, something that can advance the quality and the influence of the advices. The rest of the paper is organized in the following way. In the next section, we introduce the conceptual framework, and in part three we present the analytical approach and data. Then, we illustrate the results in the fourth part, and the last section contains the discussion and conclusions.

## 2. Conceptual framework

### 2.1. Farm strategic orientations

Despite the research interest in farm diversification as evident from the literature, the concept has not been clearly identified (Barbieri and Mahoney 2009). However, many researchers consider farm diversification based on the use of farm resources such as land, labor, or capital for non-conventional farm activities or non-agricultural enterprises in order to generate additional income streams (Ilbery 1991; Barbieri, Mahoney, and Butler 2008; Hansson et al. 2013; Barnes et al. 2015). Following the conceptualization of farm diversification from prior research, the present study determined whether a farm business was diversified if it generated revenues from activities outside conventional agriculture or non-agricultural enterprises.

The above definition of farm diversification has several implications. The first is related to the unit of analysis. The literature considers three analysis units: the farm

business, the farmer, and the farm family (Hansson, Ferguson, and Olofsson 2010). The previously mentioned definition focuses on the farm business. Therefore, the approach taken in this paper should not be confused with the adjacent concept of pluriactivity, which refers to all the income-generating activities of the farmer and the farm household, and thus includes off-farm work and farmer's and farm family's involvement in additional off-farm businesses.

The second implication is related to the aspect of determining what conventional farming is in order to decide whether a farm is diversified or not. In this study, we considered conventional farming activities to be related to regular farming activities such as crop and livestock production following previous studies focusing on Swedish agriculture (Hansson, Ferguson, and Olofsson 2012). However, it should be acknowledged that the definition of conventional agriculture in this respect is time and place dependent: first, as Turner et al. (2003) highlighted, the definition of conventional farming is time dependent. For instance, organic farming used to be considered a diversified activity, but nowadays would be more suitable to be perceived as mainstream farming. Second, Barnes et al. (2015) explained that the definition of conventional farming is geographically determined because what is perceived as conventional farming can vary from place to place. Thus, these call for attention in comparison of studies between different periods and places.

The third implication is that farm diversification refers to activities outside of conventional farming. Therefore, farms that run several agricultural enterprises, such as milk and grain, are not perceived as diversified according to this definition. Hansson, Ferguson, and Olofsson (2010) found that approximately 70% of the larger Swedish farms run more than one agricultural enterprise.

In this paper, diversification is considered in relation to income-generating activities from farm resources as determined by the previous definition. Thus, farm diversification implies that a farm uses its resources to produce revenues from activities such as hospitality and agri-tourism, direct marketing (e.g. farm gate sales, farm shops and delivery rounds), processing (e.g. cheese, ice cream, bottling and yarns), renting out of farm buildings, and educational activities. This concept of diversification is similar to that of several previous studies (Ilbery 1991; Barbieri, Mahoney, and Butler 2008; Hansson et al. 2013; Barnes et al. 2015). We consider farm businesses that are not diversified in this way as focused on non-diversified farm activities. Farms in this category are likely to obtain revenue from one or more conventional agricultural enterprises, such as milk and grain, but not from the previously mentioned activities. We contrast values associated with the choice of strategic orientation across these two groups of farms.

## **2.2. Eliciting farmers' values**

Farmers' values are related to farm diversification and non-diversified activities, and we use ZMET to elicit these values. ZMET is grounded on the premise that images are essential for stimulating thoughts, actions, emotions, and feelings. It builds on the assumption that people think in images, not words, and that 'metaphors are imperative units of thought' (Zaltman and Coulter 1995; Zaltman 1997). Images play a significant role during the interview process. They complement the verbal part of communication with the non-verbal, and encourage the interviewees to self-explore intrinsic thoughts

and feelings (Zaltman 1997). Metaphors are used in communication to illustrate or explain something in terms of something else, such as cold water in terms of color (Zaltman 1997). The metaphors allow the interviewees to use their imagination to bring out self-generated notions that are otherwise difficult to express, and to dig into higher cognitive levels and evoke deeper meanings, thoughts, and values.

A central aspect of ZMET is the laddering element, which can be conceptualized through the Means-End Chain (MEC) approach (Christensen and Olson 2002). MEC was developed to describe the hierarchical relationship between the attributes, consequences, and values of consumers' mental representation of products (Gutman 1982). Consequences are any physiological or psychological result that accrues from consumer behavior; values are defined as desired end-states of existence, and attributes are the instruments to achieve desired consequences (Gutman 1982). MEC has been used in agricultural literature to describe farmers' behavior related to various choices (Okello et al. 2014; Hansson and Lagerkvist 2015).

In this study, we construct the hierarchical links among attributes, consequences, and values using MEC. In particular, this approach serves to uncover what attributes farmers associate with their choice of farm development, what consequences are related to specific attributes, and the values farmers try to attain. Uncovering their values, we can understand farmers' underlying driving forces for farm diversification and non-diversified farm activities.

### ***2.3. Personal values and previous value frameworks in agriculture***

Farmers' values can be explained in terms of personal values. A personal value typology was developed by Schwartz (1992, 1994), and several studies have used this particular typology within agricultural literature (Hansson and Kokko 2018; Graskemper, Yu, and Feil 2022). Personal values guide people in what to perceive, how to interpret, and how to process the information (Manfredo, Teel, and Dietsch 2016). Therefore, personal values resemble a map that serves people in making decisions. Schwartz (1992, 1994), and Bardi and Schwartz (2003) developed 10 universal values (i.e. power, achievement, hedonism, stimulation, self-direction, universalism, benevolence, tradition, conformity, and security) in cross-cultural research and their existence was confirmed by Schwartz and Boehnke (2004) using confirmatory factor analysis.

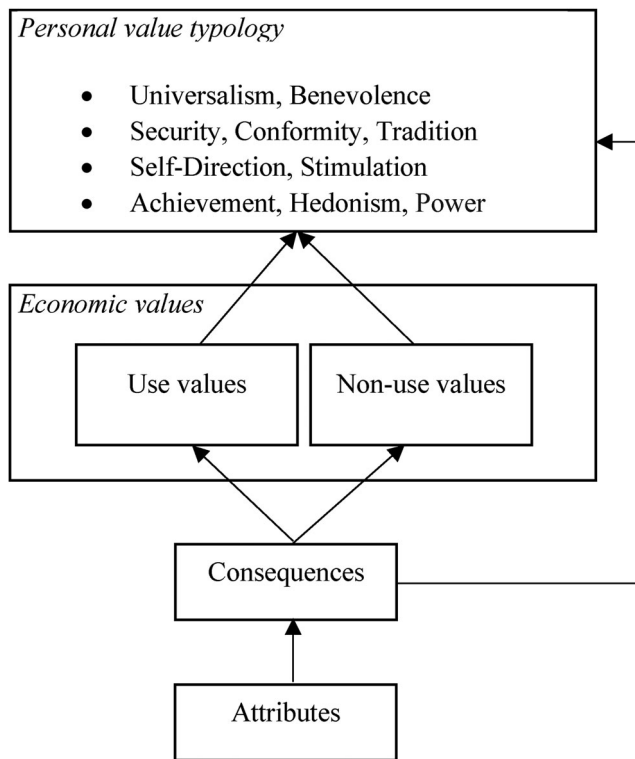
Moreover, other value frameworks have been developed in agricultural literature. Gasson (1973) classified farmers' values into four categories: economic or instrumental values, social values, intrinsic values, and expressive values. In addition, McInerney (2004) sought to explain to what extent economic analysis can contribute to understanding policies related to animal welfare and how market forces affect the economic actors. For this reason, McInerney (2004) and later on Lagerkvist et al. (2011), Hansson and Lagerkvist (2015, 2016) used economic theory and categorized the economic values of farmers concerning the management of their livestock into two types: use values and non-use values. Use values refer to the benefits farmers obtain from the productivity and profitability values obtained from the use of production factors, whereas the non-use values are associated with the benefit farmers may derive from their production factors irrespectively of their use in the production process. Also, Ferguson and Hansson (2013) identified three value constructs: farmer identity values, the

business-related values, and the farm-living values. The previous literature suggests that farmers are driven by financial and non-financial values, and Howley (2015) found that non-financial benefits have a substantial role in better understanding farmers' behavior across various activities. The pluralism in the values of farmers described in the literature indicates that farm development cannot be determined exclusively by one type of value.

To conceptualize farmers' motives for strategic orientation, we applied the framework of economic value (i.e. use- and non-use values) (McInerney 2004; Lagerkvist et al. 2011; Hansson and Lagerkvist 2015, 2016), coupled with insights from the personal value framework (Schwartz and Bardi 2001; Rohan 2000). Use and non-use values are related to the broader concept of economic value, which represents the benefit or utility that people derive from something (McInerney 2004). This terminology serves in our context to distinguish which decisions related to farm choice of strategic orientation are due to use values and which to non-use values. Use values in strategic orientation would relate to the benefit that farmers obtain from using their agricultural resources to achieve values related to, e.g. profit enhancement, production efficiency, cost reduction, or profitability preservation as explained previously. The main idea behind use value is that resources are essential, to the extent that they contribute through the production processes, e.g. the profitability and productivity of the farm (McInerney 2004).

Moreover, McInerney (2004), Lagerkvist et al. (2011), Hansson and Lagerkvist (2015, 2016) noted that farmers can deviate from pursuing profitability or productivity, even though they use their production factors for economic purposes. The underlying idea in their work was that farmers may enjoy providing their livestock with amenities that run counter to economic goals related to increasing the profitability or productivity of the farm business. In addition, farmers may act to preserve natural resources and heritage to satisfy their wants, irrespective of the direct use of these resources in the production process. Also, McInerney (2004), Lagerkvist et al. (2011), Hansson and Lagerkvist (2015, 2016) emphasized that farmers may derive utility from the well-being of their livestock since farmers may perceive as important the sentimental value of animals, which offsets the potential associated financial cost. In general, when farmers seem to act irrationally from a financial perspective, their actions are economically rational if they obtain utility from them. In such cases, farmers may be driven by non-use values. An additional explanation for why production factors may be approached without financial rationality, and used for choices that are not optimal from a profitability or productivity perspective, is that societies prescribe moral codes and ethics related to food and agriculture (McInerney 2004). In our case, the notion of non-use values thus implies that farmers may obtain economic value from managing their resources in a specific strategic orientation that is not related to any profitability or productivity considerations.

In comparison to the use and non-use values, which refer to the type of benefits that are associated with farmers' management of their resources, personal values as developed by Schwartz (1992, 1994), Bardi and Schwartz (2003) refer to desirable end-states. Therefore, use and non-use values may be considered end goals and reflect or correspond to specific personal values (Hansson and Lagerkvist 2015). An illustration of the conceptual framework comprising the relationship between the attributes,



**Figure 1.** Presents the conceptual model linking the attributes, consequences, economic values (i.e. use and non-use values) and personal value typology according to Schwartz (1992, 1994) regarding farm business development.

consequences, and use- and non-use values for farm business development is provided in Figure 1.

### 3. Data collection and analytical approach

#### 3.1. Pre-interview preparation

Prior to conducting the interviews, we obtained farmers' contact information through online sources. Then, we contacted farmers through a phone call to explain the purpose of the study. Farmers who were interested in participating in the study were further contacted via regular mail to inform them about the study procedures, and we followed up with a phone call to book an interview. Following this, we sent a letter of confirmation to those farmers who agreed to be interviewed. In this letter, we asked the farmers to collect images that illustrated the development activities they had carried out. A couple of days before the meeting, the interviewer (the second author) made further telephone contact with the farmers to remind them about the image collection and confirm the interview date. The images could be obtained from newspapers, magazines, drawings, the internet, or other available sources (Zaltman 1997). Having participants collect the images increases the representativeness of the images concerning the topic and increases the farmers' likelihood of involvement and preparedness.



The inclusion criteria for participants were determined in advance by the research team to fit with the aim of the study. In particular, the approached farmers first had to be categorized into either of the two strategic orientations, and second to live close or in the county of Uppsala. We selected farmers located within or around Uppsala for convenience regarding traveling time and because Uppsala has many inhabitants who constitute potential customers of farmers' with diversified products and services. Uppsala is located near the east coast of Sweden and approximately 70 kilometers to the north of Stockholm. The interviews were scheduled from the second week of October through the third week of December 2018. We decided to conduct all meetings within these two months to facilitate farmers' involvement, since the workload for farmers typically decreases during this period. In total, we arranged 23 face-to-face interviews, of which 10 were considered engaged in farm diversification and 13 in non-diversified farm activities. According to Zaltman (1997), four to five interviews are sufficient to gather enough MECs from which to extract reliable results. The sample included farmers practicing a variety of farming activities that are also commonly undertaken by farm enterprises in Sweden at large. For instance, dairy farms, crop farms, egg producers, vegetable growers, pig farmers, honey producers, cheese producers, wool producers, farms offering recreational and educational activities, and farms providing accommodation. Regarding the farm size, participants were operating micro or small businesses in terms of the number of employees. Whereas farm size was not part of the participants' inclusion procedure, it was comparable to the average Swedish farm size in terms of employees (Jurbruksverket 2021). Descriptive statistics of participants are given in Table 1.

### 3.2. Interview process

The interviews were conducted in participants' homes and ranged from one to two hours. The interview process followed the eight steps of ZMET, which are: storytelling, missing images, sorting, construct elicitation, metaphor elaboration, sensory images, the vignette, and the digital image (Zaltman 1997). At each meeting, the interviewer brought a set of pictures (8–12) relevant to the research, in case farmers had not collected images because of time constraints (for a description of the images see Table A1). In total 12 respondents used the researchers' image bank, whereas 11 respondents brought their own. In the cases that the respondents used the image bank, before step one of the interview, they chose the most representative images for them. The 'image bank' probably limited the breadth of discussion, but in step two of the interview participants were given the opportunity to

**Table 1.** Descriptive statistics on the 23 farmers interviewed.

Age of participants (years, average value)*	50.5
Number of male participants	17
Number of female participants	6
Number of non-diversified farms	13
Age of non-diversified participants (years, average value)*	49
Gender of non-diversified participants	female: 1, male: 12
Number of diversified farms	10
Age of diversified participants (years, average value)*	52
Gender of diversified participants	female: 5, male: 5

Note: \*The average age was calculated using the base year 2019. The average age of farmers in Sweden in 2016 was 55.5 (Swedish Board of Agriculture and Statistics Sweden, 2017).

elaborate on the missing images. For instance, some farmers highlighted that some images relating to administration or network were missing, and others were pleased by the variety of images. Overall, no particular trend of missing images was found. Therefore, we can conclude that the ‘image bank’ covered participants’ interests to a satisfactory level. The types of images that respondents prepared for the interviews were related mainly to their products, themselves, their family, their spouse, their animals, and/or their equipment.

During the first step of the interview process, the respondents were asked to justify the reasons they selected their images and how the images are related to their experiences with farm development. In other words, farmers were encouraged to describe their stories. Then, the respondents were asked to indicate if any images were missing about the topic and at the third step, to provide the major themes that were relevant for them regarding their farm business development. In the fourth step of the interview, the aim was to indicate the most important attributes for the topic, based on the previous discussion from steps one through three, and through probing questions, such as ‘why is that important for you?’ to generate associations between attributes, consequences, and values. Therefore, the interviewees revealed and self-generated the associations between attributes, consequences, and values, by answering the probing questions. In addition, the purpose of probing questions was to guide respondents to a point where they could not motivate further. The last point during the laddering process was taken to imply the underlying value of guiding a specific behavior (Hansson and Lagerkvist 2015). In the fifth step, the aim was to explore further farmers’ thoughts about farm business development, whereas, in step six farmers were asked to use metaphors that are related to the topic in order to obtain additional insights about farm business development. In the seventh step, respondents were asked to describe their thoughts and feelings about farm business development while imagining their own story as a short movie. In the last step, the aim was to create a ‘summary’ image consisting of only the most relevant images, and to express the most central issues regarding farm business development.

### **3.3. Post-interview analysis procedure**

All interviews were recorded and transcribed. First, we examined the transcripts to trace attributes, consequences, and values. Following this, we created the master codes summarizing the attributes, consequences, and values under common headings while using wording based on our elaborations. Then, we entered the master codes into the online program LadderUX to construct the implication matrix and the Hierarchical Values Maps (HVMs) (Grunert, Beckmann, and Sørensen 2001). LadderUX uses an algorithm that aggregates the frequency of direct and indirect linkages between the summarized elements. The laddering part during the interview process assisted to reveal the participants’ self-generated associations between attributes, consequences, and values and thus contributed to the post-interview process by developing a ‘blueprint’ for constructing the implication matrix and the HVM. The HVM illustrates the most important (i.e. most frequently mentioned by the respondents) links between the attributes, consequences, and values for the two strategic orientations. The main advantage of the HVM

in contrast to the implication matrix is that the results can be more easily understood, remembered, and compared.

A key aspect in constructing the HVM is the cut-off level, which is the minimum number of times a link has to be mentioned before being illustrated on the HVM. The appropriate determination of the cut-off level is essential because it can affect the conclusions drawn from the study (Leppard, Russell, and Cox 2004). Gengler, Klenosky, and Mulvey (1995) used, as a guideline for the cut-off level, the method of 5% regarding the sample size. This method implies that the smaller or larger the sample, the lower or higher the corresponding cut-off level. Leppard, Russell, and Cox (2004) suggested the 'top-down' approach to determine the cut-off point. This approach uses different cut-off levels for the different levels of abstraction, because the number of elements gradually reduces as the level of abstraction increases. In addition, Reynolds and Gutman (1988) suggested that a cut-off value that provides the most informative and stable links among the different levels of abstraction should be selected.

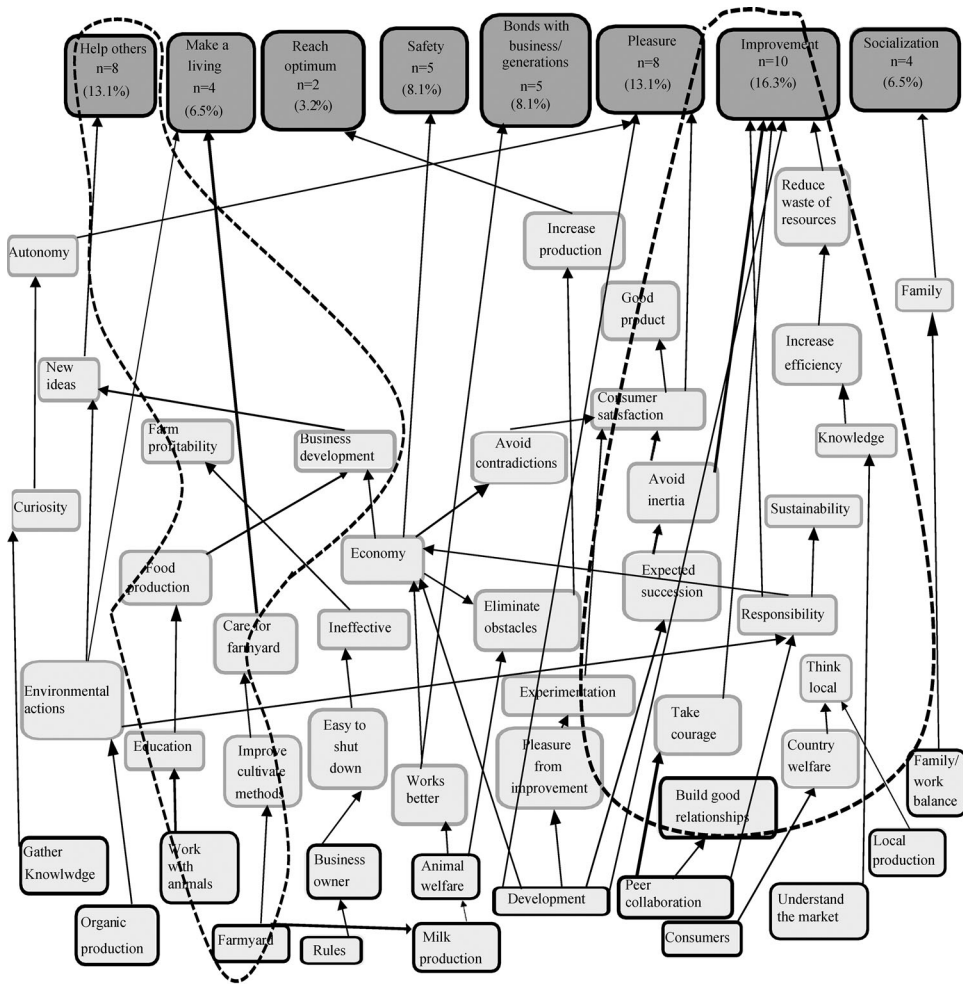
The above literature thus indicates that there is no clear consensus about the selection of cut-off value. A typical strategy is that researchers seek a golden ratio between retaining as much information as possible and illustrating manageable information on HVM (Grunert, Beckmann, and Sørensen 2001). In this study, we used the same cut-off point for all levels of abstraction and assessed HVMs using different cut-off values from one through four in both strategic categories. The cut-off value of two was chosen for non-diversified farms, which means that any link appearing on the HVM was elicited at least two times from the interview material. This cut-off leads to retaining approximately 43% for all links (between attributes, consequences, and values) on the HVM. We chose the same cut-off value for farm diversification, corresponding to 45% of all links above the determined threshold. Finally, the thickness of lines in the HVM emphasizes the strength of association for the illustrated links (Lagerkvist et al. 2012).

## 4. Results

### 4.1. Non-diversified farms

After analyzing the 13 interviews representing non-diversified farms, a total of 69 ladders were obtained, with approximately 5.3 ladders per farmer. Each ladder contained nearly five elements. In total, we uncovered 705 direct and indirect links, of which 302 were above the cut-off level. The results presented in Figure 2 show that farmers perceive 15 attributes, 32 consequences, and eight values as necessary for this type of strategic orientation. The ladders circled with dashed lines indicate those that are the most prominent.

The illustration of the results in the HVM is based on farmers' thoughts about farm development. The results indicate that farmers perceived the following attributes as important in their choice of strategic orientation: 'gather knowledge', 'organic production', 'work with animals', 'farmyard', 'business owner', 'rules', 'animal welfare', 'milk production', 'development', 'peer collaboration', 'build good relationships', 'consumers', 'understand the market', 'local production', and 'family/work balance'. Several of the attributes were considered by the farmers to lead directly or indirectly to the following key consequences: 'environmental actions', 'new ideas', 'care for farmyard', 'business



**Figure 2.** Hierarchical value map for non-diversified farms. The cut-off level is two and attributes are presented in boxes with the thick bold outline. Consequences presented with gray outline and values are in the boxes with thick bold outline and shaded area. The thickness of the arrows reflects the strength of association. In the values boxes, ‘n’ equals the number of farmers who responded that this value was a driving force for farm development, and the percentages in the parentheses show the proportion of ‘n’ to the total number of responses

development’, ‘economy’, ‘works better’, ‘eliminate obstacles’, ‘consumer satisfaction’, ‘avoid inertia’, and ‘responsibility’. For instance, according to **Figure 2**, the attribute ‘organic production’ leads directly to the critical consequence of ‘environmental actions’. In contrast, the attribute ‘work with animals’ leads indirectly to the key consequence ‘business development’, and both attributes lead indirectly to the consequence ‘new ideas’.

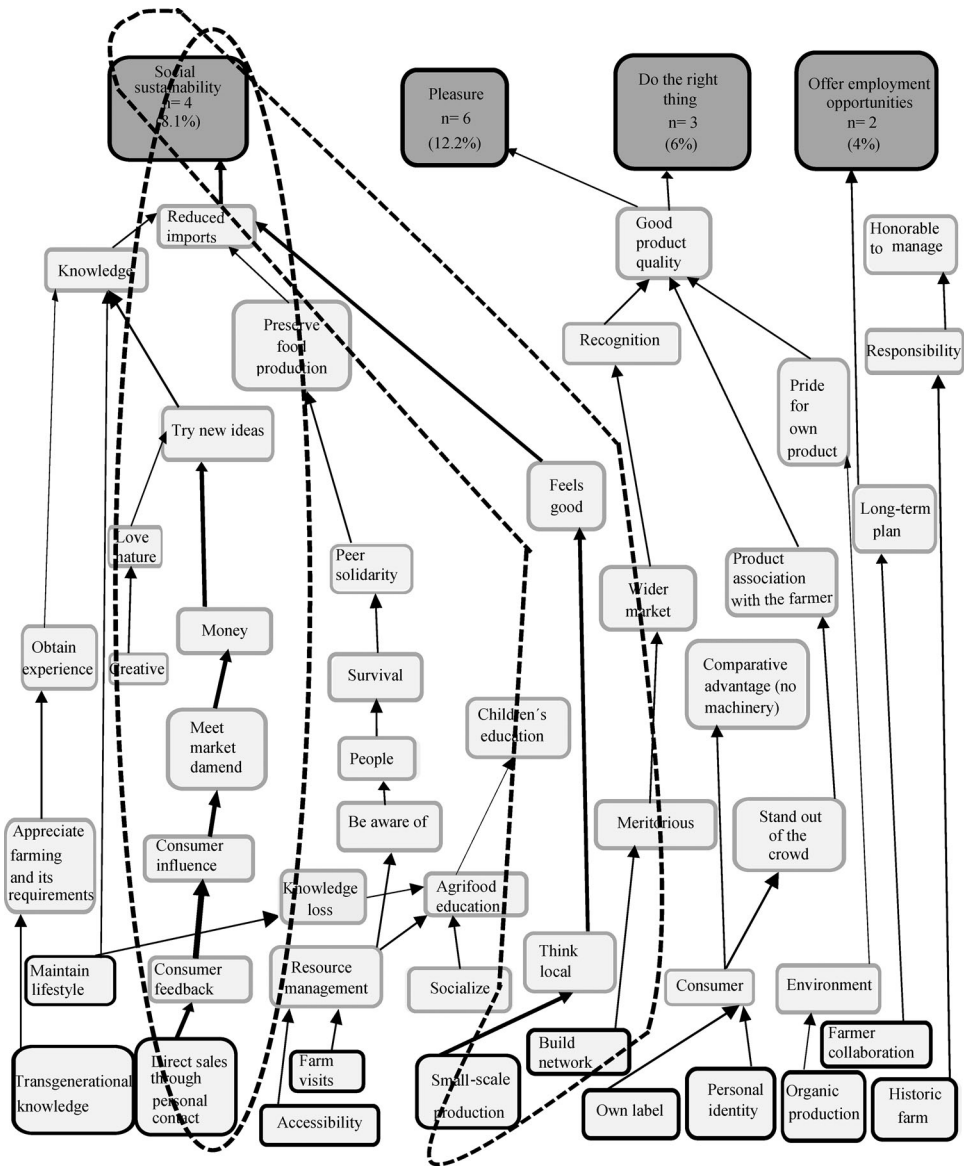
Furthermore, the attributes ‘development’, ‘peer collaboration’, and ‘animal welfare’ were perceived by interviewees to lead directly to more than one consequence each. For example, ‘development’ leads directly to the consequences ‘economy’, ‘pleasure from improvement’, and ‘expected succession’. Moreover, the attribute ‘animal

welfare' leads directly to the consequences of 'works better' and 'eliminate obstacles', and the attribute 'peer collaboration' leads to the consequences of 'take courage' and 'responsibility'. Finally, the attributes 'gather knowledge', 'rules', 'business owner', 'understand the market', 'local production', and 'family/work balance' were not connected, either directly or indirectly, to any of the central consequences as presented on the HVM, or linked to any consequence more than once. Apart from the links between attributes and consequences as described above, the HVM presents the connection between consequences and values. The consequences 'autonomy', 'environmental actions', 'new ideas', 'care for farmyard', 'economy', 'works better', 'increase production', 'consumer satisfaction', 'avoid inertia', 'take courage', 'responsibility', 'reduce waste of resources', and 'family' were perceived to link directly with the values 'help others', 'make a living', 'reach optimum', 'safety', 'bonds with business/generations', 'pleasure', 'improvement', and 'socialization'. Nevertheless, some MEC elements, such as 'farm profitability', 'good product', and 'sustainability', do not link directly to any value. Focusing on the strength of the links between the MEC elements, some elements appear to be related strongly to each other. For instance, there is a strong link between the attributes 'work with animals', 'development', 'peer collaboration', and the consequences 'education', 'expected succession', and 'take courage'. In addition, strong links were demonstrated on the HVM between consequences and values. For instance, the consequences 'care for farmyard' and 'avoid inertia' were perceived to be strongly linked with the values 'make a living' and 'improvement'. Finally, the values 'help others', 'pleasure', and 'improvement' were mentioned by farmers several times, which implies that these values may be decisive driving forces in farm development.

#### 4.2. Farm diversification

The HVM for farm diversification in [Figure 3](#) shows the results obtained after the analysis of 10 interviews categorized into this strategic orientation. The HVM suggests that farmers perceived 12 attributes, 36 consequences, and four values in their conceptualization of farm development. Additionally, we obtained 56 ladders, which means 5.6 ladders per farmer and approximately 4.9 elements per ladder. Out of 609 direct and indirect links, 278 were above the cut-off level. As previously, the ladders circled with dashed lines indicate those that are most prominent.

The most essential attributes elicited from the farmers for characterizing farm development are the following: 'transgenerational knowledge', 'maintain lifestyle', 'direct sales through personal contact', 'accessibility', 'farm visits', 'small-scale production', 'build network', 'own label', 'personal identity', 'organic production', 'farmer collaboration', and 'historic farm'. These discovered attributes were perceived to lead directly or indirectly to various indispensable consequences related to farm development, such as 'try new ideas', 'knowledge', 'reduced imports', 'resource management', 'agrifood education', 'think local', 'good product quality', and 'consumer'. The attribute 'maintain lifestyle' is only linked to more than one consequence, while all the other attributes connect directly to one. In addition, the attributes 'accessibility' and 'farm visits' lead to the same consequence, 'resource management', and the attributes 'own label' and 'personal identity' lead to the same consequence, 'consumer'. Even though the majority of attributes



**Figure 3.** Hierarchical value map for farm diversification. The cut-off level is two and attributes are shown in boxes with the thick bold outline. Consequences are presented with gray outline and values are in the boxes with thick bold outline and shaded area. The thickness of arrows reflects the strength of association. In the values boxes, 'n' equals the number of farmers who responded that this value was a driving force for farm development, and the percentages in the parentheses show the proportion of 'n' to the total number of responses.

lead directly or indirectly to key consequences, the attributes 'farmer collaboration' and 'historic farm' are exceptions. Finally, the attributes 'direct sales through personal contact', and 'small-scale production' were seen by farmers to be the entry elements for the most prominent ladders on the HVM.

Regarding the connection between consequences and values, the HVM indicates that there is a direct link between the consequences ‘reduced imports’, ‘good product quality’, and ‘long-term plan’, with the values ‘social sustainability’, ‘pleasure’, ‘do the right thing’, and ‘offer employment opportunities’. All the elicited consequences are linked directly or indirectly to the discovered values, except for the following five consequences: ‘education’, ‘children’s education’, ‘comparative advantage (no machinery)’, ‘responsibility’, and ‘honorable to manage’.

Finally, we look at the strength of association among the elements. The HVM shows that the attribute ‘small-scale production’ leads to the consequence ‘think local’, which in turn leads to the consequence ‘feels good’, which is connected to the consequence ‘reduced imports’, which leads to the value ‘social sustainability’, creating a chain of salient elements. In addition, as highlighted on the HVM, farmers perceive the association between the links ‘direct sales through personal contact’ as leading to the consequence ‘consumer feedback’, which in turn links to the consequence ‘consumer influence’, which is directly associated with the consequence ‘meet market demand’, which leads to the consequence ‘money’, and arrives at the consequence ‘try new ideas’, creating another chain of salient links.

## 5. Discussion and conclusions

In this study, we mapped the attributes, consequences, and values that farmers use to characterize their choice of farm business development strategies. The findings are useful for understanding farmers’ motives for farm development throughout diversified and non-diversified farm activities, and in what manner desirable values may differ between these two groups. Identifying the farmers’ values and comprehending how they differ between the two considered orientations can improve understanding of how farmers can react to and embrace agricultural policies. There has long been significant research interest in farm diversification (Damianos and Skuras 1996; Evans 2009; Hansson, Ferguson, and Olofsson 2010; Hansson et al. 2013; Barnes et al. 2015) through quantitative approaches. We used the ZMET approach (Zaltman 1997) in this study to interview farmers and elicit their values related to farm diversification and non-diversified activities, respectively. Using the ZMET approach, we were able to discover profound differences in values that may guide farmers with diversified and non-diversified activities, thus complementing quantitative methods that cannot offer such insights.

Our findings suggest that for respondents with non-diversified farm activities, the MEC element ‘economy’ is a key consequence. This element has a critical role in respondents’ mental representations of attributes, consequences, and values, as it is connected to several attributes and consequences. Additionally, it is linked directly with the value ‘safety’, and indirectly with the values ‘goodwill’, ‘reach optimum’, and ‘pleasure’. In the terminology of McInerney (2004), ‘help others’, ‘pleasure’ and ‘safety’ can be interpreted as non-use values, while ‘reach optimum’ can be categorized as a use value. ‘Help others’ can be classified as a non-use value, as it indicates that respondents do not relate this value with any concept, such as the efficient use of a production factor. ‘Pleasure’ can be classified as a non-use value, as it represents the autonomy that respondents receive through farming, and indicates that respondents derive utility from using

their agricultural resources to produce 'good product'. It is worth mentioning here that the consequence of 'good product' is not linked to any value. However, it could be reasonable to argue that 'good product' could be related to 'pleasure' as an end-state, but probably this link is too trivial and therefore respondents did not make this connection. Moreover, the value 'safety' can be categorized as a non-use value in the terminology of McInerney (2004) because respondents perceived 'safety' as related to notions such as economy, animal welfare, responsibility, and not as ensuring the production process. 'Reach optimum' can be classified as a use value, because it refers to notions related to increasing production and the elimination of obstacles that prevent the production process, and this indicates motivation for the efficient use of resources.

Furthermore, the results indicate that respondents perceive the value 'improvement' as an end-state for several consequences. 'Improvement' can be considered a use value in the typology of McInerney (2004) because it is linked with aspects such as reduction of resource waste (i.e. in production) and evolution of production. 'Improvement' suggests, on the one hand, that resources should be used efficiently in the production procedure and, on the other hand, avoiding stagnation of the farm business. The respondents link the value 'make a living' with the concept of caring about their fields as a production factor and with improving methods of cultivation. This suggests that 'make a living' can be categorized as a use value in the terminology of McInerney (2004) because care for farming is motivated by the monetary benefit of this asset. The final values illustrated in the HVM are 'bonds with business/generations' and 'socialization'. Both can be categorized as non-use values in the terminology of McInerney (2004), since they are not related to productivity or efficiency concerns, and indicate a more societal point of view.

The classification of the values for this strategic orientation can also be interpreted and categorized through personal value typology, as developed by Schwartz (1992, 1994), Bardi and Schwartz (2003). The obtained values 'making a living', 'reach optimization', and 'improvement' reflect that farmers care for their fields, aim to successfully earn a living, desire to increase production and reach the best production potential they can, and want to progress. These values in the context of personal values are related to 'achievement', which is defined by Schwartz (1992, 1994) as personal success through demonstrating competence according to social standards. In addition, 'pleasure' and 'socialization' are related to the satisfaction that farmers gain from farming, but also the joy when they interact with their family members. Therefore these two values can be related to 'hedonism', which is defined as pleasure and sensuous personal gratification (Schwartz 1992, 1994). Furthermore, 'help others' and 'bonds with the business/generations' are related to consequences and attributes such as no actions harmful to the environment and animal welfare, which reflect the personal value of 'universalism', encompassing notions such as understanding, appreciation, tolerance, and protection of the welfare of all people and nature (Schwartz 1992). Finally, 'safety' can be categorized with 'security' because 'security' is defined as safety, harmony, and stability of society, relationships, and self (Schwartz 1992) (see Table A2 for a summary). Linking the discovered values to personal values implies that the framework of use and non-use values corresponds to some personal values.

Turning to the respondents with diversified farm activities, the results depicted on the HVM suggested that the consequences 'reduced imports' and 'good product quality' have



a central role in respondents' mental representation of attributes, consequences, and values for farm development. 'Reduced imports' in the sense of avoiding a surplus of imports were connected directly and indirectly with various attributes and consequences that were perceived as crucial for farm development. Moreover, respondents consider 'reduced imports' to lead to the value 'social sustainability'. Using the terminology of McInerney (2004), 'social sustainability' can be classified as a non-use value because respondents perceive in it aspects such as a concern for nature, knowledge, appreciation of farming, and maintenance of food production, which is not directly related to maintaining their own production. Several attributes and consequences lead to the element 'good product quality', which in turn leads to the values 'pleasure' and 'do the right thing'. This element is part of several ladders, and respondents consequently consider it important in decisions for farm development. The value 'pleasure' is related to the utility that respondents derive from selling good quality products that the customers can recognize, but also the utility that farmers derive from being associated with their own high-quality products. Therefore, 'pleasure' can be classified as a non-use value because it is not linked with the efficient use of any production factor or anything similar. Additionally, the value 'do the right thing' can be classified as a non-use value according to the typology of McInerney (2004) because respondents perceive that providing good-quality products to their customers is a responsible choice. Also, it is not linked to the efficient use of any production factor. Finally, the value 'offer employment opportunities' is related to the non-use values following McInerney (2004) as respondents perceive that 'offer employment opportunities' would be achieved through long-term collaboration with other farmers and this may suggest that collaboration can be a way of contributing to local society.

Relating the interpretation to the personal value theory as proposed by Schwartz (1992, 1994), Bardi and Schwartz (2003), the value of 'social sustainability' can be related to the personal value of 'universalism'. The mapped value 'pleasure' linked to the satisfaction that farmers obtain from selling good-quality products to their customers can be related to the personal value of 'hedonism'. The value 'do the right thing' connected with farmers' motivation to offer a good product to customers, and contribute to their satisfaction, can be related to the personal value 'benevolence'. Schwartz (1992, 1994) defined 'benevolence' as the preservation and enhancement of the welfare of people with whom one is in frequent personal contact. 'Offer employment opportunities' connected to working with other farmers together on a plan to provide jobs can be categorized with the personal value 'universalism' (see Table A3 for a summary).

Taken together, our findings suggest that respondents engaged in non-diversified farm activities are guided not only by use values but also by non-use values. Hence, both types of economic values are associated with this choice of strategic orientation. However, respondents in the farm diversification orientation are guided only by non-use values. This indicates that farmers who choose to engage in activities outside of conventional agriculture do not consider the financial outcome of their choices as a determining factor. In addition, these results support the findings in the literature that farmers are motivated in their decisions by a range of pecuniary and non-pecuniary benefits (Howley 2015; Grubbström and Eriksson 2018). Respondents in both strategic orientations highlight the value 'pleasure'. 'Pleasure' implies that respondents are satisfied with their development activities and in both strategic orientations is linked to

offering good-quality products to their customers. 'Pleasure' may also suggest that it is important to enjoy farming as a profession. Moreover, the values 'help others' and 'do the right thing' may reflect a similar underlying meaning in the sense of avoiding actions that contribute to the environmental burden and reduce the quality that their customers receive from their products. This likely suggests that farmers take into consideration the enhancement of others' well-being, such as customers and the environment. Apart from shared values, the HVMs also revealed values that the two groups appear not to share. For instance, respondents with non-diversified activities perceive it essential to 'make a living' from farming, 'reach optimum', and 'improve' farming processes. Conversely, for farm diversification respondents, it is essential to contribute to 'social sustainability', and to 'offer employment opportunities'.

From a policy perspective, the results of this study increase the knowledge regarding the driving forces for business development and indicate that policymakers cannot perceive farm development as driven only from a profit maximization perspective. In addition, divergent values between the strategic orientations point to the need for these two groups to be approached and targeted separately. Policymakers can frame and motivate policy measures accordingly to ensure participation by the intended group. In this way, farmers could be more open to policy changes and could embrace these policies more easily. For instance, policies aiming to stimulate farm business development can be based on the bonds between the farmers, their family, and their business. Also, policies focusing on increasing job opportunities in rural areas can target farmers that are engaged in farm diversification activities.

In addition, farm advisors can benefit from using the insights provided by this study to better understand the driving forces for farm business development and, thereby to better target advice regarding each strategic orientation. In particular, results provide insights about the desired end-stages of the two considered groups of farmers. Such insights can be used to better target and focus the sessions with farmers from the different groups. For instance, farmers who need suggestions on how to operate better their diversified activities or develop further their diversified activities could be assisted by advisors on how to succeed in relation to their specific needs (e.g. create their own label or create good quality of products). In addition, farmers without diversified activities could be assisted with suggestions related to the economic aspects of the farm. Insights provided here can also be used to improve communication and interactions with farmers, something that can also improve the content and influence of advisory services. Previous literature suggests that advisory services can stimulate the adoption of rural development policies (De Rosa and Bartoli 2017). In this respect, grounded on the results of the present study, the interaction and communication between farmers and advisors may facilitate the development of agricultural businesses.

Using the ZMET approach, we gained a deep understanding of the respondents' values for farm development through diversified and non-diversified farm activities. This approach allowed for mapping differences in values between respondents in these strategic orientations under relatively similar external conditions such as that all interviewees have market access. In addition, the geography of Uppsala county, where a large city of consumers is surrounded by farms, resembles the market structure of several counties in Europe and beyond. Nevertheless, some limitations of this study, due to its limited generalizability, should be acknowledged. Farmers in other counties of Sweden or

other countries may possess different value types. Therefore, future research should validate or increase the knowledge of the values that reflect farms with diversified and non-diversified activities, both in Sweden and in a wider context, using the in-depth approach outlined in this study. Also, future studies could examine the link between farmers' values and farm size in relation to these strategic orientations. In addition, there is room for other approaches that use insights from the broad field of ethnography/sociology or quantitative studies to investigate further the differences in values between these two strategic orientations.

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## Notes on contributors

*Georgios Miaris* is Ph.D. candidate at the Department of Economics, Swedish University of Agricultural Sciences, Uppsala. His current research interests are in the area of Agricultural and Food Economics.

*Sara Löfgren* was research assistant at the Department of Economics, Swedish University of Agricultural Sciences, Uppsala during the completion of this research. She is currently affiliated with Länsstyrelsen Uppsala.

*Helena Hansson* is Professor of Agricultural and Food Economics at the Department of Economics, Swedish University of Agricultural Sciences. She received her Ph.D. from the Swedish University of Agricultural Sciences, Sweden. Her research interests focus on farm management, farmer decision-making and the economics of certain strategic choices and production economic analyses related to the efficiency of farm production. Most of Helena's research is funded by external sources of research funding including the Swedish Research Council Formas, the Swedish Farmers' Foundation for Agricultural Research, EU H2020 programme and Mistra.

## ORCID

*Georgios Miaris*  <http://orcid.org/0000-0002-5250-6391>

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## Appendix

**Table A1.** Description of images included in the image bank.

Images	Description
Image 1.	This image depicts yellow coins stacked into columns, while the columns' height differs.
Image 2.	This image illustrates a farm tractor that has plowed a field, while it is sunset.
Image 3.	This image shows a customer pushing an empty supermarket trolley. In front of the trolley are three arrows with different colors directing up, middle, and down.
Image 4.	This image shows a farmer standing in a big field full of yellow grain ready to be harvested, while the farmer uses a tablet.
Image 5.	This image shows a green arrow, which at some parts increases and some parts, decreases. There is also a legend indicating the word 'profits'.
Image 6.	This image depicts a happy child laughing while holding cobs of corn.
Image 7.	This image shows money in paper form with a red decreasing arrow.
Image 8.	This image illustrates a few cows walking in a green cattle field.
Image 9.	This image shows a young farmer standing in a green field looking forward at the sunset, with raised hands up towards the sun.
Image 10.	This image illustrates a farmer in the sun, wearing a hat, and standing behind a bench selling vegetables.
Image 11.	This image depicts a traditional Swedish countryside house.
Image 12.	This image shows an untitled opened document with many empty cells.

**Table A2.** Classification of farmers' values with non-diversified activities according to Schwartz (1992, 1994) personal value typology and McInerney (2004) use and non-use value framework.

Farmers' values with non-diversified activities	Personal value typology	Use and non-use value framework
Help others	Universalism	Non-use value
Make a living	Achievement	Use value
Reach optimum	Achievement	Use value
Safety	Security	Non-use value
Bonds with business/generations	Universalism	Non-use value
Pleasure	Hedonism	Non-use value
Improvement	Achievement	Use value
Socialization	Hedonism	Non-use value

**Table A3.** Classification of farmers' values with diversified farm activities according to Schwartz (1992, 1994) personal value typology and McInerney (2004) use and non-use value framework.

Farmers' values with diversified farm activities	Personal value typology	Use and non-use value framework
Social sustainability	Universalism	Non-use value
Pleasure	Hedonism	Non-use value
Do the right thing	Benevolence	Non-use value
Offer employment opportunities	Universalism	Non-use value