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Keys to Business Longevity

A study on knowledge transfer in family farm businesses

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Keys to Business Longevity

A case study on knowledge transfer in family farm businesses

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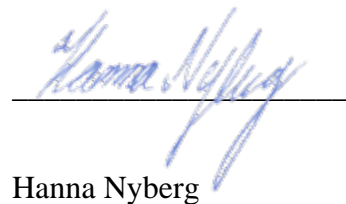
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Uppsala, January 2020

A handwritten signature in blue ink, reading "Hanna Nyberg", is positioned above a horizontal line. The signature is written in a cursive style with a large, stylized initial 'H'.

Hanna Nyberg

Abstract

Why some companies fail before second generation while others survive through centuries is a fundamental puzzle for business research. Contradictory to most business sectors, the agricultural sector is characterized by being owned and driven by families over generations. For decades, research has posited knowledge as among the key factors for business longevity. Pursuing an aim to understand the phenomenon of *organizational learning*, this study takes its interest in the process of tacit knowledge creation and transfer. The empirical contribution is the stories and thoughts of farmers, regarding knowledge transfer over generations of the family farm business. Embracing the inherent complexity of real-world organizations, in-depth interviews were conducted and analyzed with the aid from a conceptual framework constituted from two main literature areas within organization theory; family business and organizational learning.

Family farm businesses, as a sub-category of family businesses, are selected as empirics of interest due to the intergenerational character and thus, the importance of a successful generational shift. Empirically, it is found that the coherent processes of organizational learning are both present and viable in the family farm business. The findings of this study support the notion of the individual level as the origin of tacit knowledge in an organization and indicate that business longevity is enabled to study through processes of organizational learning. This study contributes with descriptions of approaching the distressed balance between knowledge renewal and conservation of knowledge. The descriptions of tacit knowledge transfer and its prerequisites contributes to knowledge of family business longevity. The conceptual framework of this study can be generalized to other small family businesses, such as the family farm business, to further describe tacit knowledge and its connection to family business longevity.

Sammanfattning

Varför vissa företag läggs ned inom en generation medan andra överlever genom århundraden är ett mysterium för företagsstudier. I motsats till de flesta företagssektorer kännetecknas lantbruksföretag av att de ägs och drivs av familjer under flera generationer.

I decennier har företagsekonomisk forskning placerat kunskap som en av de viktigaste nyckelfaktorerna till företags livslängd. I syfte att förstå fenomenet *organisatoriskt lärande* intresserar sig denna studie för processen att skapa och överföra tyst kunskap. Det empiriska bidraget är berättelser och tankar från lantbrukare, angående kunskapsöverföring mellan generationer av lantbruksföretaget. Denna studie omfattar den inneboende komplexiteten hos verkliga organisationer och utför analys av djupgående intervjuer, med hjälp av ett konceptuellt ramverk konstruerat av två huvudområden inom litteraturen: familjeföretag och organisatoriskt lärande.

Familjeägda lantbruksföretag, såsom en underkategori av familjeföretag, är utvald såsom empiriskt intressant på grund av en generationsövergripande karaktär och därmed vikten av ett framgångsrikt generationsskifte. Empiriska resultat visar att tätt sammanhängande processer kopplade till organisatorisk lärande är såväl närvarande som viktiga för familjeägda lantbruksföretag. Resultaten av denna studie stödjer uppfattningen om den individuella nivån i företaget som ursprung till skapandet av tyst kunskap och tyder på att lantbruksföretagens livslängd kan studeras genom processer kopplade till organisatoriskt lärande. Denna studie bidrar med beskrivningar av den tidigare betonade vikten av att balansera kunskapsförnyelse och bevarande av kunskap. Beskrivningar av överföring av tyst kunskap och dess förutsättningar bidrar till kunskap om familjeföretagens livslängd och det konceptuella ramverket i denna studie anses kunna bli generaliserat till andra små familjeföretag, såsom lantbruksföretag, för att ytterligare beskriva tyst kunskap och dess förhållande till familjeföretagens livslängd.

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1. Introduction

The first chapter introduces the theoretical foundation and empirical context to the subject of this paper. The purpose statement frames the scope of this study within the theoretical field of organizational learning, organization theory and business administration.

1.1 Background

Research findings indicate that a considerable share of businesses will not survive until, or throughout their second generation (Beckhard & Duer 1983; Henning 2004; Van Der Merwe 2009). Longevity has been acknowledged as a key element of a sustainable business (Bateh et al. 2013), as it is considered being a measure for establishment (Iwasaki & Makato 1996) and sustainable continuity of a business (Sharma & Salvato 2013). Why some companies fail while others survive through centuries is a fundamental puzzle for the research domain of business longevity, although decades of research posit that knowledge is among the most important factors for business longevity (Nelson & Winter 1982; Ward 1987; Nonaka & Takeuchi 1995; Alvesson & Karreman 2001; Lobley 2010).

In this study, a processual perspective is taken on the phenomenon of organizational learning in the context of family farm businesses. Contradictory to the tendency of failing before second generation, many family farm businesses are found to farm the same area over centuries, well beyond their second and third generation (Lobley et al. 2002). Farming is almost exclusively an inherited occupation (Lobley 2010), as the succession is commonly made as an intrafamilial transfer (Lobley 2010 et al. 2019). Intrafamilial successions is thought to favor the transfer of informal knowledge, in addition to physical assets (Danes et al. 2009; Lobley, Baker & Whitehead 2010). In this thesis, the different elements and interactions that take place in learning, are viewed as a continuous knowledge creation process that is enabled through the presence of embeddedness in a specific context.

As Nonaka, Toyama and Konno (2000) declare, knowledge creation is seen as a dynamic process that starts at an individual level and expands through interactions. To study knowledge creation in the family farm business, the multi-level phenomenon of organizational learning is interpreted as involving components and interactions at three behavioral levels of the organization; the individual level, the group level and the organizational level. Embracing the inherent complexity of real-world organizations (Weick 1995), concepts from previous studies of family businesses along with literature on organizational learning are utilized in the pursuit to understand the transfer of tacit knowledge between levels in the farm business.

1.2 Problem statement

Research estimates that family owned, and managed firms are the most prevalent form of business across the world (Astrachan & Shanker 2003; Koopman & Sebel 2009; Glover 2013), providing an infrastructure for economic activity and wealth creation (Poutziouris, Steier & Smyrnios 2004). In Sweden, family owned, and managed businesses constitute almost 90 % of all registered organizations, approximately accounting for at least one third of the Swedish GDP and employment (Andersson, Karlsson & Poldahl 2017). Small firms are recognized for

sustainably exploiting their local resources (Napolitano, Marino & Ojala 2013), leading to the recognition of small family firms as interesting study objects when studying sustainable business continuity (Sharma & Salvato 2013).

Nevertheless, research posit that a major tendency of family businesses failing before transiting, or during their second generation (Beckhard & Duer 1983; Ward 1997; Le Breton-Miller 2004; Van Der Merwe 2009). A sector that contrast from this is farming, where a majority of firms are family-owned (Bolin & Klöble 1999; Emling 2000; Lobley 2010; Bjuggren, Johansson & Sjögren 2011; Cassidy et al. 2019), many beyond their second and third generation of management and are often found to farm the same area over centuries (Lobley et al. 2002). Nonetheless, Swedish agriculture is going through dramatic transformations (Edenbrandt 2012; Jordbruksverket 2015; Lundell 2015). The rapid closure of farm businesses over the last 25 years (Lundell 2015) has called for fundamental development of advisory systems, towards entities of farms and advisories that coherently learn to exercise holistic problem formulations (Ljung 2001; Prahalad & Ramaswamy 2004; Höckert 2017).

The agricultural sector is characterized as a complex and multi-faceted, yet a tightly constrained and regulated environment (McElwee 2006). The operations within a farm business often rely on local conditions linked to the inherited piece of land, while facing a dynamic and complex environment (ibid). McElwee argues that this generates a range of different approaches to operate farm businesses, and that the practice of farming therefore must be understood and studied as heterogenous production sectors. On that ground, the practice of finding and recommending a standardized best way to practice farming, without regard to context-bound conditions, has been criticized for neglecting the farmers' locally specific knowledge (Millar & Curtis 1997; Vogl, Kilcher & Schmidt 2005; Fisher 2018). Further, standardized practices have been impeached for decreasing the number of small-scale producers (Korzenszky 2019) and for acting as an obstacle for advancing sustainable farming (Šūmane et al. 2018).

Stressing the importance of context-specific knowledge in farms (e.g. Fisher 2018) and bearing in mind the difficulties of transferring tacit knowledge (e.g. Nonaka & Takeuchi 1995), it becomes critical to develop a better understanding of tacit knowledge within farm businesses. By better understanding the unique sector of farming and the farm business context-bound conditions for business longevity, the longevity of family businesses in other sectors may be better understood. Context-specific and informal knowledge has been acknowledged as key characters (Sharma 2004; Duh 2014) as well as the "*enabler of longevity*" (Chirico 2008, p. 435) to family businesses. Yet, thus far the literature of knowledge within family businesses tends to concentrate on either what type of knowledge that is transferred, rather than the processual aspect of knowledge transfer and learning (Duh 2014). A processual perspective, in contradictory, takes interest in the interactions of different elements and thus, how knowledge creation is enabled (Nonaka & van Krogh 2009). Among others in the research field of family businesses, Sharma (2004) calls for more studies directed to understand the transfer of tacit embedded knowledge to the next generation.

1.3 Purpose statement and delimitations

This study aims to understand how learning processes take part in family business longevity by studying organizational learning in small family farm businesses. Pursuing this aim, two research questions frame the operationalization of the study:

1. How is tacit knowledge created in the context of a family farm business?
2. How is tacit knowledge transferred to the next generation in a family farm business?

There are several approaches to this study's aim and the following sections present the theoretical and empirical delimitations made in this study. The phenomenon of learning is viewed as adjacent to culture and change. This study's aim denotes a focus on learning and thus, does not address adjacent theories. Further, this study's aim denotes a focus on family owned and managed businesses as a distinctive form of organization. The study object of interest are farm businesses, as one type of family business. This study takes interest in how a unique composition of context-specific circumstances influence the farm business and thus, this study takes distance from the practice of finding a standardized best way of practicing farming. However, a "right" way of practice is not seen as the opposite to the recognizing of a dynamic context, but rather as the approach to understand farm business as the established concept of "mechanic" processes (e.g. Burns & Stalker 1961). Hence, the processes within a farm business as well as within the farm sector are thought to be better understood within this study when regarding the farm business as "organic". Within this study, the farm business is viewed as an organic and social entity, constantly responding incrementally to needs of its local surrounding.

As addressed in the problem statement, farm businesses that are owned and managed by families are viewed as a specific type of family business due to their distinguishing longevity (Lobley et al. 2002). Thus, addressing this empirical interest, this study delimits the empirical material to be studied in four specific family farm business cases. Further, knowledge transfer has been presented as a central concept of interest in understanding business longevity. By taking interest in the context-specific interactions related to organizational learning, along with specific attributes to family farm businesses, the interest of this study is of transferred knowledge regarding the occupation. Thus, this study does not limit the study of knowledge transfer to a formal succession process but views the organization as an active learning environment. The approach denotes that this study should be viewed as a study of organizational learning behavior. Approaching the aim of this study, this study does not address adjacent approaches such as the managing aspect of knowledge as a competitive resource.

This study takes a different approach to understand the learning process than earlier conducted studies within family businesses (Duh 2014; Sharma 2004). By emphasizing the phenomena of tacit knowledge as created in social contexts, rather than something transferred as one directional, this study observes the phenomenon of learning in a broader context than a formal succession process. Further, the research questions stress the centrality of applying a processual lens to knowledge creation, viewing activities or circumstances as part of an ongoing process. However, it is beyond the scope of this study to examine the entire learning process that results in a certain skill-set. Instead, the adjacent liaison of context, organization and individuals together with this liaison's role in the learning process is of particular interest.

1.4 Definitions

Within business studies, there are numerous ways to interpret the central terms of knowledge. To guide the reader through this thesis, this sub-chapter provides a summary of how the terms are interpreted in this study. The central concepts presented in the conceptual framework are interpreted with the help of following definitions. Note that there is no intention to alter established concepts, but to bring transparency to this thesis and its analysis.

1.4.1. Knowledge and learning

To make sense of information gathered by human senses, the information is related to previous knowledge and experiences. This sensemaking process is a process of creating knowledge through the creation of interpretation patterns. In this study, knowledge is viewed as a static snapshot, while learning is a dynamic, on-going process where information creates knowledge by understanding the uses, limits, truthfulness and beliefs of the information. Figure 1 illustrates knowledge as a wide concept, that comprises the ability to use knowledge, experience and skills to perform a purposeful behavior in a given circumstance. Learning is a complex phenomenon; involving senses, thoughts and insights, that is driven – or suppressed – by incentives, emotions and personality, while being influenced by attitudes and relations within a group or culture (Bandura 1986; 2007; Kaufmann & Kaufmann 2016).

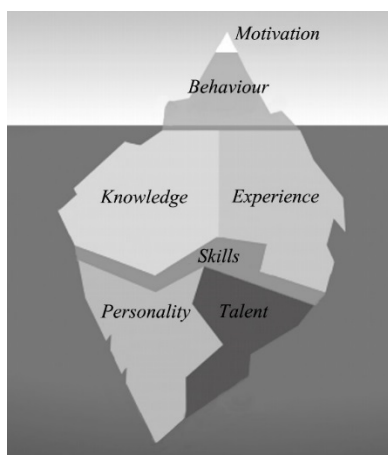


Figure 1. Competence is the ability to be aware of previous embedded knowledge, to behave in a purposeful way in a given circumstance (authors own rendering).

1.4.2. Knowledge and context

Humans need a variety of skills to adapt to different environments (Richerson & Boyd 2005). Language and culture are tools to effectively learn about what previous generations have learned and what behaviors fit specific environments (ibid). Hence, the process of learning become more refined and sophisticated the more learning experiences that are undergone, from imitating a movement to stories of meaning. Pictures and stories act as artefacts of memories (ibid) that create a shared social, cultural and historical context (Nonaka, Toyoma & Konno 2000). Thus, the interpretation of information is viewed as context-bound.

1.4.3. Knowledge and organizations

An organization is an entity of people that coordinates efforts and resources toward a common purpose. Organizational learning regards the common patterns of action within an organization; the lessons of experiences – embodied in routines – that guides behavior (Levitt & March 1988). Common routines, procedures, beliefs, values and culture within an organization may be viewed as the continuous result of the accumulated lessons in organizational learning and regards the process of *how* strategies and visions are implemented, or embedded, in the system of socialization and control (ibid). Within this study, organizational knowledge is viewed as the mental and structural artefacts that refers to a shared social, cultural and historical context. Thus, organizational knowledge contains the shared language and culture, that is suggested to enable learning between generations in society (Richerson & Boyd 2005).

1.4.4. Long-term knowledge in organizations

The competence that is integrated in the organization to the extent that it is still maintained and exploited through routines after the turnover of personnel and the passage of time, is regarded as an organizational memory bank. Within organizational learning literature, the term organizational memory is often referred to as a technical way of storing and accumulating knowledge, for instance through backup-systems and documents. It should therefore be noted, how the processual perspective within this study interprets the term “organizational memory”. Although generations of knowledge have accumulated to the preserved knowledge of today, knowledge cannot be stored as eternal wisdom, since the interpretation pattern that gives insight to understand that knowledge, is unique for everyone. The *organizational memory* is thus, viewed as a fraction of the original knowledge that has become embedded as part of the internal context of the organization, such as a business. And as Levitt and March phrased it: “*the accumulated lessons of experience [...] are retrieved through mechanisms of attention within a memory structure*” (1988, p. 326).

2. Literature Review

The second chapter provides a literature review on prior research of small family businesses and their relation to knowledge and longevity.

2.1 Family businesses

Family businesses as a focused field of study, identifies several characters that imply that the organizational form is distinct from nonfamily businesses (Sharma 2004). Westhead and Cowling (1998) report that, in comparison to nonfamily businesses, family businesses are likely to be: established for a longer time, established in a rural setting and smaller in size, but larger in number. Poutziouris and Chittenden (1996) found no difference in performance, although family firms are likely to prioritize stability before rapid growth (Fletcher 2002) and be more concerned about lifestyle (Westhead & Cowling 1998).

Likewise, family businesses tend to have a long-term orientation, which indicates a valuing of the business wealth in the long run rather than aiming for short-term profits (Sirmon & Hitt 2003). Family businesses are often described in words as openness and trust (Chirico 2008), and another explanation to long-term orientation is that the exchange of knowledge among family members create trust and that a high trust level could promote risk taking, that in turn requires a longer payoff period (Zahra 2003). Although in contrast, the high business share consisting of family assets is argued to likely motivate a more conservative and risk adverse behavior (Mason 2008).

A family business is distinguished by “*a complex structure, an emotionally colored culture and diffusion of roles*” (Fletcher 2002, p. 34). Habbershon, Williams and MacMillan (2003) depicts a family business as distinctively characterized by *interactions* between family members, the family unit and the business unit. These interactions, together with distinctive resources and visions, creates a “familiness” that makes each family business unique characters and culture (Chrisman, Chua & Steier 2005). From a similar perspective on the business unique culture, Tagiuri and Davis (1996) describes multiple attributes derived from the social, simultaneous roles of a family business.

Tagiuri and Davis (1996) reason that a family business is best understood as made up by the interactions of three simultaneous roles: family members, owners and managers. The researchers’ further reason that “*the overlap of these membership groups generates the many distinguishing features of family companies*” (Tagiuri & Davis 1996, p.201), in turn describing the features as unique, inherent attributes to the family business. The adjacent roles might collide and create negative dynamics within the business (Tagiuri & Davis 1996; Neubauer & Lank 1998) but if carefully managed; the emotional involvement, a life-long common history and the use of a private language allows family members to exchange knowledge more efficiently – especially tacit knowledge (Tagiuri & Davis 1996).

2.2 Longevity of family businesses

Research estimates that family owned firms are the most prevalent form of business across the world (Shanker & Astrachan 1996; Koopman & Sebel 2009; Glover 2013). Because of their numerical importance, the performance of family businesses is of critical importance to the development of an economy. Yet, few firms are successful in the long-term, since the major tendency is failing before the business make it to their second generation (Beckhard & Duer 1983; Ward 1997; Henning 2004; Le Breton-Miller 2004; Van Der Merwe 2009). Contradictory, many family farm businesses have survived beyond their third generation, often farming the same area over centuries (Lobley et al. 2002).

Research strongly posit that knowledge is among the most important factors for business longevity (Nelson & Winter 1982; Ward 1987; Alvesson & Karreman 2001; Lobley 2010) or even as the "*enabler of longevity*" (Chirico 2008, p. 435). Context-specific and informal knowledge have been acknowledged as key characters of family firms (Sharma 2004; Duh 2014), and the intrafamilial transfer of family businesses is thought to favor the transfer of informal, tacit knowledge from one generation of management to another (Danes et al. 2009). Sharma and Salvato (2013) acknowledged adaptation, continuity, and change as the core of family firm longevity. Napolitano et al (2015) argues that being successful over time entail "*meeting present and future challenges by exploiting the heritage of the past while continuously exploring new opportunities*" (p. 13). Thus, an organization's key to longevity, is its capability to explore and exploit its internal and external resources (Napolitano et al 2015). Yet, this capability is restrained by the capability to be sensitive to changes in the context (Napolitano et al. 2015, p. 4). The sensitivity explicates a tolerance to changes, which complements the ability to adapt to an environment. A firm that strategically strives to match its environment may have too fixed routines and competencies, and therefore may lack the ability to change when the environment changes (Levitt & March 1988).

Chirico (2008) investigated how knowledge can be "accumulated" to enable longevity in family businesses. He used the term "accumulation" as a processual term for how knowledge is created, shared and transferred to enable a family organization to survive across generations. Chirico notes that learning begins in the family and continues within and outside the business. He also notes that the process is positively influenced by distinctive emotional factors: commitment, psychological ownership of the business and trust between family members, which fuels the liaisons between work and family relationships. Similarly, Sirmon and Hitt (2003) consider that a deeper commitment to the business provides the organization with tacit knowledge. Cabrera-Suarez, De Saa-Perez, and Garcia-Almeida (2001) suggest that family relationships in terms of cohesion, adaptability and commitment determine the quality of an environment that enables knowledge transfer in the family business. The liaisons of social relations are noted to allow family members to develop distinctive, shared knowledge that remains in the business across generations (Bjuggren & Sund 2001; Kellermanns & Eddleston 2004).

3. Theoretical framework

The third chapter presents terms, concepts and theory on knowledge and learning used in this study. The first part of the chapter is structured in three levels of organizational learning: individual-, group-, and organizational level. The final part of the chapter summarizes the theory in a theoretical synthesis, which are then integrated with concepts from the literature review and presented as the conceptual framework of this study.

3.1 Introduction to framework

In this thesis, the term learning is used in its broadest sense: the creation of knowledge; by understanding the relation of information or facts to previous knowledge and experience. Knowledge creation is a dynamic process that starts at the individual level and expands throughout an organization by interactions with others at a social level, before becoming integrated as organizational knowledge (Nonaka et al. 2000). Thus, the study of organizational learning cannot be understood as isolated from individual learning (Allard-Poesi 1998; Virkkunen & Kuulti 2000). To understand organizational learning, this thesis studies learning at three levels; individual level, group level and organizational level, as illustrated in figure 2.

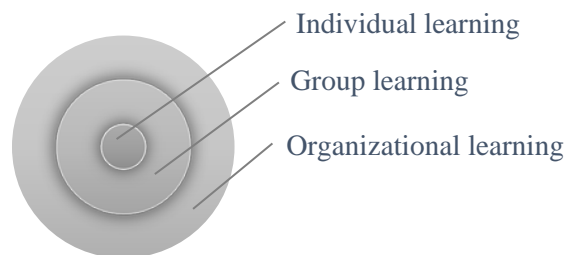


Figure 2. The theoretical framework of this study is presented as three levels of learning: Individual, group and organizational (authors own rendering).

The three levels presented in figure 2 are interpreted as overlapping. For instance, individual learning is dependent on a social context to create models of expectations, as further presented in chapter 3.2. By broadening the perspective on organizational learning behavior to include cognitive science, such as the sense of achievement, the presence of prerequisites to informal learning and tacit knowledge in family farm businesses becomes visible. The third chapter continues with an individual presentation of the three levels in figure 2, which are then summarized in a theoretical synthesis in chapter 3.5. During the iterative analysis process that follows with this study, a conceptual model of the context-situated, information processing view of learning that is found in family farm business is developed. This conceptual model is the result of analyzing the empirical material together with the theoretical synthesis and the prior family business literature and is presented in chapter 3.6.

3.2 Learning at individual level

Bandura (1986; 1991; 2007) argues that an individuals' commitment and resilience to difficulties is dependent on their ability to regulate their behavior through directing their perceived self-belief of capacities. This regulating ability, that Bandura (1986) presents as "Self-efficacy, is proposed to be developed from observing and modeling the behavior, attitudes and emotional reactions of other individuals in the environment. Hence, Bandura describes learning as a reciprocal influence between cognition, behavior and environment (Figure 3).

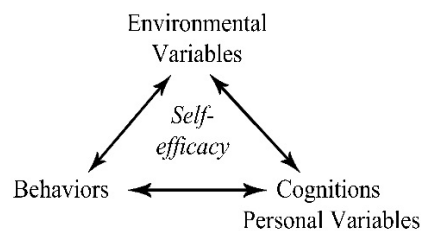


Figure 3. Three influencing variables to self-efficacy (Bandura 1986).

Cognition refers to attitudes and perceived expectations, while behavior regards the development of skills and mastering experiences (Bandura 1986). The environmental factors regard the social influences, such as having a role-model and the receipt of encouragement (ibid). These three variables of learning and self-efficacy affect the development of each other; self-efficacy reflects confidence in the ability to exert control over one's own motivation, behavior, and social environment (Bandura 1986; 2007).

Bandura's (1986) reasoning of individuals aspiring for self-control is similar to the work of Pekrun (2006), regarding "achievement emotions". Emotions tied to achievement activities- or outcomes, such as hope and anxiety or pride and shame, have a strong relation to the sense of control (Pekrun 2006). An emotional engagement and a sense of control is linked to learning performance and to perceive the value of learning (ibid). Further, the arousal from emotional involvement during learning has effects on memory, through increased attentiveness (Easterbrook 1959) and an ability to recall the circumstances of the emotional event (Damasio 2002).

3.3. Learning at group level

A group of individuals with shared passion and knowledge that learn to do things better as they regularly interact, is defined as a community of practice (Wenger 1998). While the group interacts, the sense of a group-identity concurrently strengthens. The concept of a community of practice is so common and familiar, that it often escapes our attention (ibid). Wenger further explains, that when a community of practice refers to a familiar experience, it integrates the components of a broader conceptual framework; a social theory of learning (figure 4).



Figure 4. A social theory of learning (Wenger 1998, p.4).

The four components of social theory of learning Wenger (1998) presents includes the way we talk of meaning, practices in a historical perspective, social configurations within the community and identifying with the context. Wenger states that one of the assumptions for this model is that an individual is driven to gain knowledge as a pursuit to actively engage in the world. With this assumption, this model of learning focuses on learning at a group level and thus, largely leaves out details of learning on an individual level.

3.4 Learning at Organizational level

3.4.1 The research field

The literature on organizational learning and knowledge is both vast and highly specified. The disciplines that apply a more cognitive perspective on learning suggest that a learning organization displays: individuals with a lifelong commitment to personal development, shared generalizations of the world, and aspirations to align thoughts and actions in pursuing a shared vision (Senge 1990). This sub-chapter will further present the more technical discipline of the field as relevant to this study. As follows, the central terms and concepts from literature of organizational learning will act as an introduction, followed by theorized models of how organizations learn and lastly, the centrality of the organization as a shared context is noted.

3.4.2 Nature of Knowledge

Two of the established terms of knowledge are the differentiation between tacit and explicit knowledge (Nonaka 1994; Nonaka, von Krogh & Voelpel 2006). Explicit knowledge being the knowledge that can be verbally articulated, and tacit knowledge being tied to senses, intuition and movement skills that are connected to procedures and involvement in a specific context (Nonaka 1994). As Polanyi (1966) phrased it: "We can know more than we can tell" (p.4).

Although, tacit and explicit knowledge is seen as complementary faces of knowledge, rather than separate types (Nonaka & von Krogh 2009).

3.4.3. Knowledge conversion

Nonaka's theory of organizational knowledge creation depicts a conversion process of tacit and explicit knowledge as the foundation of knowledge creation in organizations (Nonaka 1994). The SECI-model (figure 5) describes the conversion of knowledge as a four-stage model including the modes: socialization, externalization, combination, and internalization. Although all four modes are necessary to convert individual knowledge to the organizational level, the socialization-mode is often the trigger behind the process (Nonaka 1994).

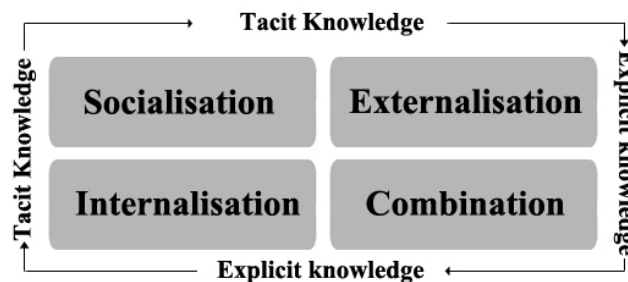


Figure 5. The SECI-model describes four knowledge conversion-modes (Nonaka 1994).

Socialization is the mode where tacit knowledge expressed by one individual converts into tacit knowledge in another individual through observation. Among others, apprenticeship is based on the process of observing. But, to observe a skilled carpenter will not transfer the skilled carpenter's ability to execute his actions solely by observation. To reach knowledge creation in a group, some of the knowledge needs to be *externalized*. The externalization-mode consists of the conversion of tacit to explicit knowledge by using metaphors, analogies, hypotheses, and models. To reach knowledge creation at an organizational level, all four modes of the knowledge creation theory are prerequisites and need to be "*organizationally managed to form a continual cycle*" (Nonaka 1994, p.20). The *combination* of several explicit knowledges may result in the creation of new knowledge. *Internalization* is the active, individual reflection upon the explicit knowledge, which then integrates with the existing knowledge-base and becomes tacit knowledge.

3.4.4. Context as base for knowledge creation

Nonaka and von Krogh (2009) remark that internalization, when explicit knowledge converts to tacit knowledge, has similarities with the traditional notion of learning as an individual, psychological process. It is central to stress that knowledge is not simply transferred to another individual but instead, reconstructed by the individual's own experiences (Nonaka & Takeuchi 1995). The process of re-constructing is suggested to be impinged on by the shared context (Nonaka et al. 2000). Later work by Nonaka, Toyoma and Konno (2000) discusses a shared social, cultural and historical context as the basis for interpreting information. The shared context constructs a pattern for interpreting information (ibid), that forms conditions to otherwise endless interpretations of the world.

3.5 Theoretical synthesis

The three levels of learning have been presented individually in the previous sub-chapters. The three levels are summarized in a theoretical synthesis, as presented in this sub-chapter. Then, the last sub-chapter presents how the theoretical synthesis is integrated with the findings from family business literature and form a conceptual framework for this study.

3.5.1 Summarizing concepts of knowledge

The cohesion and nuance of the terms; knowledge creation, knowledge sharing, knowledge conversion and knowledge transfer further lead the conceptual understanding of knowledge processes. *Knowledge creation* is an individual process (Nonaka 1994) of creating meaning to information collected by the individual’s senses. The process is sparked by sub-conscious motivational drivers, a pursuit of viewing “*active engagement in the world*” as meaningful (Wenger 1998, p. 4). A part of the knowledge is shared with others through observing actions, imitating, experimenting with hypotheses and explaining with the use of metaphors, analogies or mental models. This *knowledge sharing* process consists of knowledge converting from tacit to explicit, and from explicit to tacit. *Knowledge conversion* enable other individual’s *knowledge creation* and by this process, knowledge may be transferred from an individual level to a unit of several individuals. Hence, *knowledge transfer* refers to a process that includes the prior processes of creation, sharing, and conversion of knowledge.

The literature on knowledge and learning that relates to an organization presents processes that can be viewed and interpreted at three distinguished, yet integrated analytical levels. An overview of how the presented conceptual models can be viewed as related to another, and to the three analytical levels of the learning phenomenon, is displayed in table 1.

Table 1. Overview of concepts and theory related to organizational learning (authors own rendering).

Bridging process	Individual level	Group level	Organizational level
Meaning	Attitudes and perceived expectation of action (Bandura 1986)	The way we talk of meaning by relating to the shared context (Wenger 1998)	Internalization (Nonaka 1994)
Being – Becoming	Perceived expectations by observing behaviors (Bandura 1986)	The way we identify with the shared context (Wenger 1998)	Externalization [teaching] (Nonaka 1994)
Belonging	Social responses and perceived expectations by observing behaviors (Bandura 1986)	Social configurations within the shared context (Wenger 1998)	Socialization [observing & imitating norms] (Nonaka 1994)
Development	Commitment to mastering experiences to develop skills (Bandura 1986)	Practices relating to the historical, cultural and socially shared context (Wenger 1998)	Combination [of several individuals developed skills] (Nonaka 1994)

3.5.2 Summarizing dynamics of knowledge concepts

The overview in table 1 displays several interacting levels of learning. The dynamics of table 1 could be illustrated in figure 6. Figure 6 depicts organizational learning at the same three analytical levels: individual level as the central layer, group level in the next layer and the organizational level as the outer layer.

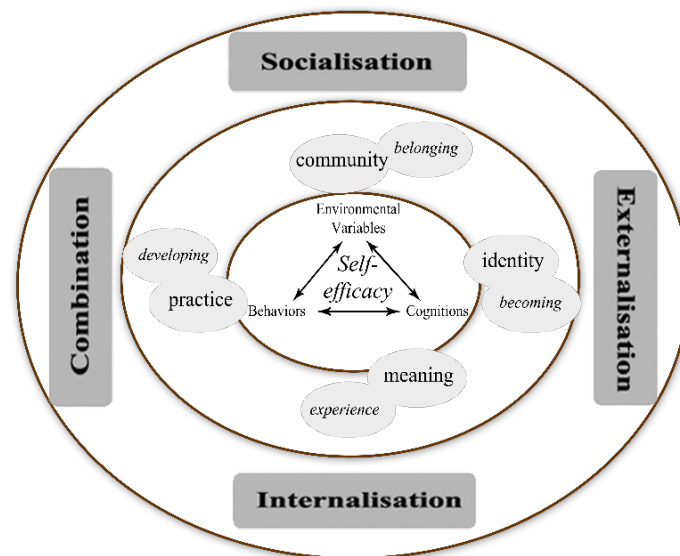


Figure 6. Concepts of learning processes structured in individual, group and organizational levels (authors own rendering).

At the individual level, Bandura (1986; 1991; 2007) argue that individuals hold the ability to regulate its behavior through directing attitudes and perceived expectations (cognitions), master experiences and recognize development of skills (behavior) and interpret surrounding social influences (environmental variables). Wenger (1998) reason that a community of practice makes sense of their reality through four elements in the context: the sense of belonging, becoming and developing meaningful experiences. The organizational level of learning has similarities with the motivational driver within the social theory of learning, yet also complementing Bandura's (1986) notion of perceived expectations as influencing behavior. The role of a shared context for interpreting information (Nonaka et al. 2000) has been acknowledged during this chapter. Within organizational learning theory, social interactions related to knowledge creation such as: observing, explaining, discussing and reflecting are expressed through the concepts of: socialization, externalization, combination and internalization (e.g. Nonaka & Takeuchi 1995). The proposed interactions are further reasoned to create shared patterns for interpreting information of a shared context (Nonaka et al. 2000). Hence, tacit knowledge is understood as developed through *interactions* with a *local context*.

The presented concepts and theories of three distinctive yet connected levels of learning will further be integrated with the findings of family business literature. The two fields of family business literature display some similarities. For instance, a learning organization is exemplified as displaying: individuals with a lifelong commitment to personal development, shared generalizations of the world and an aspiration to align thoughts and actions in pursuing a shared vision (Senge 1990). Within the family business literature, the notion of aligning thoughts and expected actions has been presented as aligning the liaison of simultaneously held roles, such as when one individual learns how to align the expected behavior of being an owner, manager and family member and thus, how efficient liaisons of those roles may be achieved.

3.6 Conceptual framework

The last sub-chapter presents how the features and roles of family businesses is integrated with the theoretical synthesis. Together, the literature of family business and of organizational learning form a conceptual framework for this study.

3.6.1 Considering interacting learning levels in a local context

As illustrated in figure 6, the components of a context that relates to learning are likely to be closely inter-twined in the local context in which they have been studied. As presented in the theoretical framework, tacit knowledge is understood as developed through *interactions* with a *local context* (e.g. Nonaka et al. 2000). The literature review revealed similar reasoning, as Habbershon, Williams and MacMillan (2003) argue that the distinctive, local context of a family business is best understood by studying the interactions between *family members*, the *family unit* and the *business unit*. This notion lays a foundation for the conceptual framework that enabled an analysis of organizational learning in farm businesses. In this study, the family members, family unit and business unit are interpreted as the three behavioral levels of the organization; the individual, group and organizational level. Terms, concepts and theories of organizational learning has been presented at the three behavioral levels of the organization, as illustrated by figure 6. However, both tacit knowledge (Nonaka et al. 2000) and its local context (Habbershon et al. 2003) are argued to be understood by *interactions* with or, respectively, within the elements that constitute a local context. Thus, understanding the constitution of a local context is insufficient in understanding tacit knowledge, unless interactions is considered.

To address this study's research questions; *how tacit knowledge is created and how it is transferred in the context of a family farm business*, interactions with the elements of a local context must therefore be considered. This study takes interest in the distinctiveness of family businesses and thus, enables the perspectives of family business literature to act as central concepts in understanding knowledge creation and transfer in farm businesses. The conceptual framework is built on the notion of that the interaction between the three levels create the uniqueness to family businesses (Habbershon et al. 2003; Chrisman et al. 2005). Thus, further understanding the development of uniqueness of a family business is thought to enable understanding of the interactions with a local context and thus, enable understanding of tacit knowledge. Within the family business literature, the development of uniqueness of a family business has been suggested as derived from simultaneously held social roles of family and work relationships (Tagiuri & Davis 1996; Bjuggren & Sund 2001; Kellermanns & Eddleston 2004; Chrisman et al. 2005; Chirico 2008).

3.6.2 Considering expected behavior within a local context

Tagiuri and Davis (1996) reason that the unique features of family businesses are best understood as generated from the liaison of three simultaneously held roles: family members, business owners and business managers. Tagiuri and Davis (1996) reason that "*the overlap of these membership groups generates the many distinguishing features of family companies*" (p. 201), in turn describing the generated features as: emotional involvement, a life-long common history and the use of a private language. These attributes may in turn sustain: mutual awareness of each other, a sense of shared identity and sense of meaning to the business (Tagiuri & Davis 1996, p. 206–207). Thus, a family business can be described as sharing *social, historic*

and *cultural* dimensions of the context along with their practice, which associates with what Wenger (1998) describes as a shared community of practice.

Wenger (1998) explains the shared dimensions of a community of practice as four distinctive yet overlapping elements that act as a motivational factor to behave as expected. On this notion, each of the three proposed roles in a family business (Tagiuri & Davis 1996) may be viewed as valuing behavior by the four motivational elements within the shared context. For instance, within a family farm business, a meaningful behavior for a farm business manager must align with a meaningful behavior of a farm business family member. As illustrated in figure 7, the expected behavior in a family business are simultaneously constituted by the aggregated values within the four elements of a community of practice. Thus, the expected behavior in a family business is modeled, as in line with Bandura (1986), in a shared context (Nonaka et al. 2000) as they relate to the four elements constituting a shared community of practice (Wenger 1998). Hence, the “*distinguishing features of family companies*” (Tagiuri & Davis 1996, p. 201), such as emotional involvement and private language, are viewed as generated by a continuous aligning of the inherent attributes within roles of the family business.

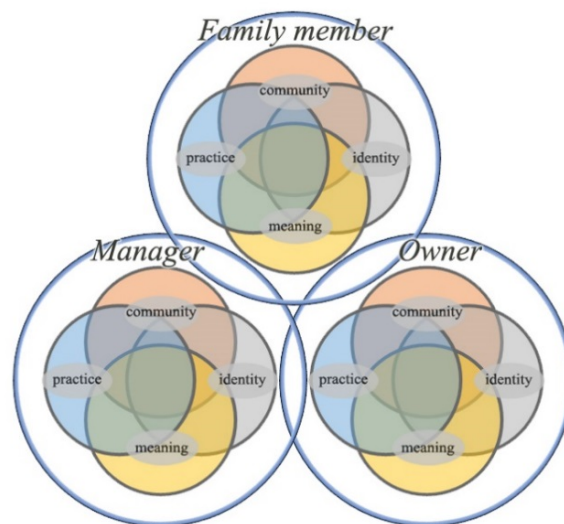


Figure 7. The liaison of roles in a family business generate inherent attributes, that may relate to the elements constituting a community of practice (authors own rendering).

3.6.3. Considering modeled roles as enabling efficient knowledge exchange

Findings from prior research of family businesses reveal the complexity of processes influencing tacit knowledge. Chirico (2008) suggest that the liaisons between work and family relationships stimulate the knowledge accumulation process, including how knowledge is created, shared and transferred to enable a family organization to survive across generations. Prior findings imply that an understanding of tacit knowledge creation and of transferring tacit knowledge to the next generation, require consideration of how *interactions* with or within the elements of a farm business context takes place. The interactions may include the values that an individual perceive as motivating a behavior (Wenger 1998), as well as a coherent adjustment of liaisons between these aggregated values (Tagiuri & Davis 1996).

In this study, Wenger’s (1998) assumption of an individual as pursuing active engagement in the world is complemented with the presented concepts of achievement emotions (Pekrun 2006) and theories of self-efficacy (Bandura 1986) at the individual level. Wenger (1998) reason that

a shared practice enhances the social interactions and that concurrently, the social interaction enhances the sense of shared experiences, shared community and identity as a group. Given the description of organizational knowledge as originated from the individual level (Nonaka 1994), yet dependent on a shared social context (Wenger 1998; Nonaka et al. 2000) and concurrently, influencing the expected behavior within the shared context (Bandura 1986), tacit knowledge creation is viewed as individuals creating interpretation patterns of their reality. As in line with Wenger (1998), the four knowledge conversion processes suggested by Nonaka and colleagues (e.g. Nonaka & Takeuchi 1995) are enhancing the sense of shared elements of the context and in turn, creates shared models of expected behavior (Bandura 1986). Thus, a similar pattern for interpreting expected behavior is shared with other individuals, by sharing common elements of the context at both group and organizational levels. The findings from family business literature, imply that this type of tacit knowledge may be inherited through the process of modeling expected behavior of a role within the local context.

Through combining prior literature of family businesses and of organizational learning when interpreting the empirical data of family farm businesses, a conceptual framework of knowledge processes in family businesses, such as a farm business, evolved during later stages of the analysis. The conceptual framework, as illustrated in figure 8, will act as a point of departure when presenting the analysis of this study. In addition to the components in figure 6, figure 8 integrates the four elements of a community of practice that is thought to constitute, as well as differentiate, the three simultaneously held roles within a family business. The processes related to knowledge conversion at an organizational level, such as: socialization, externalization, combination and internalization (Nonaka & Takeuchi 1995), enhance the sense of meaningful actions at group level (Wenger 1998) and create expected behavior – patterns for interpreting the meaningful action – within the context at individual level (Bandura 1986).

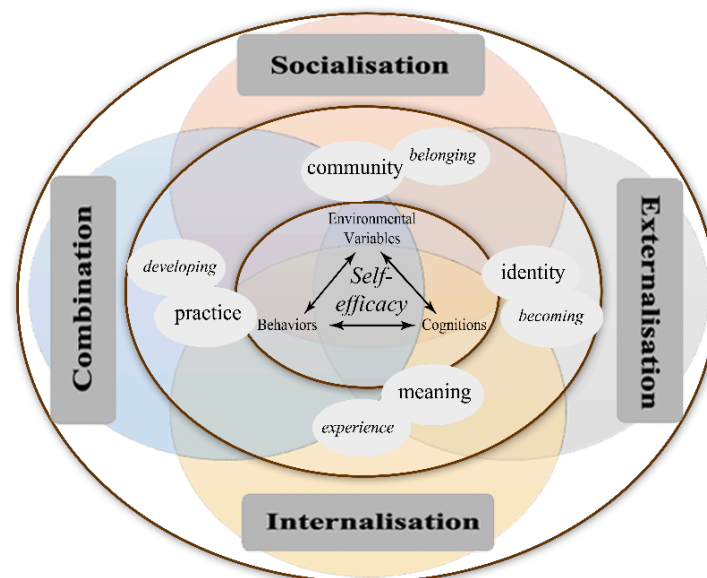


Figure 8. Evolved conceptual framework integrating the four elements that constitute and differentiate the three simultaneously held roles in a family business.

4. Study design

The fourth chapter presents and discuss the methodological choices that are made to conduct the research considering its aim: to enhance understanding of how the learning process takes part in farm business longevity.

4.1 Qualitative approach

This study aims to understand how learning processes take part in family business longevity, by studying organizational learning in small family farm businesses. Literature within the area of organizational learning posits that processes of knowledge creation are largely bound to the social context within the organization (Kusunoki, Ikujiro & Nagata 1998; Nonaka et al. 2000) since tacit knowledge seems to be developed through the interactions between individuals and their local setting (Nonaka 1994). Hence, it is crucial to adapt a methodology that allows the study to absorb the dense information of the context to develop an understanding of how the setting of a family farm business interacts with the transfer of tacit knowledge, in line with to Fletcher's (2002) description of contextual characters of a family business. Qualitative research has been posited as a suitable research design for the study of unique features of family businesses (McCullom 1990). With a preference for the origin of tacit knowledge creation as a contextually bound process, this study is conducted with a qualitative approach to research.

Qualitative research is characterized by in-depth analysis, focusing on collecting rich data with the intent to explore and understand a phenomenon by relating to the context (Robson & McCartan 2016). The epistemological and ontological standpoints accounts for the contextual characters of a family business succession, such as: "*a complex structure, an emotionally colored culture and diffusion of roles*" (Fletcher 2002, p. 34) as well as to clarify how different concepts related to knowledge transfer "*should be viewed in the family business*" (Uhlener 2009, pp.140-141). The epistemological orientation of this study is positioned within constructivism. Constructivism mean that the researcher view truth as something that is individually created through interactions (Guba & Lincoln 1994). Yet, although the predominant ontological view places this study within the relativistic paradigm, the study also takes historical realism into perspective, as an element of constructed realities. Relativism views reality as locally constructed by present interactions, while historical realism view reality as created by aggregated values that have been crystallized over time (Guba & Lincoln 1994). Thus, in this study, truth is viewed as locally shared and constructed by interactions yet, influenced by values within relevant contexts that may crystallize over time. However, the predominant ontological view is relativistic, meaning that reality is better understood and studied as something individually constructed in a social context (Guba & Lincoln 1994).

4.2 Case study design

The pursuit to understand the organizational learning phenomenon in this study is approached through a case study design, which in turn is arranged in line with the choice of a qualitative approach to focus on the complexity of a case. A case study is a common overall design structure used in qualitative business studies (Robson & McCartan 2016; Yin 2013), and suitable when the research question take interest in “*the uniqueness and complexity of the case*” (Stake 1995, p.13). The purpose statement of this study, to understand how learning processes takes part in business longevity, requires detailed, in-depth studies. At the same time, the research process of this thesis is restricted by having a limited project time set to twenty weeks. The purpose statement is tapered by its’ research questions to suit an operationalization of the study that allows high quality research. In this study, four individual cases of farm businesses were studied.

Case studies can be approached from different ontological and epistemological positions and the arrangement concerns different aspects of the case (Klonoski 2013). The relativistic orientation of this study acknowledges the prerequisites and interactions when studying the process of knowledge transfer, rather than examining whether knowledge transfer is present to some extent in the business. Hence, the endeavor is to learn from particular characters of a case, rather than to compare cases (Stake 1995). Empirical material from the cases in this study enables a discussion on what characterizes the cases and this discussion is founded from the notion of if some of these characters enable conceptual generalizations to similar cases (Mitchell 1983; Kennedy 1979).

4.3 Approach to Literature and Theory

A narrative literature review was conducted to utilize earlier studies and theorizations in understanding the process in the empirical business. The literature review revealed that recurrent research of family business tends to use quantitative research with a deductive view of theory development (Poutziouris, Smyrniotis & Klein 2009). This study implements what Robson (2011) recognizes as a flexible design, which allows this study to practice an abductive approach to theory development (Dubois & Gadde 2002), in turn enabling relevant concepts to develop continuously along the research process by collateral collection of empirical data and theoretical concepts (Ong 2012). Thus, the previous literature and theory presented in this study provides a conceptual bridge to prior ideas of what is known on organizational learning in family businesses such as a family farm business. By conducting iterative research process with an abductive approach to prior research, this study provides cognitive structures to collect empirical data that extends the existing understanding of how tacit knowledge influence business longevity. The results of this study encourage future field oriented studies to adopt similar concepts of the research process conducted in this study, to provide further thick descriptions and better understanding of organizational learning in family businesses, such as the family farm business.

4.4 Sampling and data collection

4.4.1 Sampling

One challenge of qualitative research is the selection of one or several cases that could provide rich description of a phenomenon. Stake (1995, p.4) suggests selecting a case that the study can learn the most from. However, such a selection may prove difficult to practice, since there is no way to distinguish this character beforehand. Yet, the literature review conducted in this study suggest that farm businesses differ from other family businesses by their intergenerational character. Hence, this differentiation implies that this study can learn the most of how learning processes takes part in business longevity by selecting farm businesses as a purposeful sample. Typical case sampling is one form of purposeful sampling methods and identification of purposeful criteria are argued to enable the reader to interpret the more abstracts generalizations made when selecting purposeful samples (Patton 2002, p.236). The four cases selected by this sub-set of purposeful criteria's, are viewed as typical cases of family farm businesses that also displays longevity. However, finding the specific cases that fit the description of a purposeful sample to this study, required the use of snowball-sampling. Snowball sampling, also called chain sampling, is one of the convenience sampling methods and is considered to find the cases that not necessarily had been accessible through other sampling strategies (Biernacki & Waldorf 1981).

The aim of this study sets some natural criteria for selection of cases and in line with Stake (1995), this study selected cases that met the following identified characteristics: first, the case required to have at least two generations that are or have been involved in the business for a longer period, in a role that is directly connected to the transfer of management and leadership on a farm. Second, the case required businesses that occupies the correspondence to at least one-persons' full-time employment, including the manager, to involve businesses that depend on successful generational transfers for longevity. The central characters of the selected cases are presented in table 2. The participating cases are all located in Sweden and have had animal husbandry as at least one source of income for at least two generations.

Table 2: Participating family farm businesses and central characters.

<i>Business name</i>	<i>Youngest operating generation, at current farm</i>	<i>Several active family members within business</i>	<i>Animal husbandry</i>	<i>External workforce</i>
A	3: rd	X	X	X
B	4: th	X	X	X
C	3: rd	X	X	X
D	2: nd	X	X	X

Several of the selected participating family businesses has operated their farm business during at least two successions. Yet, the occupation of farming often spans over an even longer period than the ownership of a particular farm. The cases are not selected due to their ownership of land, but to the ownership of an operative business. For instance, business B is a farm operating business that has leased a farm over four generations, while A, C and D have been owned their land during at least two generations. It is further distressed that the interest of this study is of transferred knowledge regarding the occupation and thus, takes less interest in the number of conducted successions.

4.4.2 Data collection

In this study, empirical material was collected by conducting four in-depth interviews in October 2019. Semi-structured interviews were chosen to guide the conversation to cover pre-determined themes, although the interview remained primarily of unstructured character. The pre-determined themes contained questions of open character, allowing the respondent(s) to speak freely (Bryman & Bell 2015). Questions of open and encouraging character also enabled an understanding of the respondent's view of the studied subject of learning (Kvale 1996). This method of choice allowed for narrative story-telling, while supplementary questions encouraged the respondents to reflect on their own experiences (Bryman & Bell 2015). All family members were invited to participate in the interviews and encouraged to participate to the extent they felt comfortable with. The participating family members and their current generation of management are presented in table 3.

Table 3: Interviewed respondents in the family farm businesses.

<i>Business and participant's fictive name</i>	<i>Currently younger generation</i>	<i>Currently older generation</i>
A- Andrew		X
A- Alice		X
A- Andres	X	
A- Anthony	X	
B- Bianca		X
C- Charles		X
C- Chase	X	
D- Derek	X	

All four interviews were conducted in the participants home-settings and lasted between one and two hours. The interviews focused on: the process of succession, how taking responsibility has accumulated and what is important to keep in mind when running the business (for details in the interview guide, see appendix 1). After consent from the respondents, all interviews were recorded. From the recordings, transcription of collected data was conducted and important quotes highlighted. The questions were formed in an early stage of the research process and the relevant empirical material gathered were sorted during later stages of the research process. During analysis, the data was thematized as described in 4.7, a process that spans over the entire research process. The relevant empirical material used in the analysis of this study are presented in the fifth chapter of this report. Results of the analysis are displayed in the sixth chapter and implications to the field is discussed in the seventh chapter. Material from interviews were treated in line with rigorous ethical considerations in qualitative research as further presented.

4.5 Method discussion

4.5.1 Ethical considerations

In all types of studies, it is important to attend ethical considerations such as the respondent's integrity and confidentiality (Robson & McCartan 2016; Yin 2013). This study took interest in considering the dynamic forces within a context in relation to knowledge creation. Bearing this in mind, it is crucial that the researcher consider the respondents and their context in a respectful way throughout the research process.

During social and behavior research, the researcher needs to weigh the risk of four ethical aspects: (1) risk of harming the participating person or organization, (2) risking lack of consent, (3) risk of invading the participants privacy life and (4) risk of deceptive or withhold information (Diener & Crandall 1978). In this study, all respondents were presented to the purpose statement and of the voluntary participation in the study. The information was given through written communication prior to the day of interview and confirmed by oral communication on the day of the interview. The written information also included the estimated time required for the participation, protected confidentiality through anonymization and anticipated benefit of participating in the research project, along with contact information to the researcher.

All interviews were recorded, after individual consent from the respondents. As a precaution to reveal personal information in any other purpose than for this study, the recordings were destroyed subsequently to the transcription of the interview and the transcriptions subsequently to the end of the research process. All participants are by confidentiality reasons anonymized in this thesis to protect their integrity. For further integrity reasons, the presentation of the participating businesses is sparse. Beside presenting the characteristics of the participating businesses in this chapter, the findings are derived from descriptions of the context that in turn is presented to the reader in chapter five. It is recognized, that respecting the respondents' integrity encouraged sincerity and openness during the interviews, enriching the quality of empirical data.

4.5.2. Quality assurance

This sub-chapter presents a summarized reflection of the quality of addressed results attained in this study and how the methodological choices therefore have had an impact of the results. The discussion is based upon the four criteria; credibility, transferability, dependability, and confirmability that asses the trustworthiness of results in qualitative research with a constructionist paradigm (Lincoln & Guba 1985).

An aim to understand how the learning process takes part in farm business longevity, does not aim for a statistical generalization of the presence of knowledge in the population of farm businesses, but to generalize the conceptual understanding of knowledge to similar contexts as the studied farm businesses. Contextually based knowledge may sustain more valuable results than predictable theories (Flyvbjerg 2006). As in line with Hsieh and Shannon (2005), a directed approach to content analysis is thought to have enabled rich data collection yet provide results with a clear anchoring to prior findings. Thus, the approaches to this study is thought to have enabled to expand the conceptual understanding of knowledge creation. The designated

approaches within the case study design enables the results of this study to be conceptually transferrable to contexts that suits the description of these cases, as suggested in the discussion and conclusion-chapters of this thesis. Further studies conducted on the concepts of this study should be aware of the described epistemological and ontological orientation that compose the foundation of the study. Thus, this thesis strives towards transparency of the researcher's standpoint of this study.

The researcher's epistemological orientation of this study has been argued as positioned in between constructivism and critical theory and with a predominant relativistic ontological standpoint. Truth is viewed as locally shared and constructed by interactions, shaped by values and crystallized over time. With this perspective on the phenomenon of knowledge creation process, reality is thought to be understood and studied as something individually constructed at a local level of a social context. The epistemological and ontological standpoints is thought to have laid the foundation for collecting and describing the unique composition of context-specific circumstances that influence the farm business. One explanation for this rich data collection, is suggested to be the enabling of reciprocity and fluidity between researcher and the researched individual through thorough considerations of the research process relevance for the practitioners, as well as for the field of research. The findings of this study are thought to be applicable in other contexts if the methodological choices that attained the results of this study are considered, and adjustments to another type of context is made accordingly.

Results attained from this study are viewed as locally constructed by interactions, shaped by values and crystallized over time. The results are thought to be trustworthy to practitioners not only of the studied cases, but to similar contexts such as other farm businesses, other family businesses and even to other small businesses. Yet, conceptual generalizations from the findings of this study are thought to require adjustments to another context by considerations to the methodological choices that attained the results of this study. If conducting a similar study, it should further be noted that the methodological choices of this study brings significant challenges to researcher's interpretation of perceived data collection as addressed in this chapter. The credibility of the results of this study are attended to by the transparency of the research process towards the respondents, as well as to the reader of this thesis.

4.6 Unit of analysis

The designated approach to understand the transfer of tacit knowledge between individuals is to utilize concepts from the literature areas of family business and organizational learning to describe the process of learning. This puts the organizational level as the unit of observation, while including individuals as agents in interactive action. Since tacit knowledge seems to be developed through the interactions between individuals and their local settings (Nonaka 1994), it seems the unit of analysis lies beyond the simplified labels of 'individual-level' or 'firm-level'. Further, previous literature also highlights variables to knowledge creation as found outside the firm (e.g. formal education). With this in mind, the unit of analysis in this study is the process of tacit knowledge transfer or in other words, the process of learning. Hence, the analysis covers the dynamic interactions of the multi-level phenomenon of organizational learning. To structure the analysis, the process of learning was interpreted as a system of components and interactions, as illustrated in figure 8.

4.7 Analysis technique

This study applies the commonly used qualitative content analysis, to interpret the collected data with an attempt to identify and reproduce the core of underlying meanings of the respondents' depiction of their learning processes (Zhang & Wildemuth 2009). Hsieh and Shannon (2005) identify three distinct approaches to sub-categorize the content analysis method: the conventional-, the directed-, and the summative content analysis, ranging from superior to inferior degree of inductive reasoning (ibid). Using relevant research findings to pre-prepare themes of interview-questions and guide initial codes to interpret, this study applied a directed content analysis. Note that a 'code' in this study is interpreted as a coding unit, which represents a theme in the respondent's message as an issue of relevance to the unit of analysis; the process of learning. As specified in chapter 4.6, the interpretation of the unit of analysis will shift from the sub-set of unitized messages down to issues that relate to the components or interactions of the process of learning.

Hsieh and Shannon (2005) argue that the directed approach to content analysis is appropriate when prior research about a phenomenon "*would benefit from further description*" (p. 1281), compared to when "*literature on a phenomenon is limited*" (p. 1279), which refers to the conventional content analysis, or when "*to understand the contextual use of the words or content*" (p. 1283), referring to summative content analysis. This study is not attempting to re-structure the use of pre-existing concepts used to describe the learning phenomenon, but rather to use pre-existing concepts as a guide to understand if some components or interactions may aid understanding the learning process. Given the importance of context-specific knowledge (Sharma 2004; Duh 2014) and the limited understanding of the prerequisites of how the context interrelates with the family business (Millar & Curtis 1997; Vogl et al. 2005; Fisher 2018), more elaboration is needed in developing the current concepts in specific contexts. Hence, the literature on the learning phenomenon is seen as developed, but not saturated, and a directed approach to qualitative content analysis was conducted when directing the analysis, since prior research "*would benefit from further description*" (Hsieh & Shannon 2005, p. 1281).

The choice of method to conduct the qualitative content analysis with a directed approach is involving a combination of both inductive and deductive reasoning, although Hsieh and Shannon (2005) argue the inductive point of view is superior to the deductive. They remark that it is not the intention to resemble what is typically referred to as a deductive category application, but to access rich data collection and guide the discussion to be compatible with prior research and thereby expand the conceptual understanding of a phenomenon (Hsieh & Shannon 2005).

5. Empirical findings

The fifth chapter of this study presents the most significant responses given by the respondents to enable the reader to gain a clear understanding of the issues discussed in the analysis. The interview was conducted in Swedish, the native language of the respondents and the quotations are translated.

5.1 Business A

Business A is currently managed and operated by the respondents: Andres and Anthony, who inhere to the third generation and co-managed by Andrew and his wife Alice, who inhere to the second generation of the family. A formal succession is yet to be conducted. The animal husbandry of today consists of about 200 milking cows, but there has also been pigs on the farm up until two decades ago. Together, Andres, Anthony, Andrew and Alice reflected upon changes within the context over time, as well as distinguishing features of farm business A. At first, the respondents spoke of what they perceive as the main feature of their farm business. Alice started a discussion through proclaiming “*diversity*” with a decisive tone. Andres soon added: “[...] *we don’t have much of anything, but pretty many various parts*” and explained that “[...] *the farm is built on returns [...] we’ve learned that it is more efficient to prioritize [as in allocating] the resources that are, instead of insisting to have the best for everything*”. Anthony built on his brothers explanation, adding: “[...] *it’s the interest in details, such as when I drove over here [with the manure barrel], I barely have any air pressure in the tires when spreading at the fields, so I would have had to inflate them if it would have been a longer distance.*”

Andrew reasoned that the openness for ideas to utilize the farm’s resources may derive from a traditional, historical perspective: “*since grandfather’s time, we’ve let the cows browse in the forest behind the barn here*”. Andres adds: “[...] *there’s got to be a few kilometers of fence... its route has been there forever, longer than any of us remembers [...] letting them [the herd] strolling between this field nearby, the meadows and the forest itself [...]*”. The first generation farmer in business A seem to have left traces of his beliefs with his kin, that in turn has left a foundation for shared mental models. As Andrew further exemplify:

When grandfather bought this farm and let build a barn with a mow above, neighboring farmers asked him if he was building a mow for the entire neighborhood! [...] Although, since last year, the milking cows are in a new barn, that is a bit further away - so there’s only youngsters and dry cows that’s in the old barn and keeps exploiting the herbage [...].

Andrew further reflected over the years in bringing up the younger generation and says: “[...] *they have had pretty free rains [...]. For instance, they weren’t old when they drove horses in the forest to bring back firewood [...]*” Alice adds: “*they’re in that picture over there*” and points toward a painting in the hallway, picturing a horse in front of a sleigh, laden with firewood and two small boys, barely visible behind the logs. “[...] *and the same goes with the grandkids now*”, Alice continues. “[...] *although they’re a bit younger still [...] having their own patch of land to grow, planning what color of tractor to have, taking care of our chickens while they’re here and so on [...]*”. Andrew’s and Alice’s memorial narration are recognized by Andres, who shared retellings of his own experiences of the farm occupation: “*We’ve always been involved [...]*”. Andres spoke of his upbringing as if his interest where fueled by the sense

of responsibility. In addition, Andres also noted that “*one did notice that you were like a dad to your friends*” and gave credit to the encouraging environment around their farm: “[...] *lots of activities and a drive to manage resources in long-term makes the occupation amusing. The duller thing is land that just lies there, that no one makes an effort with. [...] there’s always some movement; deliberations and things going on around here [in the area].*”. As one example of the several changes that business A takes part in, Andrew and Andres spoke of adding value to latterly added land:

[Andrew] We’re also restoring that pasture over there, in that birch meadow [...] it was so overgrown by aspen trees [...]. [Andres] It takes time [...] perhaps we need that pasture ground if we expand the herd [...] its nice for the district, people say, it gets more open and it makes the area look attended to [...].

5.2 Business B

Business B is currently managed by two brothers of the fourth generation and the business at present sustains two families. Business B has leased the farm since the early 20’s and the last succession was made about ten years ago, after 24 years under the third generation’s management. When the third generation conducted their succession, the farm had 32 milking cows and leased 62 hectares of arable land. Today, business B has room for just over 200 cows, and is leasing over 500 hectares of arable land. Bianca inheres to the third generation and solely represent the reflections upon changes within the context over time, as well as distinguishing features of farm business B. At first, Bianca recalled how the change within context of farming also changed the context of their farm business.

The best thing with farming is found at a daily, seasonal or yearly basis [...] to follow seasonal changes, the and to see the result of one’s actions and decisions... develop an ability to make decisions based on intuition [...]. The greatest enjoyment in this profession is the freedom of choice – the ability to choose how to farm – and experience the results of that. [...] on the other hand, the most tedious thing is found over time. By the time we took over, the administrative burden had already increased and today, the administrative burden is on the limit on what we can bear [...]. The surveillance indicates, along with other things, a lack of trust to the knowledge and judgement of farmers – everything is questioned –this makes out the most tedious thing with the farming occupation. There’s a reason pastures look the way they do – they’ve been cultivated and browsed for thousands of years.

As the conversation continued, Bianca underlined the importance of experiencing a sense of achievement: “*To make money – in the sense of experience achievement – is important*” Bianca reasoned. “*I think that, for every generation, it gets more important to experience change and development. To produce the refinement of resources through successful management, rather than to conduct an occupation, were more important for us than for our parents and I think it’s more important to our children than it was for us*”. In a sense, it seems as business development and achievement of expectations, potentials and opportunities is more important than the occupation itself. Business B is one of the two farm businesses left in the area who keeps animals. Surrounding farms have exited the occupation and thereon, business B would expand their leased field area to keep farming the land. “*Their sense of achievement derives from development [...]. If things weren’t profitable, the sense of achievement would be less [...]. Yet, if this farm was not profitable, [the fourth generation]*

wouldn't move, but develop the business in other ways. Despite this being a leased farm, the farmers are not portable – it would require a lot for them to move just because profitability decreases – here, in this place, they're grounded... “

Bianca spoke of the farming occupation as problem-solvers by nature. The expectation of what constitutes an achievement was indicated to be influenced by the experience of roles within the context of the farm business. Bianca noted that the social role of a former farmer – his openness and a broad interest for the occupation – still influences the business as well as the place. She concluded that openness for sure is a feature of business B, and that its probably inherited from the former farmer:

I think that the openness and interest of [manager in second generation] still affects this business [...] we have continued to benefit from our geographical location and have had many research projects over time [...]. I think that has driven us to be early with many things – such as holding the cows in loose housing – and confidence in trying new things [...]. Historical knowledge grounds interest [...] Grandpa could've explained that [...].

Bianca recalled that historically, it was expected that someone in the family would take over the business and she further reasoned that nowadays, the one taking over has made an active choice. The topic of interest was further discussed, along with how an interest just 'appears'. Thus, within their family, a passionate interest has almost seemed to be inherited. “*The grandkids are very engaged and passionate about the occupation of farming [...] Other kids get to ride along to play farming in daycare*”. Bianca also reflected upon a certain type of experience: “*When meeting people, they often lit up when mentioning a farming memory, and are keen to reveal their own connective memory; some sheep browsing nearby their summer cottage – or that they have had a friend at day-care who they played farm with*”. Bianca further expressed a thought on how memories are easier to relate to, when senses have been involved when creating the memory. The farm environment is full of elements that awaken senses: the scents, sounds and sights undeniably provide the essential information to ensure everything from quality of silage to the health of all individuals. Bianca reasoned that the process to evolve a confidence to the senses must come from experience; the more different experiences, the more reference material there is. Bianca noted, that there should be left space to explore the essential interest:

[...] get to learn and get to try, doing things should be fun and joyful, not a sense of 'must do'. [...] to independently take responsibility – to learn what you are capable of and when you need to ask. It is important to let things go in order to make room for one another. If you have working routines, you do not need to be there yourself. If a feeding wagon breaks down, you would call an electrician, and so can the replacement do so too. [...] the person working need to have the responsibility to feel the sense of achievement.

Bianca underlined that although there is a need for visible results of the work that is put in, the sense of pride should not be allowed to result in overestimating the ability to do everything yourself. Business B has been determined to value spare time and Bianca noted that they rarely sense the job as overwhelming:

There are periods when everything happens at once, but everyone with this occupation could do better at balancing these periods with easier sessions [...]. I think we have been pretty good at taking time for planned vacations [...] it requires

active work with a mentality that it is ok [...]. Last year's drought is a good example of when worrying is pointless – you cannot worry over things you have no impact over. After ordering feed for the winter, we made sure we did the best of the weather and invested in more quality time enjoyed with the whole family.

5.3 Business C

Business C is currently managed by the third generation and the last succession was made within ten years ago. The animal husbandry of today consists of about 150 milking cows. The respondents within business C are Chase, who is currently managing the farm along with his wife, and Charles, that left over the farm operations to Chase at the time of succession. Together, Chase and Charles reflect upon changes within the context over time, as well as distinguishing features of farm business C. At first, Chase recalled that the occupation of farming and the intrafamilial succession, were not always the obvious decision. Chase noted the importance of coming to the conclusion on his own, by experiencing other impressions and thereby arrive at the conclusion of that other occupations lack things that he valued: *“it's good to, by outer impressions, land in the decision that the 'farming-package' actually is the occupation that is attractive”*. Chase ran his own company for a while, but the self-control over working hours and of decisions was not enough: *“I enjoy having my work outside the doorstep. It is the whole lifestyle that is attractive [...]. To work close to the family, with the soil and with animals [...]. The financial goal is to take out a decent salary to live on, if interested solely in a high [measurable] salary, I would not conduct this occupation...!”*. Charles added: *“you appreciate the freedom, at least you notice that after you've been at other sites [...] to be you and the nature...”*

Both Charles and Chase agreed on problem-solving as the main attribute to the occupation of farming and of adaptiveness as a feature of the farm sector *“historically, there's no more pigheaded profession than farmers, in terms of getting through times of recessions and other difficulties”*. Charles and Chase have developed slightly different management styles. To a question on what attribute they value in themselves, Chase replied: *“I'm good at having an overview over everything, so I don't lose sight at an area”* while Charles replied: *“I guess that my background in a [craftmanship industry], made that I could not accept any half-measures”*. The shared history is recalled at several occasions, and it is often clear that there's more stories behind the emphasized words. When asking Charles what he perceives as his most valuable ability, he immediately seconds his son's prior answer: *“the ability to handle people”*. Immediately, the following conversation exchanged:

[Charles] - we are pretty similar, Chase and I.
[Chase] - that's why we can't work together!
[both] [laugh]
[Charles] - well, he doesn't do as I say!
[Chase] - and he's stuck in old trenches!
[both] [chuckles]

Chase reasoned over how ideas arrive and underline how the sense of self-control depicts a sense of achievement: *“[...] the occasional thought, like: this is how I've always done, maybe I could do like this instead? But I wouldn't do that if someone else told me the same thing – I must come up with it myself!”* Chase continued describing his occupation and his process of arriving at the decision to take over the ownership and management of the farm business. Chase underlined the short distance between a mental model over the lifestyle he grew up in and the

lifestyle as a farmer: “*home is work, it is easy to see what the job includes and to tag along at a day at work [...] to experience what’s expected [...]*”. Chase’s memorial narration sprang several anecdotes to life, that Charles recognizes and shares retellings of his own experiences:

[Chase] The first time I was going to drive the tractor myself, I let the clutch up too quickly and the machine reared on its back wheels [...]. I remember it as it was yesterday!

[Charles] I recall when I was driving a ‘woodlouse’ through a soft spot with loose dirt. One of the tires suddenly dug down, which caused the ‘woodlouse’ to stall – and the front heaved up. It really is memories that sticks with you.

[Charles] Chase wanted to have animals that the siblings thought only brought work – that differed him from the other children. He was also business driven at an early age, such as when he drove up chickens that he bought from the neighbor [to sell as ready for the oven] [...]. We never pushed for anyone to become farmers or anything, he developed his business sense on his own.

5.4 Business D

Business D is currently managed by two brothers of the second generation and the last succession was made over ten years ago. When the third generation conducted their succession, there was one farm with piglet production and slaughter pigs. Today, the business manages three locations and currently the animal husbandry consists of slaughter pigs. Derek inheres to the second generation and solely represents the reflections upon changes within the context over time, as well as distinguishing features of farm business D. At first, Derek recalled how the succession process were conducted. “*We used an advisor for all valuation – during a succession the economic parts and an overview of existing resources comes to the center in another way then it does at regular days. The emotional part we handled ourselves [...]*”.

Derek recalled that the occupation of farming and the intrafamilial succession, were not always the obvious decision.

It was not obvious to take over our parent’s business – I had some other interests I was passionate about – but no matter where you go or what you use, everything comes back to the agrarian sector. We did not take over because we were expected to, but you know; new brooms sweep better, and we had an incredible drive when taking over – to make it something of our own.

Derek spoke of the manager role and that he and his brother had natural interests that distinguished parts of the role.

We divided our role, so my brother had responsibility for the stables and I for machines and the fields. My brother did a fantastic job during his work day, he appreciated optimizing routines and when the day was over, he could relax. I, on the other hand, could never let the job go and would come to appreciate the seasonal part of the job.

The challenges as well as the advantage of running a business with a close relative is reflected on by Derek:

If I have a thought I say so – like today is a ‘bad’ day – I don’t carry it with me cause, then others misinterpret me [...]. Maybe it’s easier to speak freely about emotions and needs when its family [...]. But I guess you often overlook if the other [person] understood what you meant, that you take for granted that the message is

received [...]. How many times haven't you heard "You should have figured that out!"? And worse, if it's from a parent, you either go silent [shamed], or get pissed off. Either one, you get a sense of unwillingness to ever conduct the task again.

Derek focus on the systematic view of the business, where every spare part is essential for a smooth and efficient process: *"Order and structure remain the value of the farm"*. To build in things, such as maintenance of fans and ordering spare parts for the feeding system, to a regular schedule saves time during a break-down. *"After 50 years in the occupation, I view myself as a senior advisor – routines and processes in the agrarian business can strive for efficient organizational behavior just as any business.* Derek underlined that it is the mentality of a manager rather than the mentality of an employee – regardless if you conduct activities related to a non-strategic role you can still think strategically. For one thing, Derek underlined the importance of structuring routines, so they always run smoothly. When they do, its freeing up time and allows the mentality to view the need for maintenance, and overhead-managing. *"It's my farm and therefore my responsibility, but that does not mean I need to operate every single thing. The routines and phone-list should include 'fire-prevention' so that operations always run smoothly."* Derek spoke of the time consuming *"fire extinguishing"* that he reasoned can be avoided through planning the fires. *"I've got it from grandpa, who could go to the workshop and pick up a tool in complete darkness, since every tool had a certain place"*.

Derek spoke of an early sense of responsibility that built in pride and awareness into the confidence he has today:

As my sister [not active in the farm business operation] says; you cannot find a more solid, happier childhood then what we have had [...]. We got responsibility and permission to do things as soon as our interest were noticed, with an eye over the shoulder to make sure it's ok, of course [...]. They [parents] wanted to build us kids, give us responsibility.

Derek recalled that *"[...] you got safety instructions all the time..."* and that they have *"always been encouraged 'to do' when showing interest for something"*. Derek notes the responsibility for yourself and others as a central feature for the occupation:

You we're like a dad to your friends, regardless of we we're on the farm or not [...]. Growing up in a farm setting and receiving remarks on what risks it involves, builds an awareness and responsibility-taking for risks [...] you have to have a practical sense in the security of safety features around moving parts or animals – they reduce risk, not eliminate them. [...] to build and maintain attentiveness to senses is the foundation for safe work [...] you must make sure the attentiveness and awareness of risk is there, regardless of how advanced the safety features are [...] for a risk-conscious person, it is obvious that you have to be aware of the risk in sense of false security [...]".

Derek also underlined that regardless of the presence of risks in the environment, the awareness of risk must involve an individuals' ability to observe and to take active part in learning what is important:

You cannot inherit or purchase experience – it's down to the ability to observe how it is done and notice what is important [...] and – meanwhile – the ability to bring about and remark what is important and why it is important.

6. Analysis

The sixth chapter presents results of the content analysis of this study. In this study, four cases provide empirical data on the topic of knowledge creation in family farm businesses. The analysis displays how empirical material is interpreted with concepts and models derived from previous literature linked to organizational learning and family business longevity.

6.1 Introduction to analysis

The analysis has generated the conceptual framework that was presented in chapter 3. This conceptual framework will act as a guide for the analysis chapter and may be interpreted as illustrating the dynamics of interacting components within a local context. As point of departure for this analysis, the plotted components in figure 8 are viewed as components of interpretation patterns, enabling interpretations of information as meaningful in the development of identity, social identity and skill-sets. The creation of an interpretation pattern enhances the individual's sense of being actively engaged in the world (Wenger 1998). Although the pattern is created by each individual (Nonaka 1994), the different components are shared with others in different contexts (Nonaka et al. 2000). Thus, as in line with prior research, tacit knowledge is understood as developed through *interactions* with a *local context*.

The analysis further displays how empirical material was interpreted with the concepts derived from previous literature and conceptual models linked to organizational learning and family business longevity, to understand this study's research questions; *how tacit knowledge is created and how it is transferred in the context of a family farm business*. The analysis is structured in four sub-chapters. The second section presents how the learning processes of the cases interacts between the three levels of learning in an organization. The processes found in the family farm business are presented through the theoretical concepts of self-efficacy, embeddedness in a community of practice and artefacts of organizational memory. The third section immerse the findings further, extending the reflections of the findings in relation to the conceptual framework and presenting the findings as knowledge embedded in modeled roles. Finally, the fourth section presents the findings in relation the research questions of this study, which is followed by a discussion in chapter 7. The seventh chapter provide a discussion of the findings as related to the aim of this study.

6.2 Interacting learning levels in family farm businesses

6.2.1 Individual learning as self-efficacy

Despite being independent of each other and to have been analyzed individually, all interviews raised a central, dual aspect regarding the expectation of knowledge creation: that *learning requires an effort to understand* and that *understanding takes an effort to teach*. The way Derek expresses the expectations of learning, illustrates what Bandura (1986) captures as 'self-efficacy': "*you cannot inherit or purchase experience – it's down to the ability to observe how it is done and notice what is important [...] the ability to bring about and remark what is important, and why it is important*". Bandura (1986; 2007) explains self-efficacy as the ability to self-regulate a learning behavior by creating a reference frame of values on learning and its

outcome, which requires self-awareness on how environmental variables are perceived. It is found that Derek views learning as an active and conscious reflection, and that reflection as vital to enhance learning performance. Reflecting is a part of internalization and proposed to convert explicit knowledge to tacit knowledge (Nonaka & Takeuchi 1995). Derek also expresses a determination in the aspiration for knowledge.

As Derek's expression of a determination for reflecting on knowledge, Pekrun (2006) states that the aspiration for self-control in the learning process is activated and driven by emotional engagement. Emotions related to achievement, such as hope and pride, have a strong relation to the sense of control (Pekrun 2006). As Derek recalls, his sense of responsibility was associated with a sense of pride: "*we got responsibility and permission to do things as soon as our interest were noticed*". Bianca notes that there must be a sense of freedom, freedom of choice and experience of a positive outcome if an individual is acting out on the behavior of "*daring to try*": "*[...] get to learn and get to try [...] doing things should be fun and joyful, not a sense of 'must do' "*. Bianca's notion is similar to what Pekrun (2006) and Bandura (1986) describe as sense of self-control and perceiving expectations of achievement. Achievement was shown to be an important part of the respondents' engagement in learning, as illustrated by Chase: "*[...] the occasional thought, like: this is how I've always done, maybe I could do like this instead? But I wouldn't do that if someone else told me the same thing – I must come up with it myself!*".

Emotions of achievement have a strong relation to the sense of control (Pekrun 2006), as the previous quote demonstrates. Chase illustrates the centrality of achievement in the sense of self-control and emotional involvement in learning. Within the literature of family business, Chirico (2008) has noted that distinctive emotional factors influence the learning process within family businesses. Emotions of achievement are also found to increase attentiveness, thereby having positive effects on memory (Easterbrook 1959). Attentiveness to changes in the context and awareness of the context are mentioned by Napolitano, Marino and Ojala (2015) when speaking of the ability to be sensitive to the context as a necessary complement to achieve longevity. Studying the four cases, the valuing of attentiveness and development of awareness is clearly a part of the heritage in growing up in a family farm setting:

[Andres] [...] one did notice that you were like a dad to your friends [...]

[Derek] Growing up in a farm setting and receiving remarks on what risks it involves, builds an awareness and responsibility-taking for risks...

As Derek describes, attending what details to assemble implies that an element of attentiveness is required to create a reference frame of values. As in line with Pekrun (2006) and Easterbrook (1959), attentiveness to senses is found to enhance the ability to memorize and create meaning to the learned value. Further, emotional involvement in learning increases the ability to recall the circumstances of an emotional event (Damasio 2002). As a reminder of Bianca's words "*get to learn and get to try*", an illustrative quote on the ability to recall a memory due to its emotional involvement is given by Chase: "*The first time I was going to drive the tractor myself, I let the clutch up too quickly and the machine reared on its back wheels [...] I remember it as it was yesterday!*" Like Chase, Charles share a similar, emotionally connected memory: "*I recall when I was driving a 'woodlouse' through a soft spot with loose dirt. One of the tires suddenly dug down, which caused the 'woodlouse' to stall – and the front heaved up. It really*

is memories that sticks with you". Charles shared history can be viewed as related to sense of belonging (Wenger 1998). The sense of achievement (Pekrun 2006) as derived from perceived social encouragement (Bandura 1986), can be seen when Andres states that: "*Lots of activities and a drive to manage resources in long-term makes the occupation amusing [...] The dullest thing is land that just lies there, that no one makes an effort with [...]*".

6.2.2 Group level learning embedded in a shared community of practice

The process to create a pattern of interpreting what makes an experience meaningful, is explained by Bandura (1986) as *modeling* the expected behavior of the desirable environment. With the quote of Chase: "*it is easy to see what the job includes and to tag along on a day at work...*", it can be concluded that a pattern of expectations can be modeled within a farm business. The process of socialization is proposed as a process of converting tacit knowledge of one person to tacit knowledge in another person by observing the behavior of others (Nonaka & Takeuchi 1995). Thus, the process of modeling expected behaviors by observing others (Bandura 1986) may be viewed as socialization, a process of tacit knowledge creation (Nonaka & Takeuchi 1995) that requires a social environment. Andrew and Alice had similar reflections over the years of bringing up the younger generation, and Bianca spoke of her grandchildren's pride when reflecting upon their dedication to learn other kids the joy of farming: "*other kids get to ride along and play farming in daycare*". The process of externalizing observations (Nonaka & Takeuchi 1995) is thus found to awake a sense of pride. The sense of pride enhances attentiveness (Pekrun 2006) to what is important to learn, and it is found that an emotional engagement, such as pride, is linked to learning performance and to perceive the value of learning itself (ibid).

Although Bandura's theory on self-efficacy (1986) is tied to an individual's perception of self-control and capabilities, the theory of self-efficacy involves the presence of a surrounding environment, a context shared with others that influence the modeling of behavior and thus, of the sense of achievement. Wenger (1998) extends the notion on the environment as the driving, motivational factor to learning, when stating that an individual gains knowledge as a pursuit to actively engage in the world. As the respondents have recalled "*We have always been involved*", which implies that they *belong* to a community, and are motivated to *develop* the skills that are useful for their local community, in line with what they perceive as *becoming* a desirable identity within their context. When being acknowledged as a part of the context, experiences become a pursuit to make *meaningful* in relation to that context. As Derek underlined: "*We've always been encouraged 'to do' when showing interest for something*", encouragement is central within the social context. Summarizing the findings, all four cases seem to be in line with Wenger's definition of a shared community of practice.

The shared history is recalled at several occasions, and it is often clear that there's more stories behind the emphasized words. When asking Charles what he perceives as his most valuable ability, he immediately seconds his son's prior answer: "*the ability to handle people*". The conversation that follows between Charles (older generation) and Chase (younger generation), expresses the emotional involvement, a life-long common history and the use of a private "language". What gets lost in the rendered conversation between Charles and Chase, are the shared histories behind the sentences, such as the implication that they cannot work together. The owner and management role of business C shifted explicitly over a decade ago and they

now make jokes about their shared mental models of old entrenched assumptions, that in turn reflects the social configuration within the context (Wenger 1998). Externalizing tacit knowledge by using metaphors and analogies that is understood by others within the same context (Nonaka 1994; Nonaka et al. 2000) is observed in the conversion taking place in business C. Further, the process of discussing knowledge is thought to be part of the knowledge conversion (Nonaka & Takeuchi 1995). The conversation taking place in business C is displaying a developed private “language” within the business.

Chirico (2008) finds that knowledge creation, sharing and transferring is positively influenced by three distinctive emotional factors: emotional commitment, psychological ownership of the firm and trust between family members. The first factor; emotional commitment, is what Bandura (1986) argues is dependent on their self-efficacy. As regarding psychological ownership of the firm, there is one of the respondents that does not have physical ownership of the farm, but to the family business operating the farm. Bianca’s quote on the managing generation’s commitment to the place may represent this study’s findings on ownership: *“Despite this being a leased farm, the farmers are not portable – it would require a lot for them to move just because profitability decreases – here, in this place, they’re grounded...”*. The concept of being grounded is interpreted as embedded in the local context of the geographical space and as a commitment to that context. The level of trust – the third emotional factor that Chirico finds – can relate to the extent of embeddedness in a *socially* shared context (Chirico 2008). Likewise, if embedded in a *historically* shared context, a common history should be visible and lastly, if embedded in a *culturally* shared context, a local use of the language should be visible. A social, historical and culturally shared context is describing a shared community of practice (Wenger 1998).

Both Chirico (2008) and Tagiuri and Davis (1996) speak of the extent of embeddedness as positively influencing learning, and embeddedness in a shared context as: sharing historical events, the cultural tool of language and emotional commitment. This kind of family farm embeddedness was identified in all participating cases, such as when Andres, Chase and Derek recall how encouragement formed their interest, or when Andrew and Alice recall the years when Andres and Anthony insisted on being useful when taking the horse out to bring firewood. As Derek recalls, if one is committed enough to pay attention, a shared historical context may transfer a set of values not just over a current social context, but also over time: *“I’ve got it from grandpa, who could go to the workshop and pick up a tool in complete darkness, since every tool had a certain place”*.

6.2.3. Organizational level learning embedded in artefacts of organizational memory

Nonaka and Takeuchi (1995) argue that individual knowledge becomes part of the collective wisdom, i.e. embedded in routines and procedures, once it is shared over time. Language and culture are tools to effectively learn about what previous generations have learned and which behaviors fit specific environments (Richerson & Boyd 2005). Pictures and stories act as artefacts of memories (Richerson & Boyd 2005) that create a shared social, cultural and historical context (Nonaka et al. 2000). One distinguishing result of in the empirical material relates to a building that act as an artefact of memories that reminds the perceived core values of the location and of the occupation of farming:

[Andrew] When grandfather bought this farm and let build a barn with a mow above, neighboring farmers asked him if he was building a mow for the entire neighborhood!

The large mow with unusually high inner-roof was certainly not a common sight, despite being an area with a high degree of agriculture, both back then and as it is today, in relation to other areas. Three generations ago, the operating farmer seemed to have had a bright view of the future of farming – and the stories of him valuing the occupation as honorable, having a higher purpose and deserved to be invested in – is maintained as dear to the family. Although there is less need for hay-storage today, the mow stands as a signpost against the nearby forest line as a historical monument over the designated lifestyle, signaling faith in the farm's resources to sustain families of kin for a long time to come. Investments appear to always possess the symbolic value of reliance in certain resources, and in this case, act as an artefact of valuable knowledge that is maintained through a connected history. Without the story, the mow would be an unusually well-sized building for the area; lacking the ability to inspire the use and enhancement of local resources:

[Andrew] Since grandfather's time, we've let the cows browse in the forest behind the barn here...

[Andres] There's got to be a few kilometers of fence...its route has been there forever, longer than any of us remembers... letting them [the herd] strolling between this field nearby, the meadows and the forest itself...

[Andres] The farm is built on returns... we've learned that it is more efficient to prioritize [as in allocating] the resources that are, instead of insisting to have the best for everything.

Beyond embedded routines and procedures that have remained over generations in this family farm business, a sense of pride and achievement in finding a best practice, beyond the financial reward can be seen. This goes in line with Sirmon and Hitt's (2003) indicative findings on family firms as long-term oriented, which could be explained with the thought of Mason (2008); that the valuing of family assets and the high share of family assets in the family business is likely to motivate a conservative approach to risk-taking behavior. However, Fletcher (2002) summarizes that family businesses are overall likely to prioritize stability before growth, which indicates that a suitable risk-taking behavior to this major strategy would be well thought-through, involving incremental changes that are grounded in previous experiences, rather than rapid change with a less transparent outcome.

The incremental changes of a family business are noticed to be grounded in previous experiences (Fletcher 2002). Similar to this notion, incremental adaptiveness is found as a feature of family farm businesses. During the interview with business A, incremental changes characterizes the organizational routines:

[Andrew] Since last year, the milking cows are in a new barn, that is a bit further away - so there's only youngsters and dry cows that's in the old barn and keeps exploiting the herbage...

[Andres] There's always some movement; deliberations and things going on around here [in the area] ...

*[Andrew] We're also restoring that pasture over there, in that birch meadow [...]
[Andres] [...] it takes time [...] perhaps we need that pasture ground if we
expand the herd [...] its nice for the district, people say, it gets more open and it
makes the area look attended to[...].*

To a follow-up question on how they find time and energy to do these time-consuming and not necessarily essential things, the answer is “*interest*”. Yet, adding the sense of achieving more pleasant surroundings, the receipt of encouragement from locals, and the sense of pride to the location, it can be presumed that the term ‘*interest*’ is substantiated with more that motivates that passion to develop and change the inherited resources and yet maintain the integrated core values. The stories surrounding the mow seem to act as a receipt of encouragement that laps through history; inspiring the ‘*interest*’ in efficient use and enhancement of local resources by a sense of pride to the location.

6.3 Modeling expected behavior in family farm businesses

The chapter of presented results from the analysis have so far depicted how the distinctive, yet coherent processes of learning are present and viable in the family farm business. Organizational learning has been depicted as stories maintaining lessons that communicate values of the organization, such as the brothers in business B, who rather would take on a problem-solving differentiation of the farm business than to transfer the business to another farm. Or, such as the establisher of business A, who – probably unintentionally – let build a monument over his reliance in the local resources ability to sustain families of kin. According to Nonaka and colleagues (Nonaka et al. 2006; Nonaka & von Krogh 2009), cementing knowledge at an organizational level, namely the business unit, increases an adaptive ability of the business to face changes in the environment.

During the interview with respondents in business A, incremental changes characterizes the organizational routines and procedures as well as their awareness and attentiveness to environmental changes. Grounded in the notion of family businesses as likely prioritize stability before growth (Fletcher 2002), the results of incremental changes suggest that recognizing just the amount of change necessary and successfully integrating the change necessary *to the resources that are*, indicate the adaptiveness required to sustain business longevity. Business A developed and changed its inherited resources and yet maintained the integrated core values, and the results suggest that embedded values of the organization aid this balancing process. As the third section advance the analysis, the attribute of adaptiveness is presented as not only concerning the adaption of a routine, but also the adaption of roles, through adjustments of the attributes and values within the roles.

For just about a hundred years, business B has adapted their farm business:

I think that, for every generation, it gets more important to experience change and development. To produce the refinement of resources through successful management, rather than to conduct an occupation, were more important for us than for our parents and I think it's now more important to our children than it was for us.

Bianca also noted that the adaption of expected behavior could require some determination: *“It is important to let things go in order to make room for one and another [...] it requires active work with a mentality that it is ok [...]”*. The quotes that represents farm business B expresses that the feature of adaptiveness not only concern the adaption of a routine, but also the adoption of expected behavior regarding roles of family and business relationships. The several conversations in the four cases, as the one taking place between Charles and Chase, can be viewed as a continuous process of adapting the liaisons of the simultaneously held roles, as Tagiuri and Davis (1996) proposed. The conversation between Charles (older generation) and Chase (younger generation) illustrates how subtle the simultaneously held roles generate attributes such as: the emotional involvement, a life-long common history and the use of a private “language”, that refers to the embeddedness in social, cultural and historical dimensions of a shared context. An individual striving to actively participate in its surrounding context (Wenger 1998), creates the behavior of modeling expectations that suits a role within the context, as in order to regulate own behaviors accordingly (Bandura 1986).

Self-efficacy – learning to regulate behavior through directing perceived self-belief of capabilities (Bandura 1986) – becomes essential to change yet keeping the balanced liaisons of roles: *“We never pushed for anyone to become farmers or anything, he developed his business sense on his own.”*. As former discussed, Bandura’s (1986) model represents the ability to regulate behavior and values to achieve self-control. The observations from the empirical material points towards that not only the origin of tacit knowledge occurs at the individual level in the organization, but also that of organizational learning, which in turn enables business longevity. Yet, the individual does not only passively create a pattern for interpreting through the shared social, cultural and historic context its embedded in, but could take an active part in creation of the pattern; directing perceived self-belief of capabilities and thereby the commitment and resilience to difficulties – their self-efficacy.

As Derek remarks: *“You cannot inherit or purchase experience – it’s down to the ability to observe how it is done and notice what is important...”*. By taking an active part in enhancing self-efficacy, the individual increase attentiveness to the three influencing factors; attitudes and perceived expectations based on the relations to social environment and development of skills and reflection of experiences (Bandura 1986). As time passes, a role either changes in character, as when business D’s colliding roles endangered its longevity, or becomes more embedded in some of its embodied values, as it did in business B where the value of spare time and sense of business has grown over the generations. Thus, the composition of a role is no more static than the elements constituting a community of practice and the inherited part of values rely on having liaisons with meaningful memories.

The adjacent roles exist under the risk of colliding, creating negative dynamics within the business, likely affecting the effectiveness of a succession in the long-run (Neubauer & Lank 1998). Another quote illustrating the *lack of* ability to synchronize the liaisons between the role of a family member and the role of managing the family farm business, is expressed by Derek, when speaking of the weaknesses of managing a business along with family members: *“How many times haven’t you heard “You should have figured that out!”? [...]”*. Yet, if carefully managed; a life-long common history, the use of a private “language” and emotional involvement such as commitment, trust and psychological ownership, is argued to allow

family members to exchange knowledge more efficiently, especially tacit knowledge (Chirico 2008; Cabrera-Suarez et al. 2001; Tagiuri & Davis 1996).

6.4 Creating and transferring tacit knowledge

Pursuing an aim to understand how learning processes take part in family business longevity, this study takes interest in the longevity of family farm businesses. Two research questions frame the findings of family farm businesses in this study: *how tacit knowledge is created* and *how it is transferred to the next generation*. This study combined prior literature of family businesses and of organizational learning and interpreted the empirical data from a processual perspective. The past second and third section of this analysis present an enhanced understanding of the interactions between the dynamic elements of the *local context* and respectively, the dynamic attributes of the *interactions* within the local context. The main findings can be summarized as following: Empirically, it is found that the coherent processes of organizational learning are present and viable in the family farm business. Viewing patterns for interpretation as tacit knowledge, creates a conceptual foundation for understanding tacit knowledge creation and transfer. In this study, tacit knowledge is suggested to be *created* by a process of embeddedness in a shared community of practice and *transferred* to the next generation by processes related to organizational learning.

6.5.1 How tacit knowledge is created in family farm businesses

The empirical findings from this study suggest that the uniqueness of a family farm businesses, is the tacit knowledge created through the process of embeddedness itself. As viewed in the cases, the embeddedness process creates a foundation for shared patterns of interpreting their reality, such as when Chase emphasizes on the short distance between a mental model over the lifestyle he grew up in and a mental model over the lifestyle as a farmer. As in line with prior research, key features of longevity, such as incremental adaptiveness of a process, may be viewed as sprung from the balancing act of knowledge renewal and conservation of inherited knowledge (Napolitano et al. 2015).

From the results of organizational learning processes of the cases in this study, this balancing act is proposed to be reliant on inherited tacit knowledge that is transferred by a process of modeling expected behavior. For instance, the management of business A describes inspiration from the farmer who established the farm business by sharing stories of what this farmer valued. Thus, the enabling of tacit knowledge creation is suggested to be derived from the aligning of liaison between the expected behavior of being a family member and simultaneously, being a business owner and business manager. This process, illustrated in figure 9, is proposed as a two-way process of embeddedness in the four elements of a community and practice.

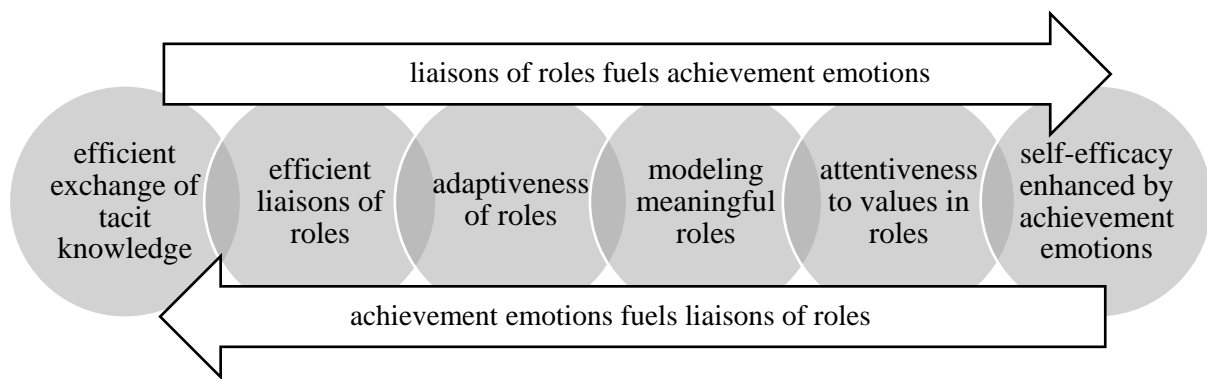


Figure 9. Process of embeddedness in a shared community of practice enabling creation of tacit knowledge in family farm business (authors own rendering).

Wenger (1998) reason that interacting elements of a social context nurture each other. As illustrated in figure 9, the process of embeddedness generates the features enabling an efficient liaison of roles, but embeddedness is also dependent on these features. As Derek underlined: “*We’ve always been encouraged ‘to do’ when showing interest for something*”. Thus, the sense of belonging to a community drives a pursuit to make experiences *meaningful* in relation to the context. The process to create a pattern of what makes an experience meaningful, is explained by Bandura (1986) as *modeling* the expected behavior of the desirable environment. Thus, the shared dimensions of a context act as a basis for the creation of a pattern of interpreting meaningfulness – creation of tacit knowledge. Modeling meaningful roles has a relation to achievement emotions (Pekrun 2006). For instance, this relation has been described in business B: “*The person working need to have the responsibility in order to feel the sense of achievement*” and in business C: “[...] *I wouldn’t do that if someone else told me the same thing – I must come up with it myself!*”. Thus, the embeddedness process is fueled by emotions of achievement such as hope and pride (Pekrun 2006), that is attained when sensing achievement of the expected role-behavior (Bandura 1986).

As illustrated in figure 9, the process of embeddedness itself is suggested to generate the uniqueness of a family farm business. Tagiuri and Davis’ (1996) suggested attributes of uniqueness to a family business; the emotional involvement, a life-long common history and the use of a private “language”, have been described in several of the cases, such as: the historical artefacts of business A, the psychological commitment of the farm in business B, how Derek expressed his development of responsibility through the environment of the farm, and the references to mental models through private language in business C. The found attributes of private language and shared references imply that the knowledge creation processes such as: socialization, externalization, combination and internalization (Nonaka 1994), become more efficient in a context that expresses such attributes. In this study, tacit knowledge is understood as created by interactions between the levels of learning in the local context. The interactions are thought to constitute a process of embeddedness to the four elements that influence the modeling of expected behavior. In farm businesses, understanding through processes such as observing and reflecting (Nonaka 1994), need to be displayed through processes such as explaining and discussing, to enable the younger generation to model patterns of meaningful behavior – to create perceived roles.

6.5.2. How tacit knowledge is transferred over generations in farm businesses

Tacit knowledge is suggested to be *transferred* to the next generation by processes related to organizational learning. Knowledge transfer is interpreted as a concept referring to a process that includes: knowledge creation, sharing and conversion of knowledge, over distinctive levels of learning. Thus, the process of transferring tacit knowledge requires the process of creating tacit knowledge. As previously discussed, the process of embeddedness enables private language and shared references that makes the knowledge conversion process more efficient. Although a pattern of interpreting the context, and expected behavior within, is created by each individual, embeddedness in the four elements of a shared context implies that the pattern other individuals who share the context, is shared by knowledge transferred between individual and group level.

Yet, the transferring of knowledge over *time* is found to require artefacts of memories to remind the values of a process or of a role, such as stories, pictures or buildings. In the case of business A, an unusually large mow act as an artefact of valuable knowledge that is maintained through associated histories. The artefact transfer expectations of the resources and of the occupation and thus, influence the modeled expectations of behavior – the role – at organizational level. The modeled expectations enable a sense of achievement, and thus, act as a receipt of encouragement that laps through history; inspiring the “*interest*” in efficient use and enhancement of local resources by a sense of pride to the location. The empirical material of business A state several examples of where the first manager’s value of “efficient use of existing resources” forms the third generations expectation of the farms resources: “*since grandfather’s time, we’ve let the cows browse in the forest behind the barn [...]*”, but also of values embodied in their management and ownership- roles: “*We’re also restoring that pasture over there, in that birch meadow [...]*”.

Thus, the mow as an artefact and the stories reminded through the building, crystallize values of efficient use and enhancement of local resources, partly by awakening a sense of hope and pride to the location. Investments appear to pose a symbolic value of reliance in certain resources. Levitt and March phrase organizational memory as: “*the accumulated lessons of experience [...] are retrieved through mechanisms of attention within a memory structure*”. (1988, p. 326). A *memory structure of accumulated lessons of experience* has been related to when discussing organizational memory in the studied cases; as memories of knowledge artefacts, that maintains the lessons as still useful and could be evoked during appropriate circumstances. This memory structure could be viewed as the crystalized knowledge of both tacit and explicit nature. Mechanisms of *attention* has been considered in the sense of enabling tacit knowledge transfer by attentiveness to inherit values in a role of the context. Such a process in for instance viewed in the expression by Derek: “*You cannot inherit or purchase experience – it’s down to the ability to observe how it is done and notice what is important [...]*”. Thus, knowledge transfer over generations is proposed as enabled when a younger generation create tacit knowledge by observing “*what is important*” – a process of modeling their expected role by perceiving values of the older generations’ behavior.

Tacit knowledge is proposed as enabled to be transferred over time to the next generation by the transfer and crystallization of tacit knowledge at the organizational level of the farm business – the outer level of the organizational learning levels in figure 10. Further, the adaptiveness required to sustain business longevity is proposed as inherited by modeled roles.

The incremental adaptiveness of this structure is illustrated in figure 10, as a cross-cut of a tree, adapting its growth to its environment. Adding the statement that the capability to be sensitive to changes in the context as a determining factor to longevity (Napolitano et al. 2015), implies that the capability to be sensitive to changes in the context contains, or comprises, the ability to balance the liaisons of roles between inevitable change and the inherited values of a role within the community of practice.. Thus, understanding through processes such as observing and reflecting (Nonaka 1994), need to be displayed through processes such as explaining and discussing, to enable the younger generation to model patterns of meaningful behavior – to create perceived roles.

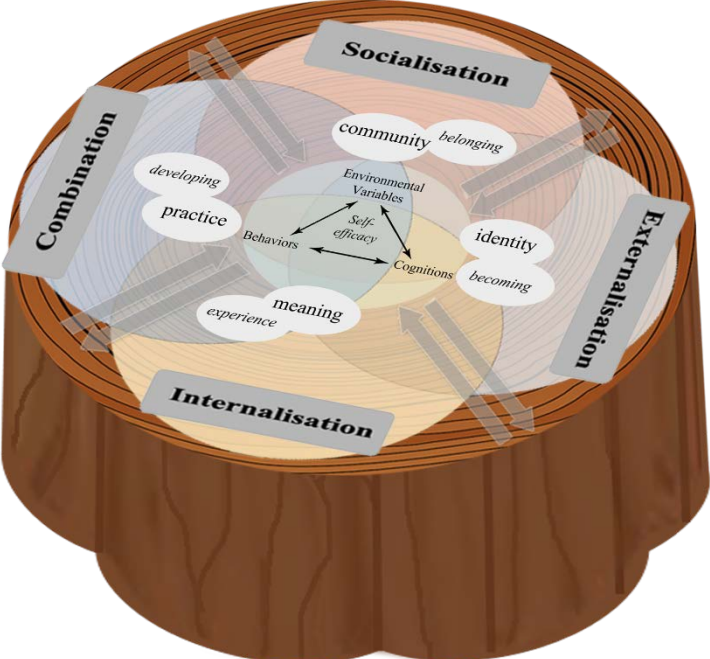


Figure 10. Crystallization of knowledge at an organizational level through valued stories relating to expected behavior or artefacts, enabling tacit knowledge transfer over generations (authors own rendering).

7. Discussion

This thesis aims to understand how learning processes takes part in family business longevity by studying organizational learning in small family farm businesses. The seventh chapter addresses implications of the findings to the aim of this study and the conceptual generalizability as practical and theoretical knowledge.

7.1 Findings of learning and longevity

Napolitano, Marino and Ojala (2015) state that the key to organizational longevity is the organization's capability to explore and exploit its internal and external resources that enable longevity, while restricted by the ability to be sensitive to the environment. As in line with Napolitano et al. (2015), business A is found to have developed and changed their inherited resources and yet maintained the integrated core values of the business. As incremental changes characterize the organizational routines and procedures in business A, this study suggest that recognizing just the amount of change necessary and successfully integrating the change necessary *to the resources that are*, indicate the adaptiveness required to further sustain business longevity.

The incremental changes that characterizes the cases in this study are suggested to derive from the process of embeddedness in the four elements constituting the farm business' community of practice. This kind of family farm embeddedness was identified in all participating cases. For instance, the historical artefacts of business A, the psychological commitment of the farm in business B, how Derek expressed his development of responsibility through the environment of the farm, and the references to mental models through private language in business C. The found attributes of private language and shared references imply that the knowledge creation processes brought forward by Nonaka (1994): socialization, externalization, combination and internalization, become more efficient in a context that expresses such attributes.

As in line with prior research, the creation of a pattern of interpreting expected behavior is thought to be based from a pursuit to make experiences *meaningful* (Wenger 1998) as in relation to the local context (Bandura 1986; Nonaka et al. 2000). The empirical results imply that the modeled behavior of roles within a family farm business may aid the balancing process of recognizing the adaptiveness required to further sustain business longevity. Combining Wenger's (1998) social theory on learning with the notion of roles as enabling efficient exchange of tacit knowledge (Tagiuri & Davis 1996; Cabrera-Suarez et al. 2001; Habbershon et al. 2003; Kellermanns & Eddleston 2004; Chrisman, et al. 2005; Chirico 2008) a social role is seen as constituted by meaningful engagement, practices relating to competence, identification with the context and identification to a social role within the community. The adjustment of embodied values of a role and of the liaison between simultaneously held roles, are suggested to depend on the same attributes that is suggested by Tagiuri & Davis (1996) to be generated from: the emotional involvement, a life-long common history and the use of a private "language". Efficiently aligning the liaison of roles and these attributes of uniqueness to a family business has respectively been previously linked to enabling efficient knowledge exchange, especially tacit knowledge, in family businesses (Tagiuri & Davis 1996; Cabrera-

Suarez et al. 2001; Habbershon et al. 2003; Kellermanns & Eddleston 2004; Chrisman, et al. 2005; Chirico 2008).

The results of this study indicate that the adaptiveness required to sustain business longevity, is partly inherited by the simultaneously held roles within their local context. The values constituting what behavior to expect of each role and of how the liaisons of the overlapping roles may be aligned during certain circumstances, are viewed as tacit knowledge. This tacit knowledge is viewed as interpreted by each individual within the local context of a family farm business, yet the pattern for interpreting expectations of a role is partly shared by others within the context. Values found to influence the embeddedness process (figure 9), enabling efficient tacit knowledge exchange, are partly inherited and embodied in the embedded roles within a family business. Hence, the embodied values in a role of a farm business, such as adaptiveness, need to become embedded and crystallized at an organizational level to transfer tacit knowledge to forthcoming generation.

Although the roles within the family farm business are guidance for achieving meaningful actions, the importance of self-control have been found in the cases. For instance, Chase expresses: “[...] *I wouldn't do that if someone else told me the same thing – I must come up with it myself!*”. The conceptual framework for this study illustrates how the expected behavior in a local context influences, and is influenced by, components in the three levels of learning. Thus, the findings of this study indicate that the key to farm business longevity may lay within successfully aligning the liaisons of simultaneously held roles of being a family member, business owner and business manager.

7.2 Implications for the family farm business

Within the agricultural literature, there is an acknowledged need for enhanced understanding of the informal knowledge in farm businesses (Millar & Curtis 1997; Vogl et al. 2005; Fisher 2018). The findings of this study contribute to the understanding of informal knowledge in farm businesses. As in line with prior research in other types of family businesses (Nelson & Winter 1982; Alvesson & Karreman 2001; Chirico 2008; Danes et al. 2009) it is suggested that knowledge embedded in a local context, such as of a farm business, is transferred over generations by being embedded as inherited, simultaneously held roles within the context, as in line with Tagiuri and Davis (1996) findings. As a younger generation creates models of expected behavior by observing the older generation, valued features such as the commitment of the first farmer in business A may be transferred from an individual level to a group level. When integrated in a new era of managers, the original value may be viewed as crystallized at organizational level. The transfer process is found as particularly effective if values of a role or a process is reminded by artefacts, such as the symbolic value of the investment in the unusually large mow in business A.

The findings of this study may be used by farm business striving for business longevity. Concepts of learning at distinct levels of the organization along with the descriptions of features such as adaptiveness, and of roles as in modeling expected behavior, may be generalized to identify and assess the “quality” of other family farm businesses prerequisites for efficient tacit knowledge exchange. Although the cases of this study do not actively perceive and value their

inherited values, the inherited values within the cases result in organizational procedures, routines and values that enable longevity, such as the continuous, established and yet discrete pursuit for efficient use of resources in business A. Businesses that want to set out to pursue longevity may need to actively regulate their perception and attitude to inherited values in similar ways as Bandura's (1986) theory on self-efficacy, that is viewed as the core process in the conceptual model of this study.

7.2 Implications for family business research

The empirical material of this study is constituted by the experiences and perceptions of farmers regarding knowledge transfer between the successor and predecessor of a family farm business succession. The reason to study family farms is as they differ from other family businesses in their success in surviving successions (Lobley et al 2010; Lobley 2010). Prior research (Nelson & Winter 1982; Ward 1987; Alvesson & Karreman 2001; Chirico 2008; Danes et al. 2009; Lobley et al. 2010) has recognized knowledge, and the typical informal, tacit knowledge, as critical to successful successions and thereby longevity of the family business. Yet, a technical perspective on knowledge is argued as the dominant view of knowledge in family business literature (Sharma 2004; Duh 2014) and of succession in farm businesses (Lobley et al. 2010), resulting in findings that describe the extant terms, rather than the learning process itself. As suggested to positively implicate knowledge exchange, the liaison of simultaneously held roles as family member and as business owner and manager, are discussed by prior studies within the family business literature (Tagiuri & Davis 1996; Cabrera-Suarez et al. 2001; Habbershon et al. 2003; Kellermanns & Eddleston 2004; Chrisman, et al. 2005; Chirico 2008). Yet, the descriptions of distinctive roles alone omit to apprehend how tacit knowledge is created and transferred within a family business context. Thus, existing research on knowledge and learning in farm businesses are perceived as insufficient to describe how tacit knowledge is created and how it is transferred to the next generation.

The findings from this thesis address the requested processual aspect (Sharma 2004; Duh 2014) of knowledge transfer in small businesses (Chirico 2008; Bracci & Vagnoni 2011; Napolitano et al. 2013) as well as noticing the request of knowledge as key to succession in the farm business (Lobley 2010). By a processual view on the prior identified content in knowledge processes, this study identified essential processes to enable tacit knowledge creation. By using the two-faced literature framework, of family businesses and organizational learning, it was further found that it is not just the *level* of embeddedness that enables tacit knowledge transfer, but the *process* of embeddedness within itself. The findings of this study further support the idea of simultaneously held roles within a farm business and the liaison between them as central to the dynamics that characterizes a farm business (Tagiuri & Davis 1996; Habbershon et al. 2003; Chrisman, et al. 2005). However, it should be noted that although this study put the concept of embeddedness in the elements or dimensions of a context as central to its findings, it does not enable description of the depth of each dimension of the contexts. For instance, the historical dimension to the business is described by its preserved values and stories from previous generations but excludes the preserved stories that have been of importance in forming the values within the occupation of farming and of agricultural sector in more general terms.

Prior research has indicated the amount of embeddedness as central to knowledge processes (Chirico 2008). In this study, the embeddedness process itself is suggested as central to enhance tacit knowledge creation. Based on the knowledge conversion processes (Nonaka & Takeuchi 1995) and the notions of increased attentiveness through the sense of achieving (Pekrun 2006) the expectations of such a role (Bandura 1986) within the shared context (Wenger 1998), the embeddedness process takes part in enabling tacit knowledge to be transferred to the organizational level of the family farm business, as illustrated in figure 10. Empirically, it was further found that emotions of achievement influence the knowledge transfer over levels in the business as well as over time and generations. For instance, the sense of pride over efficiently using resources in business A could be derived to the modeling of expected behavior (Bandura 1986). As similar to the findings by Tagiuri and Davis (1996), the cases of this study indicate that features related to business longevity, such as adaptiveness and sense of meaning to the business, are generated from continuously aligning the expected behavior of simultaneously held roles of their local context. The reasoning of Tagiuri and Davis (1996) indicate that the process of generating features, such as adaptiveness, are indicated to occur simultaneously with the process of adapting the liaison of incrementally changing roles. This study suggest that the two-faced processes of features and liaison of roles are composing a process of embeddedness to the shared elements of a local context, as illustrated in figure 9.

This study contributes to the literature of family business with a dynamic perspective on the roles by discussing them along the concept of embeddedness. This study suggest that embeddedness can be viewed as a process that enables the liaison of roles to generate attributes and features that has been identified in the cases, such as how adaptiveness was generated from stories of a former farmer in business A. The conceptual model of this study is thought to capture the distinct levels of tacit knowledge transfer within a family farm business. As a consideration for future research, the conceptual framework of this study can be generalized to other small family businesses such as the family farm business, as to further understand the implication of tacit knowledge processes on family business longevity.

There are several approaches to continue describing the phenomenon of learning in family businesses. For instance, this study has not approached tacit knowledge from a knowledge management perspective, but focused descriptive findings by collecting rich empirical material. This study encourages different disciplines to conduct further in-depth studies from a processual perspective. As a consideration for future research, the adjacent phenomena of culture and change may address similar perspectives to business longevity as the phenomenon of learning. Although family businesses are the predominant form of business organization, there are little understanding of the development of uniqueness and its connection to family business longevity. The implications of enhanced understanding in tacit knowledge processes on family business longevity and in particular, the unique sector of farming, may aid the understanding of how small businesses “survive” continuously and still exploit their local resources in a sustainable manner, as recognized by prior research (Napolitano et al. 2013; Sharma & Salvato 2013). Thus, understanding knowledge tied to sustainable exploitation of local resources may aid transferring the knowledge to other businesses, creating sustainable business sectors.

8. Conclusion

The aim of this study has been to understand how learning processes takes part in family business longevity by studying organizational learning in small family farm businesses. Pursuing this aim, two research questions has framed the operationalization of the study: *how tacit knowledge is created and how it is transferred to the next generation in the context of a family farm business*. Embracing the inherent complexity of real-world organizations, this study takes interest in how a unique composition of context-specific circumstances influence the longevity of farm businesses. The empirical material is constituted by the stories and thoughts of farmers regarding knowledge transfer between the successor and predecessor of a family farm business succession. Through an iterative research process, the empirical material has been analyzed simultaneously with concepts from two main literature areas within organization theory; family business and organizational learning.

The results distress a balance between knowledge renewal and conservation of inherited knowledge as key feature of longevity in family farm businesses. This study suggest that tacit knowledge is enabled to be transferred to the next generation through embeddedness at the organizational level. Further, tacit knowledge in the form of patterns of interpretation information in the context, is suggested as embedded in the roles within a family farm business. Together, the two suggestions imply that the embedded tacit knowledge of a role within a family farm business, aid the process of balancing knowledge renewal and conservation of inherited knowledge – a key feature of longevity in family farm businesses. Thus, the process of embeddedness is central in understanding how learning processes takes part in family business longevity.

This study complements prior knowledge within family business literature with both theoretical and empirical contributions. Empirically, it is found that the coherent processes of organizational learning are present and viable in the family farm business. The findings of this study suggest family farm businesses as a unit of observation that can continue to enhance the understanding of family business longevity. The conceptual framework can be generalized to other small family businesses such as the family farm business, to further understand the implication of tacit knowledge processes on family business longevity. The implications of enhanced understanding in tacit knowledge processes on family business longevity and in particular, the unique sector of farming, may aid the understanding of how small businesses “survive” continuously and still exploit their local resources in a sustainable manner. Thus, understanding knowledge tied to sustainable exploitation of local resources may aid transferring the knowledge to other businesses, creating sustainable business sectors. Lastly, it is noticed that this study reports on one person’s encounter with a complex phenomenon in a complex reality. Thus, the results of this study encourage future field-oriented studies to adopt similar concepts of the research process to provide further understanding of organizational learning in family businesses such as the family farm business.

References

- Alvesson, M. & Kärreman, D. (2001). Odd couple: Making sense of the curious concept of knowledge management. *Journal of Management Studies*, vol. 38(7), pp. 995–1018.
- Allard-Poesi, F. (1998) Representations and influence processes in groups: Toward a socio-cognitive perspective on cognition in organization. *Scandinavian Journal of Management*, vol 14(4), pp 395-420.
- Andersson, F.W., Karlsson, J. & Poldahl, A. (2017). Familjeföretag i Sverige – En algoritm för att identifiera familjeföretag. Fokus på näringsliv och arbetsmarknad. SCB.
- Burns, T. & Stalker, G.M. (1961). “Mechanistic and organic systems”, in Shafritz, J.M. & Ott, J.S. (Ed.) (1992), *Classics of Organization Theory*, Wadsworth Publishing: Belmont, pp. 214–225.
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Prentice-Hall, Englewood Cliffs.
- Bandura, A. (1991). Self-regulation of motivation through anticipatory and self-regulatory mechanisms, in Dienstbier, R.A. (Ed.), *Nebraska Symposium on Motivation*, vol. 38, pp. 69–164, University of Nebraska Press, Lincoln.
- Bandura, A. (2007). *Psychological modeling: conflicting theories*. New Brunswick, NJ. Aldine Transaction.
- Bateh, J., Heaton, C., Arbogast, G.W. & Boradent, A. (2013). Defining Sustainability in the Business Setting. *American Journal of Business Education*, vol. 6(3), pp. 397–400.
- Beckhard, R. & Dyer, W.G. (1983). Managing continuity in the family-owned business. *Organizational Dynamics*, vol. 12(1), pp. 4–12.
- Biernacki, P. & Waldorf, D. (1981). Snowball sampling: Problem and techniques of chain referral sampling. *Sociological Methods and Research*, vol. 10, pp. 141–163.
- Bjuggren, P.O. & Sund, L.G. (2001). Strategic Decision-making in Intergenerational Successions of Small- and Medium- size Family Owned Businesses. *Family Business Review*, vol. 14(1), pp. 11–23.
- Bjuggren, C. M., Johansson, D. & Sjögren, H. (2011). A note on Swedish family-owned businesses, employment, and GDP: a descriptive analysis. *Family Business Review*, vol. 24(4), pp. 362–371. doi:10.1177/0894486511420138.
- Bolin, O. & Klöble, A. (1999). *Familjejordbruket – en mångfacetterad och effektiv företagsform* (Report 130). Uppsala: SLU, Institutionen för ekonomi.
- Bracci, E. & E. Vagnoni. (2011). Understanding Small Family Business Succession in a Knowledge Management Perspective. *The IUP Journal of Knowledge Management*, vol. 9(1), pp. 7–26.
- Bryman, A., & Bell, E. (2015). *Business research methods*. Oxford University Press: Oxford.
- Cabrera-Suarez, K., De Saa-Perez, P. & Garcia-Almeida, D. (2001) The Succession Process from a Resource-and Knowledge-Based View of the Family Firm. *Family Business Review*, vol. 14(1), pp. 37–47.
- Cassidy, A., Srinivasan, S. & White, B. (2019). Generational transmission of smallholder farms in late capitalism, *Canadian Journal of Development Studies / Revue canadienne d'études du développement*, vol. 40(2), pp. 220–237, DOI: 10.1080/02255189.2019.1592744
- Chirico, F. (2008). Knowledge accumulation in family firms-evidence from four case studies. *International Small Business Journal*, vol. 26(4), pp. 433–462.
- Chirico, F. & Salvato, C. (2008). Knowledge Integration and Dynamic Organizational Adaptation in Family Firms. *Family Business Review*, vol. 21(2), pp. 169-181.
- Chrisman, J., Chua, J., & Steier, L. (2005). Sources and consequences of distinctive familiness: An introduction. *Entrepreneurship: Theory & Practice*, May, pp. 237–247.

- Damasio, A. (2002). *The feeling of what happens: Body and emotion in the making of consciousness*. Harcourt Brace & co: London.
- Danes, S.M., Stafford, K., Haynes, G. & Amarapurkar, S.S. (2009). Family Capital of Family Firms: bridging human and financial capital. *Family Business Review*, vol. 22 pp. 199–215.
- Dubois, A. & Gadde, L-E. (2002). Systematics combining: an abductive approach to case research. *Journal of Business Research*, vol. 55(7), pp. 553-560.
- Duh, M. (2014). Family business succession as knowledge creation process. *Kybernetes*, vol. 43(5), pp. 699–714. DOI: 10.1108/K-08-2013-0172
- Easterbrook, J. A. (1959). The effect of emotion on cue utilization and the organization of behavior. *Psychological Review*, Vol. 66 (3), pp. 183–201. DOI: 10.1037/h0047707.
- Easterby-Smith, M. & Lyles, M.A. (2011). The evolving field of organizational learning and knowledge management. In Easterby-Smith, M. & Lyles, M.A (Eds.). *Handbook of organizational learning & knowledge management*. Chichester: John Wiley & Sons
- Emling, E. (2000). *Svenskt familjeföretagande*. Stockholm: EFI.
- Fisher, J. (2018). The Master Should Know More: Book-Farming and the Conflict Over Agricultural Knowledge. *Cultural and Social History*, vol. 15(3), pp. 315–331. DOI: 10.1080/14780038.2018.1492792
- Fletcher, D. (Ed.) (2002). *Understanding the Small Family Business*. Taylor and Francis
- Flyvbjerg, B. (2006). Five Misunderstandings About Case-Study Research. *Qualitative Inquiry*, vol. 12(2), pp 219–245.
- Galadanchi, H. & Bakar, L. (2018). The Longevity of Business Enterprises: A Study of The Factors That Support Longevity of Business Enterprises Over Long Period. *IOSR Journal of Business and Management*, vol. 20(1), pp. 53–59. DOI: 10.9790/487X-2001025359
- Guba, E.G. & Lincoln, Y.S. (1994). Competing paradigms in qualitative research. In Denzin, N.K. & Lincoln, Y.S. (Eds.), *Handbook of qualitative research*. (pp. 105-117). Thousand Oaks: Sage.
- Habbershon, T.G., Williams, M. & MacMillan, I.C. (2003). A unified systems perspective of family firm performance. *Journal of Business Venturing*, vol. 18, pp. 451–465.
- Henning, M. (2004). Successful succession plans require putting first things first. *Hotel and Motel Management*, vol. 219(13), pp. 9–22.
- Hsieh, H. & Shannon, S. (2005). Three approaches to Qualitative content analysis. *Qualitative Health Research*, vol. 15(9), pp. 1277–1288. DOI: 10.1177/1049732305276687
- Höckert, J. (2017). *Sharing lifeworlds and creating collaborative cultures: Challenges for the advisory system in order to contribute to a sustainable farm development*. Diss. Agraria 106, Uppsala: Swedish University of Agricultural Sciences.
- Iwasaki, N. & Makoto, K. (1996). *Sustainability of the Japanese Old Established Companies*. Economic Institute of Seijo University 132, no. 3, pp. 160–130.
- Kellermanns, F.W & Eddleston, K. (2004). Feuding Families: When Conflict does a Family Firm Good. *Entrepreneurship Theory and Practice*, vol. 28(3), pp. 209–228.
- Kennedy, M.M. (1979). Generalizing from single case studies. *Evolution Quarterly*, vol. 3(4), pp. 661–678.
- Koopman, M. & Sebel, K. (2009). *The Internationalization of Family Firms: Facilitating and Constraining Features*. Jönköping University: Jönköping
- Korzenszky, A. (2019). Extrafamilial farm succession: an adaptive strategy contributing to the renewal of peasantries in Austria, *Canadian Journal of Development Studies / Revue canadienne d'études du développement*, vol. 40(2), pp. 291–308. DOI: 10.1080/02255189.2018.1517301

- Klonoski, R. (2013). The case for case studies: Deriving theory from evidence. *Journal of Business Case Studies*, vol. 9(3), pp. 261–6. DOI:10.19030/jbcs.v9i3.7805.
- Kusunoki, K., Ikujiro, N. & Nagata, A. (1998). Organizational Capabilities in Product Development of Japanese Firms: A Conceptual Framework and Empirical Findings. *Organization Science*, vol. 9(6), pp. 699–718.
- Kvale, S. (1996). *Interviews: An introduction to qualitative research interviewing*. Thousand Oaks, CA: Sage.
- Le Breton-Miller, I. (2004). Toward an integrative model of effective FOB succession. *Entrepreneurship: Theory and Practice*, vol. 28(4), pp. 305–328.
- Le Breton-Miller, I. & Miller, D. (2013). Socioemotional wealth across the family firm life cycle: A commentary on “family business survival and the role of boards.”. *Entrepreneurship Theory and Practice*, vol. 37(6), pp. 1391–1397.
- Levitt, B. & March, J.G. (1988). Organizational learning. *Annual Review of Sociology*, vol. 14, pp. 319–340.
- Ljung, M. (2001). *Collaborative learning for sustainable development of agri-food systems*. Diss. Agraria 308, Uppsala: Swedish University of Agricultural Sciences.
- Lobley, M., Errington, A., McGeorge, A., Millard, N. & Potter, C. (2002). *Implications of changes in the structure of agricultural businesses*. University of Plymouth, Seale-Hayne Campus, UK: Department of Land Use and Rural Management.
- Lobley, M. (2010). Succession in the family farm business. *Journal of Management*, vol. 13(12), pp. 389–851.
- Lobley, M., Baker, J.R. & Whitehead, I. (2010). Farm succession and retirement: Some international comparisons. *Journal of Agriculture, Food Systems, and Community Development*, vol 1(1), pp. 49–64.
- Mason, M.C. (2008). Governance and social aspects of internationalization: SMEs in northeastern Italy. *International Journal of Globalisation and Small Business*, vol 2(3), pp. 280–299.
- McCollom, M. (1990). Problems and Perspectives in Clinical Research on Family Firms. *Family business review*, vol. 3(2), pp. 245–61.
- McElwee, G. (2006). Farmers as entrepreneurs: developing competitive skills. *Journal of developmental entrepreneurship*, vol. 11(3), pp. 187–206.
- Millar, J. & Curtis, A. (1997). Moving farmer knowledge beyond the farm gate: An Australian study of farmer knowledge in group learning, *European Journal of Agricultural Education and Extension*, vol 4(2), pp. 133–142, DOI: 10.1080/13892249785300241
- Mitchell, J. (1983). Case and Situational Analysis. *Sociological review*, vol. 31(2), pp. 187–211.
- Napolitano, M.R., Marino, V., Riviezzo, A. & Garofano, A. (2013). *Moving Forward or Running to Stand Still? The Relationship Between Family Firms’ Strategic Posture and Longevity*. Paper presented at the Aidea bicentary conference, Lecce, 2013.
- Napolitano, M.R., Marino, V. & Ojala, J. (2015). In search of an integrated framework of business longevity. *Business History*, vol. 57(7), pp. 955–969. DOI: 10.1080/00076791.2014.993613
- Nelson, R.R. & Winter, S.G. (1982). *An Evolutionary Theory of Economic Change*. Harvard University Press, Cambridge, MA.
- Neubauer, F. & Lank, A. G. (1998). *The Family Business: Its Governance for Sustainability*. London: Macmillan Press
- Nonaka, I. (1994). A dynamic theory of organizational knowledge creation, *Organization Science*, vol. 5(1), pp. 14–37.

- Nonaka, I. & Takeuchi, H. (1995). *The Knowledge-Creating Company*. Oxford University Press: Oxford.
- Nonaka, I., Toyama, R. & Konno, N. (2000). SECI, Ba, and leadership: a unified model of dynamic knowledge creation. *Long Range Planning*, vol. 33(1), pp. 5–34.
- Nonaka, I., von Krogh, G. & Voelpel, S. (2006). Organizational knowledge-creating theory: Evolutionary paths and future advances. *Organization Studies*, vol. 27(8), pp. 1179–1208.
- Nonaka, I. & von Krogh, G. (2009). Tacit knowledge and knowledge conversion: controversy and advancement in organizational knowledge creation theory. *Organization Science*, vol. 20(3), pp. 635–652.
- Ong, B. K. (2012). Grounded Theory Method (GTM) and the Abductive Research Strategy (ARS): a critical analysis of their differences, *International Journal of Social Research Methodology*, vol. 15(5), pp. 417–432.
- Patton, M. Q. (2002). *Qualitative research and evaluation methods* (3rd ed.). Thousand Oaks, CA: Sage.
- Pekrun, R. (2006). The Control-Value Theory of Achievement Emotions: Assumptions, Corollaries, and Implications for Educational Research and Practice. *Educational Psychology Review*, vol. 18, pp. 315-341. DOI 10.1007/s10648-006-9029-9
- Polanyi, M. (1966). *The Tacit Dimension*. London: Routledge.
- Poutziouris, P. and Chittenden, F. (1996). Family Businesses or Business Families?, Leeds: Institute for Small Business Affairs, in association with National Westminster Bank
- Poutziouris, P., Steier, L. & Smyrnios, K. (2004). A commentary on family business entrepreneurial developments. *International Journal of Entrepreneurial Behaviour & Research*, vol. 10(2), pp. 7–11.
- Poutziouris, P.Z, Smyrnios, K.X. & Klein, S. (2009). Introduction: the business of researching family enterprises. In Poutziouris, P.Z, Smyrnios, K.X. & Klein, S. (eds.), *Handbook of Research on Family Business*. Cheltenham: Edward Elgar Publishing Ltd, pp. 1–7.
- Prahalad, C. K. & Ramaswamy, V. (2004). Co-creation experiences: The next practice in value. *Journal of Interactive Marketing*, 18(3), pp. 5-14.
- Robson, C. & McCartan, K. (2016). *Real world research*. Chichester, UK: John Wiley & Sons.
- Shanker, M. & Astrachan, J. (1996). Myths and realities: family businesses' contribution to the US economy, a framework for assessing family business statistics. *Family Business Review*, vol. 9(2), pp. 107–119.
- Stake, R.E. (1995). *The art of case study research*. Thousand oaks, CA: Sage.
- Sharma, P., Chrisman, J.J. & Chua, J.H. (2003). Succession planning as planned behavior: some empirical results. *Family Business Review*, vol. 16(1), pp. 1–14.
- Sharma & Salvato, C. (2013). Family Firm Longevity. In Fernandez Perez, P. & Colli, A. (Eds.). *The Endurance of Family Businesses: A Global Overview*. pp. 34–56. Cambridge: Cambridge University Press. DOI: 10.1017/CBO9781139794848
- Sirmon, D. & Hitt, M. (2003). Managing Resources: Linking Unique Resources, Management and Wealth Creation in Family Firms. *Entrepreneurship Theory & Practice*, vol 27(4), pp. 339–358
- Šūmane, S., Kunda, I., Knickel, K., Strauss, A., Tisenkopfs, T., Rios, I., Rivera, M., Chebach, T. & Ashkenazy, A. (2018). Local and farmers' knowledge matters! How integrating informal and formal knowledge enhances sustainable and resilient agriculture, *Journal of Rural Studies*, vol. 59, pp. 232–241. DOI: <https://DOI.org/10.1016/j.jrurstud.2017.01.020>.
- Tagiuri, R. & Davis, J.A. (1996). Bivalent Attributes of the Family Firm. *Family Business Review*, vol. 9(2), pp. 199–208.

- Teece, D.J., Pisano, G. & Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal*, vol. 18(7), pp. 509–533.
- Uhlaner, L.M. (2009). Business family as a team: underlying force for sustained competitive advantage. In Poutziouris, P.Z, Smyrniotis, K.X. & Klein, S. (eds.), *Handbook of Research on Family Business*. Cheltenham: Edward Elgar Publishing Ltd, pp. 125–144.
- Van Der Merwe, S.P. (2009). An investigation of the determinants of estate and retirement planning in intergenerational family businesses. *South African Journal of Business Management*, vol. 40(3), pp. 51–63.
- Virkkunen, J. and Kuuti, K. (2000) Understanding organizational learning by focusing on activity systems. *Accounting, Management and Information Technologies*, vol. 10(4), pp 291-319.
- Vogl, C.R., Kilcher, L. & Schmidt, H. (2005). Are Standards and Regulations of Organic Farming Moving Away from Small Farmers' Knowledge?. *Journal of Sustainable Agriculture*, vol. 26(1), pp. 5–26. DOI: 10.1300/J064v26n01_03
- Ward, J.L. (1987). *Keeping the Family Business Healthy*, Jossey-Bass Inc. Publishers, San Francisco, CA.
- Wenger, E. (1998). *Communities of Practice: Learning, Meaning, and Identity*. Cambridge University Press, New York, NY.
- Westhead, P. & Cowling, M. (1998). Family firm research: The need for a methodology rethink. *Entrepreneurship Theory and Practice*, vol. 23(1), pp. 31–56.
- Zahra, S.A. (2003). International expansion of U.S. manufacturing family businesses: the effect of ownership and involvement. *Journal of Business Venturing*, vol. 18, pp. 495-512.
- Zhang, Y. & Wildemuth, B. M. (2009). Qualitative analysis of content. In B. Wildemuth (Ed.), *Applications of Social Research Methods to Questions in Information and Library Science*. Westport, CT: Libraries Unlimited.

Appendix: Interview questions

1. Berätta om dig själv/er själva och driften av gården. (Upplevs några speciella, utmärkande karaktärer, t.ex. spridd/samlad åkerareal, stort avelsintresse?)
 - i. Areal - inriktning
 - ii. Anställda? Hur många, ansvarsområde
 - iii. Antal generationer
 - iv. När skedde generationsskiftet
 - v. Användning av rådgivare eller annan extern kunskapskälla, t.ex. fortbildningar.
 - vi. Hur har produktionen sett ut historiskt på gården?
2. Har ni personal? Ledaransvar? Hur har det förändrats över tid? Hur lärde ni er hantera det?
3. Senast något ändrades/förbättrades – t.ex. byte av vattentråg, fodermatning, var robot ska placeras
 - i. hur såg det *förloppet* ut? *t.ex. att hämta lösning hos annan eller föreställa sig lösning och hitta liknande/uppfinna?*
 - ii. Vilka *erfarenheter* involveras? *Vem* involveras?
 - iii. Vad *uppmärksammade* behovet av en ändring?
 - iv. Vad **drev ändringen/bytet/** uppmärksammandet? *T.ex. pågående "satsning" –vi ska titta på energianvändningen, eller "det-här-måste-ta-mindre-tid"*
 - v. Vad är viktigt då investeringen/förändringen utvärderas?
t.ex. spara tid, bli mer självförsörjande eller få bättre kontroll, förändra något överhuvudtaget, etc.
4. Vad är roligast med lantbruksyrket?
 - i. Tråkigast?
 - ii. Var det ett lätt val att ta över driften?
 - iii. När/hur bestämde du dig för att ta över driften?
5. Att gå från att vara den som *betraktar arbetet* till att vara den som *tar ansvar för arbetet* är inte alltid ett självklart skifte. Om du/ni drar till minnes en färdighet eller intresse som du/ni utvecklat, kopplat till driften (*t.ex. klövverkning, avelsintresse, m.m.*)
 - i. Hur utvecklades färdigheten?
 - ii. Vad var det första området där ansvar lämnades över och arbetet drevs självständigt?
6. Vad är respektives roll i företaget? Hur har rollerna skiftat?
7. När det har tagits större beslut gällande gården involverades den yngre generationen?
 - i. Om, isåfall hur?
 - ii. Ändrade sig samtalen vid köksbordet när det formella generationsskiftet började ta form?
8. När ni diskuterar något om driften- finns det saker ni är överens om som inte behöver uttalas?
9. Tar ni hjälp av varandra i vissa situationer och i daglig verksamhet?
 - i. När?
 - ii. Hur?

10. När det varit en 'instruktions-situation', alltså tydligt att den äldre generationen förväntas lära ut och den yngre att lära; hur går "undervisningen" till? *t.ex. handlade det om att visa och förklara eller instruera medan den andre provar?*
- Tänk gärna på hur ni samtalat kring, t.ex. Rutiner på gården, såsom ogräskontroll, växtföljd, klövbedömning
 - Förvaltningen (ex. administrativa-finansiella delarna)
 - Annat?
11. Beskriv ett "experiment", någon ändring som kanske provats i liten skala.
- Hur fortskred "testet/experimentet"
 - krävdes några justeringar för att nå eftersträvat resultat?
 - Hur upptäcktes att just de justeringarna krävdes?
12. Vilka förväntningar/krav har ni på företaget? *T.ex. en bra livsstil, förvalta arv, ekonomiska resultat, förädla)*
13. Hur bra information vi än sitter på, blir det inte kunskap om det inte är brukningsbart – vilken kunskap värderar ni högt/är mest användningsbar?
14. Vad är det som gör ER gård karaktäristisk? *T.ex. bra djuröga / timade insatser ger bra foder, bra överblick, bra relation med personal...*
15. Om företagets balansrapport även skulle redovisa gårdens färdigheter, erfarenheter, rutiner, vad skulle då stå med där? Dvs, vad är era konkurrensfördelar i kunskapsform? Vad är denna gården bra på?
- Hur kommer det sig att denna resurs/färdighet är utvecklad? Hur utvecklades särskilt intresse för detta?
16. Avsätts någon tid på året då ni diskuterar någon typ av avstämning - behov av ändring?
- Hur utvärderas behov av ändringar?
17. Vad får dig att känna arbetsro?
18. Vad tror du/ni skiljer sig familjeföretag i lantbruk från andra företag?
19. Vad tror du/ni påverkar kunskapsöverföring?
- Har du/ni upplevt kunskapsglapp mellan generationer?