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# The secret of moving forward

A case study of innovation processes at Engelholmsglass and Magnihill with  
focus on traditions and knowledge

**Authors:** Petra Maár and Lovisa Smedmark

**Supervisor:** Joakim Winborg

## **Abstract**

**Title:** The secret of moving forward - a case study of innovation processes at Engelholmssglass and Magnihill with focus on traditions and knowledge

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**Authors:** Petra Maár and Lovisa Smedmark

**Advisor:** Joakim Winborg

**Key words:** Innovation, innovation process, tradition, knowledge, family business

**Purpose:** The purpose of the research thesis is to examine which steps are evident in the development of innovations in family businesses, and to determine which steps of the innovation process are affected by traditions and knowledge.

**Methodology:** An abductive method was used for the thesis, together with a qualitative research consisting of interviews with respondents from the two case study companies Engelholmssglass and Magnihill.

**Theoretical perspective:** The theoretical perspective includes earlier research on innovation processes, family businesses, traditions and knowledge. It also includes linkages between the areas of interest, which are summarised in a theoretical framework.

**Empirical foundation:** Data collection was collected on the basis of interviews with respondents from the companies Engelholms and Magnihill, which provide a foundation for this thesis. The two companies were chosen on the basis of them being family businesses actively working with innovation, and several other criterias more explained in detail in the method section.

**Conclusions:** The findings show that family businesses have established innovation processes consisting of formal stages with more informal phases, and that management factors of traditions and knowledge are crucial for establishment of and security within these processes.

**Shortenings:** R&D = research and development, Gudmundsson = Carl-Gustaf Gudmundsson (CEO at Engelholmssglass)

## Swedish summary

**Titel:** Hemligheten med att ta sig framåt - en fallstudie av innovationsprocesser på Engelholmsglass och magnihill med fokus på traditioner och kunskap

**Datum för slutseminarium:** 13 Januari 2022

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**Författare:** Petra Maár och Lovisa Smedmark

**Handledare:** Joakim Winborg

**Nyckelord:** Innovation, innovationsprocess, traditioner, kunskap, familjeföretag

**Syfte:** Syftet med kandidatuppsatsen är att undersöka vilka steg som uppenbarar sig i innovationsprocesser hos familjeföretag, samt att avgöra vilka delar av innovationsprocessen som påverkas av traditioner och kunskap.

**Metod:** För metoden användes ett abduktivt tillvägagångssätt tillsammans med kvalitativ forskning i form av intervjuer med respondenter från de två företagen Engelholmsglass och Magnihill.

**Teori:** Teorin omfattas av tidigare forskning på innovationsprocesser, familjeföretag, traditioner samt kunskap. Vidare består teorin utav samband med de tidigare nämnda områden, vilka även slutligen sammanfattas i avsnittet.

**Empirisk grund:** Datan för den empiriska grunden samlades i form av intervjuer med respondenter från företagen Engelholmsglass och Magnihill. De två företagen valdes baserat på att de är familjeföretag som aktivt arbetar med innovation samt flera andra kriterier som förklaras mer i detalj i metodkapitlet.

**Slutsatser:** Slutsatserna visar på att familjeföretag har etablerade innovationsprocesser bestående av informella tillvägagångssätt, samt att innovationsprocesser i dessa påverkas av ledningsfaktorer. Vidare visar slutsatserna att ledningsfaktorer påverkar etablering av innovationsprocesser samt riskbenägenhet i de olika stegen av innovationsprocesserna.

**Förkortningar:** R&D = research and development, Gudmundsson = Carl-Gustaf Gudmundsson (CEO at Engelholmsglass)

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Petra Maár

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Lovisa Smedmark

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## Chapter 1 - Introduction

*The introduction chapter will first state the background and secondly there will be a problem discussion and purpose statement. Lastly, the research questions for the thesis will be presented.*

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### 1.1 A need for innovation

The occurrence of disruptive markets, and a rapidly changing environment is a widely discussed phenomena, not only in business research but also in general research. Fagerberg et al (2015) presents economic stagnation as one of the threats facing Europe in the forthcoming years, alongside climate change and crisis regarding governance. Not to mention, the covid-19 pandemic provides even further shifts in existing markets both worldwide and in Europe, Leppäaho and Ritala (2021) explains. In times of uncertainty, and disruptive markets in post-covid environment, innovation may serve as an essential tool for businesses to handle challenges, Morales (2021) elaborates.

Researchers nowadays categorise innovation in different ways, as seen by Smith (2015) who divides innovations into service, product and process innovation. Furthermore, Henderson and Clark (1990) suggest four different types of innovation, which are incremental, radical, architectural and modular. The thesis uses Kahn's (2018) definition of an innovation, without any other categorization as proposed by Smith (2015) and Henderson and Clark (1990). Kahn (2018) proposed a general and broad definition of an innovation as:

*“Innovation is an outcome, a process, and a mindset, where outcomes arise from an innovation process accentuated by mindset. Innovation is not a binary phenomenon, but comes in degrees; innovation is not the same thing as innovative or innovativeness; and innovation includes success and failure.”*

Kahn (2018) furthermore emphasises the importance of innovation processes, and their role in development of the innovation, the outcome. The case study conducted in the thesis aims for

clarified understanding of such innovation processes, particularly in the less researched area of family businesses. Pavitt's (2006) definition of an innovation process, as cited:

*“the exploration and exploitation of opportunities for new or improved products, processes or services, based either on an advance in technical practice (“know-how”), or a change in market demand, or a combination of the two”*

The research area of innovation within family businesses includes contributions by Della Corte et. al 2018, as well as De Massis et. al (2016), which both link innovation in family businesses to traditions and knowledge. Della Corte et. al (2018) links past-knowledge and traditions in family businesses, in order for the business to pursue continuous innovativeness. The study implicates the co-existence between the two factors in family businesses, and emphasises the awareness of traditions and knowledge during an innovation process. De Massis et. al (2016) have a similar view of knowledge and traditions being closely correlated. Firm traditions and territorial traditions are both a part of past-knowledge, which when combined can transform into codified and tacit knowledge, De Massis et.al (2016) explain. The codified and tacit knowledge has then the possibility of becoming new innovations, if reinterpreted correctly.

## 1.2 Problem discussion & purpose statement

Family businesses face different challenges during their life cycles, some similar to non-family firms and some challenges linked especially to family businesses (Ward, 1997). Challenges all firms face are technological improvements, increased competition and maturing of the current market the company operates in, Ward (1997) claims. Beyond the mutual challenges with non-family firms, family businesses also face unique challenges for family businesses. These challenges are often associated with personal family goals colliding with the company's performance goals. Moreover, lack of flexibility and strong culture and traditions can result in resistance to change, which directly affects a firm's chance of survival (Ward, 1997) A need for innovation in family business arises, in order to handle such challenges, and to remain competitive, in accordance with Lumpkin, Martin & Vaughn (2008). Competitiveness is important to have the opportunity to stay in a certain market and to prevent others from entering.



Family businesses, as well as other businesses, are dependent on continuous innovation in order to sustain their competitive advantages, and to secure their survival on the market (Erdogan, 2020).

The innovation processes are often complex, and the starting conditions of an innovation process are often not known (Nightingale, 1998). Pavitt (2006) shares similar thoughts on the subject, and claims innovation processes vary depending on the size of a firm, firm strategy and previous experience with innovation, among others. The processes in firms can thus be very subjective and may not always match Pavitt's (2006) definition. Erdogan (2020) and De Massis et. al (2016) have made a contribution to the innovation process in family business, however both are constructed on the basis of traditions, and to some extent knowledge. This thesis aims for a definition of a family business specific innovation process, with the working process of an innovation at the centre.

Traditions and knowledge are examined alongside an innovation process, rather than as a part of the innovation process, with intention to demonstrate a connection of the two factors combined with different parts of the innovation process. Traditions may contribute to the innovation in family firms in several ways. Erdogan (2020) meant that traditions may harm innovation, while Della Corte et.al (2018) emphasised a combination of traditions and innovation being of competitive advantage. Moreover, Nightingale (1998) claimed that traditions showcase how problems have been handled in the past, which contribute to a solution to a new problem, and also that knowledge helps with the development and understanding during the innovation process. Knowledge transmission between family members also has an impact on innovation, and increases a family business' ability to innovate Letonja and Duh (2016).

Della Corte et. al (2018) claimed that there is research missing on how to combine traditions with innovation in a family business in practice. Furthermore, earlier research is still missing on how innovation processes in family businesses are structured, and which parts of the innovation process are affected by tradition and knowledge. The thesis aims for a contribution within the field of innovation processes in family businesses, and also to contribute to future research connecting knowledge and traditions to innovation within family businesses.

The purpose of the thesis is to research how family businesses develop innovations, in order to determine the appearance of an internal innovation process within the business. The innovation process is then examined with focus on traditions and knowledge.

### 1.3 Research questions

On the basis of background and problem discussion, the thesis will aim for an analysis of the purpose by answering the following research questions:

RQ1: *“Which steps are used by family businesses when developing an innovation?”*

RQ2: *“Which steps in the innovation process are affected by knowledge and traditions?”*

## Chapter 2 - Theory

*The theoretical background in this chapter consists of current research in the area of innovation processes, traditions and knowledge. The theory consists for the most part of general research in the various fields, and partly of family business related research. Since the family business related research is minimal, a distinction between the family and non-family research is not particularly divided, but rather visible in the separate paragraphs.*

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### 2.1 Innovation

#### 2.1.1 Innovation and family firms

Ownership and management are two historical factors used to determine whether a company is considered a family business or not (Chua et. al 1999). Chua et. al (1999) proposes a wider definition of a family business in their research, including vision and intentions being two factors differentiating a family business from a non-family business. Nevertheless, Handler (1989) explains family firms as characterised by family members making the big decisions for strategies and plans for the future. These family members are usually a part of the controlling part of the business, such as the board (Handler, 1989).

Erdogan (2020) suggests that innovation in a family business is affected by the remarkable impact of what has been imprinted during the foundation stage. Imprinting theory describes the past's impact on the present (Erdogan, 2020). Erdogan (2020) means that during the founding stage, certain elements characterise the new business, and remain unchanged for subsequent time, regardless of environmental changes a business may encounter during its lifetime. Erdogan's (2020) research agrees with Johnsson's (2007), about characteristics of a family business being formed during the founding stage, and especially affecting the future for family businesses rather than non-family businesses. The phenomena occurs partly because of the process from being a family to being an organisation being very sensitive (Johnsson, 2007). Johnsson (2007) further describes that the characteristics reflect the social, political, cultural and

economic conditions current at the time of the foundation. Moreover, the founding characteristics have been proven to be extremely important for the business and hard to change (Johnsson, 2007).

Lumpkin, Martin & Vaughn (2008) developed a framework with five different dimensions which have an effect on a family business. The dimensions are tradition, stability, loyalty, trust and interdependency. Traditions are fundamental for family businesses, according to Lumpkin, Martin & Vaughn (2008), and include history and practises in family businesses. Furthermore, Lumpkin, Martin & Vaughn (2008) describes families as *emotional systems*, because of the requirement of stability. Lumpkin, Martin & Vaughn (2008) explains that feelings of obligation have a tendency to appear in families, meaning loyalty has an important part. Trust also connects to loyalty, and is strongly associated with the expectations which can appear within families and in addition, family businesses (Lumpkin, Martin & Vaughn, 2008). Moreover, Lumpkin, Martin & Vaughn, 2008 concluded interdependency as the fact that family members want to fulfil the family's needs and help each other, which is often considered prioritised.

### 2.1.2 Innovation process

Pavitt (2006) discusses the heterogeneity of innovation processes in different types of firms, and concluded that larger firms and firms of smaller sizes practice innovation processes differently. The difference, in accordance with Pavitt (2006), emerges often due to access to a higher number of employees in specialised functions. Moreover, while characteristics of innovation processes in large firms consist of formality and recognizable patterns, smaller firms often obtain more informal processes, where senior managers hold the control (Pavitt 2006).

Many researchers have studied the concept of innovation processes, and many theories have been presented with explanations of how different processes work. The process from an idea to an actual product has changed over time, since different factors have been proven the most important historically (Rothwell, 1992). Rothwell (1992) presented in his research five different generations that show how innovation processes have changed and been developed from the

1950's until the later part of the 20'th century. In favour of the thesis, only the fourth and fifth generations are used, in consideration of relevance in the 21st century.

The fourth generation of innovation process models consists of the integrated business processes model (Rothwell,1992). The difference the model of this generation offers, in comparison to earlier generations, is that of market and knowledge integration during the whole innovation process (Rothwell, 1992). The model in the last generation consists of a model called system integration and networking, and consists of an improved concept of the fourth generation. The most evident difference between the fourth and fifth generation consists of an introduction of the concept of time. Due to the high competitiveness, Rothwell (1992) presented the introduction of a product in a short period of time as a competitive advantage.

Furthermore, Pavitt (2006) contributed to research within innovation processes with a framework constructed of three subcategories. The first subprocess, production of scientific and technological knowledge, refers to development of R&D and technological advancements in firms in order to nurture a source of a new innovation. Pavitt (2006) explains that high degree of specialisation in the firm-specific R&D, improvements provided by subcontractors and closer cooperation with universities and institutions intake a crucial role in the first subprocess of an innovation process. The importance of aforementioned factors may fluctuate between industries, and some industries may be more dependent on cooperation with universities and institutions than others, (Pavitt, 2006). Automotive and science-based industries may, as an example, be in higher need of such cooperation, since new discoveries and developments may cause breakthroughs in the firm specific R&D (Pavitt, 2006). The second subprocess, translation of knowledge into working artefacts, considers the importance of continuous flow of updates of breakthroughs in the given field of labour. Senior managers and employees concerned with innovation must update their knowledge, Pavitt (2006) points out, to new scientific theories and government announcements in order to explore the right innovation possibilities. Lastly, the third subprocess is called "Responding to and influencing market demand", Pavitt (2006) explains, and concerns matching production, practises and market needs, in order to complete a successful innovation process where an innovation is diffused.

Geissdoerfer et.al (2017) introduced a model of an innovation process named *The Cambridge Business Model Innovation Process*. The model consists of three different phases called concept design, detail design and implementation. The initial phase underlies the whole innovation process. The introducing step includes ideation, where ideas of a new innovation are presented, concept design, where the innovation is defined, and the making of a prototype (Geissdoerfer et.al, 2017). During ideation, the purpose of the innovation is structured as well as a vision and goal for the development of the innovation idea.

The second phase consists of testing, adjustments, creation of a plan and decisions on implementation (Geissdoerfer et.al, 2017). After composition of a rough draft of the proposed innovation during the first step of the innovation process, the company starts to analyse and experiment in more detail during the second step, Geissdoerfer et.al (2017) presents. The rough draft is crucial, in order to keep record of data from the earlier stages of the innovation (Geissdoerfer et.al, 2017). In the final phase of the second step, implementation possibilities are explored (Geissdoerfer et.al, 2017).

Lastly, the third phase includes the actual implementation and adjustments for a larger scale production, Geissdoerfer et.al (2017) explains. A launch of the innovation occurs during the third phase, and the business model is introduced to all units involved (Geissdoerfer et.al, 2017).

Moreover, an analysis of possible adjustments based on the market's response is made and evaluated during Geissdoerfer et.al's (2017) last phase. The factors of communication and high demands are of importance in the third phase, as Geissdoerfer et.al (2017) means that the factors improve the outcomes of the phase.

A less detailed model of innovation processes than *The Cambridge Business Model Innovation Process* by Geissdoerfer et.al (2017), is the three step model *Exploration, Exploitation and Diffusion model* constructed by March (1991). According to March (1991), the exploration phase of the model consists of invention, and includes a discovery of something through exploration of ideas and thoughts, which result in a new product or service. Other attributes linked to the exploration phase are experimentation, investment decisions and market evaluations (March, 1991). Exploitation phase, as March (1991) writes, consists of implementation and choice, since

managers decide during the phase whether to continue with the process. The exploitation phase also includes selection of strategy, decisions on production technique, improvements to the innovation, and cost analysis (March, 1991). Further, March (1991) describes that a relation between exploration and exploitation can prove hard to find in an efficient company, since the two phases happen continuously. However, the relation is crucial to find, since the relation has been proven to be an important linkage to whether the innovation will last or not (March, 1991).

The diffusion phase accounts for innovations' adoption and usage of the innovation by potential consumers (March, 1992; Rogers 2003). The innovation decision process has been described by Rogers (2003) by introducing a model called the innovation decision cycle model. The model contains five different steps which describe how the adoption is interpreted. The first step is knowledge, which Rogers (2003) describes as the foundation of decision settlement. It includes factors of socioeconomic characteristics, personality variables and communication behaviour (Rogers, 2003). During the second step, persuasion, characteristics of innovation in the form of five factors are highlighted, which are relative advantage, compatibility, complexity, trialability and observability (Rogers, 2003). The third part includes the decision between the choices of adoption and rejection, and Rogers (2003) further describes the last two steps implementation and confirmation as intertwined. The implementation and confirmation steps include if the decision maker sticks to the decision or not (Rogers, 2003). The decision is being implemented during the implementation step, and during the confirmation step, there is a new decision on whether to keep implementing or change strategy (Rogers, 2003).

## 2.3 Tradition and Knowledge

### 2.3.1 Traditions

#### *2.3.1.1 Traditions*

Erdogan (2020) defines a tradition as a belief within a special society or group, and traditions in organisations have been observed in many businesses. Companies in the food industry have a higher association with traditions, including stores and restaurants, which Erdogan (2020) also

brings up in his research. Traditions exist in organisations as concepts that remain unchanged over time, and strategies kept for years (Della Corte et.al, 2018).

One typical organisation characterised by traditions are family firms (Della Corte et.al, 2018). Handler (1989) explains family firms as businesses, where the main decisions are made by people who are related to each other. Della Corte et.al (2018) suggests that traditions might prevent innovativeness in family firms and strategies have to be implemented to be able to keep up with competitors. Another type of organisation characterised by traditions are organisations within the tourism industry, according to Harrison (2020). He further explains that citizens in a city full of tourists often have a tense relationship with people that come to visit as they disturb their traditions. Innovativeness can be devastating for these citizens which creates a competition between innovation and tradition (Harrison, 2020).

### *2.3.1.2 Traditions and innovation*

Tradition and innovation is not something that, when it comes first to mind, goes hand in hand. Tradition is about keeping old procedures and innovation is about renewal (Della Corte et.al, 2018). To succeed with combining tradition and innovation, Della Corte et.al (2018) reached the conclusion that traditions need to be adapted. If the organisation wants to exist for a long period of time, and be able to be well established on the market during this time, the traditions must be combined with maintenance of relationships. What makes family firms successful is to focus on building relationships with customers and partners in order to keep their position in the market. In turn this will also make the traditions be preserved as well as the ability to innovate, according to Della Corte et.al (2018). Furthermore, Della Corte et.al (2018) states that a well functioning combination of tradition and innovation, can be of great competitive advantage. This is because innovativeness can be used to keep traditions, at the same time as the traditions are renewed. However, to achieve a good working combination of innovation and traditions is not an easy process, and is something that there is not yet a known solution for (Della Corte et.al, 2018). Something that has not yet been discussed, according to Della Corte et.al (2018), is exactly how innovation can exist at the same time as traditions.



According to Erdogan (2020), family firms have different approaches to innovation and tradition than non-family businesses. Within innovation there are two categories, *segregation* and *integration* (Erdogan, 2020). To segregate means to withhold concepts and products that have been successful before, Erdogan (2020) describes, and it also means that the business has few alternatives to what they offer to customers. To approach integrations on the other hand, means to integrate innovation on a deeper level, which includes changing products that are traditional and make them more suited for a modern society (Erdogan, 2020). Integration, Erdogan (2020) suggests, also includes introducing new technologies for old and traditional ways to produce, since the whole concept with integration is to keep traditions, but to still be innovative.

Furthermore, Erdogan (2020) suggests two ways in which family firms approach tradition. These two ways are *preservation* and *revival* (Erdogan, 2020). Preservation is to preserve values and beliefs that exist within a family, and also to preserve old values that have been implemented by the founders who are considered to be iconic for the business (Erdogan, 2020). Hence, Erdogan (2020) means that revival is characterised by family firms who have lost their traditions and have a need to find the traditions again. Often these firms regret the fact that their traditions no longer have a big place in their business, and have a mission to search for traditions from the past (Erdogan, 2020). Additionally, the two ways of approaches to innovation in combination with the two approaches to tradition, results in four different strategies that family firms typically implement (Erdogan, 2020). When combining segregation and preservation, the outcome becomes that the business *protects its heritage*. Segregation and revival results in *embracing nostalgia*. Integration and preservation means to *maintain the essence* and lastly, integration and revival results in a *restore of the legacy* (Erdogan, 2020).

## 2.3.2 Knowledge

### 2.3.2.1 Knowledge

Many definitions of knowledge exist, but most researchers researching knowledge management agree that knowledge is an intangible asset companies possess, and is used as an intangible resource (North and Kumta, 2018). Knowledge is explicit or tacit, and refers to the phenomena

of people or organisations having certain understandings of different processes and activities (North and Kumta, 2018). Explicit knowledge is explainable knowledge, which can be stored and shared, while implicit knowledge, also called tacit knowledge, is complex knowledge which cannot be learned created from personal or organisational experiences (Spender, 1996). North and Kumta (2018) notes the importance of conversion of the codified, explicit knowledge to tacit knowledge, and vice versa. Two sources of tacit or explicit knowledge can also be combined, Nonaka (2008) concluded. A transformation between the two sources of knowledge contributes to new knowledge and new processes within the organisation (Nonaka, 2008). The creation of new knowledge often begins with a single individual having an idea, which, when exploited, converts into organisational knowledge, Nonaka (2008) elaborates.

### *2.3.2.2 Knowledge and innovation*

Tacit scientific knowledge consists of three factors, which each contribute to innovation, Nightingale (1998) concluded in his research in regard to cognition and innovation. The three factors pattern recognition, ability to screen alternatives and complex understanding of different perspectives and the world in general affect a firm's ability to innovate. Pavitt (2006) researched similar factors of knowledge linked to innovation processes, and also offered a view on how different factors affect innovation. One factor deals with possession of specialised technical knowledge within the firm, while another factor aims for an explanation of how to combine technological and practical knowledge with knowledge about market needs. Lastly there is also a factor, or rather a resource, which is retention of employees that have knowledge about technological practises combined with market needs, in combination with high communication skills. Pavitt's (2006) ideas have visible similarities with Nightingale's (1998) research, and both highlight scientific knowledge's role in innovation.

Two similar points made by both Pavitt (2006) and Nightingale (1998) were the benefits of knowledge creation through past innovation practises. Both researchers agree of past-knowledges' contribution for faster progress and decreased costs during the R&D phase. Nightingale (1998) means that the process of testing is more efficient when the person developing it has past knowledge of production, with which the person can make better assumptions of how the product will turn out. Pavitt (2006) reasons similarly, that experience of

similar specialised production processes from the past affect the development phase of an innovation positively.

The second factor affecting innovation in firms, according to Nightingale (1998), is the link between knowledge and cognition. Nightingale (1998) argues in his research that knowledge is closely related to cognitive processes, such as recognizing patterns, which helps in the innovation process by being able to more surely predict the future outcome. On the other hand, the ability to recognize patterns and predict the future can also be of disadvantage, since innovations sometimes turn out to not be predictable, Pavitt (2006) emphasises. Pavitt(2006) argues that translation of knowledge into real life solutions has the potential to minimise failure during the innovation process, rather than only recognizing patterns.

In the last phase of an innovation process, Nightingale (1998) proposed alternative screening and complex world understanding being the most contributing knowledge for a successful innovation. Pavitt (2006) emphasised, on the other hand, that employees with complex technical, market related and communication knowledge being the most important.

Knowledge transmission directly influences innovativeness in a business, and Letonja and Duh (2016) emphasise the importance of such, particularly in family businesses. Knowledge transfer between founder and successor in family businesses directly affects a family firm's ability to innovate (Letonja and Duh, 2016). The successor's effect on innovation in the family business is based on several factors, and a combination between knowledge acquired through family business and knowledge not related to family business is one of them, Letonja and Duh (2016) explains. Wassim et al's (2018) research has also shown that both nonfamily and family knowledge transmission are crucial and dependent on each other during a succession from one generation to another. A firm's ability to innovate is thus related to successors of a family business' non-family and family related knowledge.

An owner-manager's continuous professional knowledge development is another factor of impact on innovations in a family business, Steinerowska-Streb and Wziątek-Staško (2019) concluded in their research. Family businesses, where the owner-manager actively seeks out and

participates in knowledge transmitting activities such as professional courses and training, are more likely to initiate innovation in regard to product and market innovations (Steinerowska-Streb and Wziątek-Staśko, 2019). The knowledge expansion, Steinerowska-Streb and Wziątek-Staśko (2019) emphasise, increase risk willingness and broadens the understanding of renewal being a necessity for a family business' survival.

Price et al's (2013) research indicates innovation orientation being positively linked to successful innovation in family businesses. Incorporation of innovation into strategy and decision making contributes to a family business' innovativeness, and effective knowledge resource management is needed in order to incorporate the orientation and exploit existing knowledge within the firm, Price et al (2013) concluded. The research also considered knowledge resources in family firms contributing to acquisition of non-knowledge resources. With non-knowledge resources, Price et al (2013) refer briefly to Zahra et al. 's (2007) research where human, financial and technological resources are mentioned. The researchers proposed specific tacit knowledge in family businesses playing a role in resource acquisition, which non-family businesses lacked.

Even though R&D is an important step for the innovation process, it involves challenges. The knowledge that is required to be able to develop an innovation does not always exist within the business (Munos-Bellon et.al, 2020). Often, external help with research and development is needed. Munos-Bellon et.al (2020) suggests that family firms can benefit from usage of both external and internal R&D. Thus, to combine the two can be a complicated process as it requires active participation of both internal and external help.

### 2.3.3 Linkage between tradition, knowledge and innovation

According to Della Corte et. al (2018), knowledge is linked to culture, which is linked to traditions. Codified knowledge is discovered through materials and production, while tacit knowledge is more about values and the culture of the business. In other words, tacit knowledge is more linked to traditions of beliefs and codified knowledge more towards traditions in material processes (Della Corte et. al 2018). Furthermore, the first part of De Massis et. al (2016)'s

innovation strategy suggests that tradition can be both past knowledge and real experiences and happenings. Moreover, Turnbull (1993) means that knowledge is local, and further that localness is traditions. This theory is also something that Della Corte et. al (2018) mentions, and describes tradition as being knowledge in the form of expertise within different subjects that is transferred between generations.

De Massis et. al (2016) presents a strategy called innovation through tradition (ITT). The strategy focuses on how to innovate in family businesses while maintaining a connection to previous times, since traditions may decrease the ability to innovate (De Massis et. al, 2016). However, De Massis et. al (2016) also means that involving traditions can be effective in the process of innovation for a business. The strategy consists of four different parts which are necessary for product innovation. These are sources of past knowledge, forms of past knowledge, types of product innovation and interiorization reinterpretation capabilities (De Massis et. al, 2016). The first part can be divided into two more parts which are “knowledge pertaining to the traditions of the firm itself” and “ knowledge pertaining to the traditions of the territory in which the firm is located”, De Massis et. al (2016) presented. It means that tradition can be both past knowledge and real experiences and happenings. The second part refers to codified and tacit knowledge, and the third part suggests that different forms of knowledge can result in two types of innovation which are new products or new ways and reasons for using the products (De Massis et. al, 2016). Lastly, the fourth part is about how to use earlier knowledge for innovation processes. It includes evaluating which knowledge can be useful for the specific occasion (De Massis et. al, 2016).

## 2.5 Theoretical framework

With an analysis of the theoretical explanation as a starting point, a theoretical framework has been developed and includes two models. The analysis of the empirical evidence is based on the framework to make it well structured. The framework has its starting point in the structure of innovation processes based on the provided theory, and provides a summary and interpretation of an innovation process’ structure. Since the research theory on innovation processes covers businesses overall, and not family businesses in particular, the framework will be used for a

comparison to real life practises at the case companies, in order to define a structure of an innovation process in a family business. Moreover, another model is presented below with factors within tradition and knowledge which have an impact on the innovation process in family businesses. The two models will be integrated in the analysis chapter, and linkages between the two will be more clearly defined during analysis of the collected data.

The theory on innovation processes implies that there can be a different amount of steps in an innovation process. However, the most common number of steps appears to be three (Pavitt, 2006) (Geissdoerfer et.al, 2017) (March, 1991) (Rogers, 2003). The framework provides a broad definition of the process and includes three steps, which are called the first, the second and the third stage. The three stages consist of three phases, which were constructed through presented theory.

During the first stage, an idea of an innovation arises, which is the reason why the first phase is called Brainstorm. The phase includes idea generation, supported by March's (1991) theory of exploration, which is further compared with inventing by Geissdoerfer et.al (2017). Consideration of company management is coupled with occurrence of ideas inspired by improvements by subcontractors as well as cooperation with government and universities (Lumpkin, Martin & Vaughn, 2008; Pavitt, 2006). The second phase includes March's (1991) theory about investment decisions and market evaluation, together with Rothwell's (1992) explanation of market integration. Since the phase focuses on the market, market analysis was considered an appropriate name. The last phase for the first stage is rationality evaluation, since the companies during this phase evaluate whether the innovation is realistic. Pavitt' (2006) description of the development of scientific knowledge and R&D, cooperation with universities and governments, together with Experimentation theory from March (1991) is what underlines the last phase.

The second stage consists of the phases agreement, possibility recognition and alternation. The agreement phase is based on March's (1991) description of the exploitation theory, where selection of strategies and crucial decisions are central. The phase also includes Geissdoerfer et.al's (2017) theory of making a plan and time management which Rothwell (1992) discussed.

Possibility recognition as the second phase, includes the exploration of possibilities for innovation, as Pavitt (2006) mentioned, as well as Rothwell's (1992) theories about market integration and networking. The last phase, alternation phase, was mainly constructed through Geissdoerfer et.al's (2017) and March's (1991) research. While Geissdorfer et. al (2017) highlights adjustments of R&D and testing during the "detail design phase", March (1991) proposes production techniques being of importance.

The third stage begins with the phase Market Introduction. During this stage, the innovation undergoes implementation and is released to the market, similar to Geissdoerfer et.al's (2017) implementation phase, as well as March's (1991) theory about diffusion. Chain reaction, the second phase of the second stage, includes adjustments for a larger scale production, as well as market knowledge integration (Geissdoerfer et.al 2017; Rothwell 1992) Responding to and influencing market demand is also of importance in the last phase of Pavitt's (2006) innovation process. The last phase in the last stage is the final occurrences in the innovation process, and therefore is called the finish line. Rogers' (2003) adoption of innovation within the market and Rotwell's (1992) theory about time management, represent the last phase of the innovation process framework.

Underneath the model of innovation processes, a model with factors that impact innovation constructed on the basis of traditions and knowledge research is presented. The acquired theory shows a linkage between traditions and knowledge, on the basis of Della Corte et. al's (2018) and De Massis et. al's (2016) research. Since the two factors have similarities, and are at times considered part of each other, such as past- knowledge and traditions, the two factors of tradition and knowledge are considered within the same categories of factors (De Massis et. al, 2016) . Therefore, the model includes three different types of factors to be considered during the conclusion of an analysis of the two cases in the study, which are internal, external and management factors. The three dependent factors in regard to traditions have a basis in family businesses research, while data from the knowledge part, however, relies mostly on research conducted in non-family businesses, since the amount of research in the area is restricted.

Starting with the internal factors, factors of traditions are linked to Della Corte et al's (2018) and Erdogan's (2020) theories, where implementation of a strategy is of importance in order to integrate innovation in a family business. Considering the working process inside the business, strategies need to be implemented in family businesses to combine tradition and innovation in an innovation process. The factors from knowledge research bring up innovation orientation from Price et.al (2013), transformation of tacit and explicit knowledge from Nonaka (2008) similar to Pavitt's (2006) translation of knowledge, and Nightingale' (1998) theory about pattern recognition and past knowledge for experimentation.

Continuously, the external factors such as Harrison's (2020) research about industries connected to innovation and Della Corte et al's (2018) studies about market integration are part of the external factors. Moreover, Munos-Bellon et.al's (2020) research about combining internal and external knowledge for R&D and Nightingale (1998) on alternative screening and complex knowledge presents the external factors of knowledge further.

Lastly, the management factors are based on knowledge transmission in family business, researched by Letonja and Duh (2016), together with Pavitt's (2006) theory of combination of skills and (Steinerowska-Streb and Wziątek-Staško, 2019) on the importance of professional courses and training. In regard to the traditions part in management factors, the basis from the theory consists of the concept of being a family firm connected to innovation from Della Corte et al's (2018) and Erdogan's (2020) studies, together with the theory of need for tradition adaption (Della Corte et al's, 2018).



*The innovation process framework*

<b>Innovation process</b>	
<b>Stage 1</b>	<b>Brainstorm</b> <b>Market Analysis</b> <b>Rationality Evaluation</b>
<b>Stage 2</b>	<b>Agreement</b> <b>Possibility recognition</b> <b>Alternation</b>
<b>Stage 3</b>	<b>Market Introduction</b> <b>Chain Reaction</b> <b>The finish line</b>

Model 1.

*The traditions and knowledge factors of impact framework*

<b>TRADITIONS and KNOWLEDGE</b> impact on innovation process
<b>Internal Factors</b>
<b>External Factors</b>
<b>Management Factors</b>

Model 2.

## Chapter 3 - Methodology

*In the following chapter, the methodology for the thesis will be presented. Firstly, the research approach and research design will be stated. Secondly, the data collection including primary and secondary data. Then, there will be a description of the data analysis' construction and lastly, a discussion about reliability, validity and limitations will finish this chapter. The chapter is based on research from Bryman and Bell (2017) with support from Lundahl & Skärvad (1992).*

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### 3.1 Building bridges with abductive approach

Research approach has a central role in defining the linkage between theory and the conducted research (Bryman and Bell, 2017). Two of the most common approaches to research consist of the deductive and inductive approaches (Bryman and Bell, 2017). The inductive approach aims to conduct a theory based on acquired results of the studied research, and the deductive approach is based on existing theories and hypotheses from the researched field, Bryman and Bell (2017) explain. The two approaches also have the ability to be combined, which results in an abductive theory (Bryman and Bell, 2017). This thesis' approach consists of the abductive approach, since theories are both generated and analysed with help of the existing theories through a case study in two family businesses. The abductive approach allows researchers to combine results gathered during data collection together with existent theory, in order to generate new observations and links within the researched area (Bryman and Bell, 2017). This thesis was concluded on the basis of an abductive approach, and aims for a better understanding of how the factors of knowledge and traditions affect innovation processes in family businesses, since the current research on the area is limited. The abductive approach in the thesis is executed by going back and forth between the theory and results, resulting in an own theoretical framework, which the analysis was built upon. The two presented models in the theoretical framework are later integrated into one on the basis of the findings in the analysis chapter.

The proposed theories are generalised approaches for research purposes, and aim to define the connection between theory and practice, Bryman and Bell (2017) state. In this thesis, the

abductive theory was executed through the thesis' proposed framework, where existing theories in the field of innovation, tradition and knowledge were completed with the constructed research. Inductive and deductive research approaches have a tendency to limit researchers, Bryman and Bell (2017) explain, and list lack of empirical data in inductive research, and strict rules in deductive approach as two limitations. By using an abductive approach there is a possibility to avoid those limitations, and be able to use the most suited explanations to answer the research questions.

A research can be either qualitative or quantitative Bryman and Bell (2017) explain. A quantitative strategy is centred around numeral data collection and analysis, while qualitative strategy focuses on data collection and analysis with words (Bryman and Bell, 2017). Qualitative strategy was chosen for this thesis, since the purpose of the thesis was to explore the non-countable factors of knowledge and tradition, and since an in-depth qualitative analysis would allow for more developed answers. In a quantitative study, Bryman and Bell (2017) describes that the researcher's interests control the study, while in a qualitative study, the respondents' interests have a vital meaning. Furthermore, the researcher has a closer relationship to respondents in a qualitative study, while for example a survey for a quantitative study does not give an equally strong relationship (Bryman and Bell, 2017). Since this qualitative study in a larger scale was made with real life interviews, it allows the researcher to observe not only the answers, but also the behaviour of the respondents and their feelings while answering the questions. Bryman and Bell (2017) means that this contributes to the deeper analysis later on.

### 3.2 A multiple case study

Lundahl & Skärvad (1992) describe that a case study is an investigation, which includes either one or a few cases that are being studied in detail and in more dimensions. In this thesis, two companies operating in the Swedish food and agricultural industry were chosen, in order to answer research questions, which Bryman and Bell (2017) point to the study being concluded with a multiple case study design. Since the purpose of the thesis consists of examination of the effects traditions and knowledge have in innovation processes in-depth, a multiple case study was chosen to make comparisons possible, and to be able to generalise the conclusions of this

thesis for family businesses (Bryman and Bell 2017). Moreover, the thesis has a comparative design, since two identical methods have been used for the two cases which enables for the aforementioned comparison and generalisation (Bryman and Bell, 2017).

Lundahl & Skärvad (1992) suggest that a case study is appropriate for organisational research. A case study design is usable in explorative studies to formulate different hypotheses, and it can also be used to develop and test theories (Lundahl & Skärvad, 1992). Furthermore, a case study may result in being too complex if not limited, Lundahl and Skärvad (1992) means. In favour of Lundahl and Skärvad's (1992) research, the case study was limited to two businesses, since in-depth answers were of interest.

### 3.2.1 The company selection and generalisability of the case study - Engelholmsglass and Magnihill

The two businesses chosen for the multiple case study were the companies Engelholmsglass and Magnihill. The selection of companies in a qualitative study shall be primarily based on the ability to answer the research questions, and Bryman and Bell (2017) further describes that goals of the study shall determine the selection criterias. The choice was thus developed upon a number of relevant criterias, which both companies needed to meet in order to heighten the reliability and generalizability of the study (Bryman and Bell, 2017). Since the study concerns a low number of case study companies, the generalizability is considered limited to criterias in this subheading.

Moreover, important to state is also the fact that the two companies which became the study subjects for this study, were also chosen because of their interest in participation and lack of time in search of more and other companies. Lastly, the criterias for the two companies were researched through the internet before the choice of which companies to contact was made.

The first criteria for the selection of companies that needed to be met was that the company needed to be a family business, meaning family members control the business together (Handler,

1989). The two companies studied, Engelholmssglass and Magnihill, are both owned and controlled by family members, as seen on their websites (Engelholmssglass, 2021; Magnihill, 2021). Secondly, the size of the business was limited to medium sized to big companies decided by the number of employees. Engelholmssglass and Magnill are similar in size according to the employee number criteria, since Engelholmssglass employs approximately 30 people and Magnihill employs 45 people, according to the Engelholmssglass's (2021) and Magnihill's (2021) website.

The case study companies were also limited to Southern Sweden, which contributed to easier access to in-person meetings with the company representatives, and higher degree of similarity between the two companies (Engelholmssglass, 2021; Magnihill, 2021). Also considered important was that the company had implemented goals that demand some sort of innovation, which has been examined by observation of goals within development presented on the companies' websites (Engelholmssglass, 2021; Magnihill, 2021).

### 3.2.2 Data collection

In order to answer the research questions, empirical data need to be obtained apart from researched theory (Bryman and Bell, 2017). The most common ways of data collection in a case study are by construction of either observations or qualitative interviews, Bryman and Bell (2017) observed. The development of innovation processes, and how the factors of knowledge and traditions affect them is intangible, which Bryman and Bell (2017) emphasised only can be reconstructed through in-depth interview, rather than observations. Collection of data through qualitative interviews also allows the researchers to gain access to otherwise inaccessible information (Bryman and Bell, 2017). The in-depth interviews were of necessity for this particular thesis, since data about innovation processes is not easily accessible through secondary sources or at all. Moreover, the qualitative interviews contributed to a more detailed analysis (Bryman and Bell, 2017).

The primary data collection took its base in two identical interviews with respondents from two family businesses, Engelholmssglass and Magnihill. Qualitative in-depth interviews often result in

extensive data collection, which contribute to data analysis being too complex (Bryman and Bell, 2017). The data collection in this thesis was thus limited to one in-depth in-person interview at each companies' headquarters, with the two companies' CEOs Carl- Gustaf Gudmundsson and Wiveca Almgren. Additionally, one follow-up interview at each company with employees with a specialised role in innovation was conducted after the two initial interviews, considering the information received had missing pieces necessary for the analysis of the thesis's purpose due to respondents' lack of knowledge within certain subjects. The supplementary interviews were accomplished through email with the project leader at Magnihill, Jan koivumäki, and through a telephone interview with Carl-Gustaf Gudmundsson's son Patrik Gudmundsson, production manager at Engelholmssglass.

While structured interviews consist of closed questions often following a strict schedule, unstructured interviews allow for more open and subjective questions. The interviews were constructed on the basis of semi-structured interview technique, which Bryman and Bell (2017) described as a mixture between structured and unstructured interview approach, since the researcher follows beforehand chosen questions, but the method has some flexibility (Bryman and Bell, 2017). Because of the flexibility, follow up questions were asked during the interviews after the thesis' needs, even though the questions were fixed beforehand (Bryman and Bell, 2017).

The interviews were conducted upon one hour meetings with respondents from each company, who had the role of CEOs. The reason for choosing the CEOs as respondents, were the advantages of interviews with the CEOs including insights in not only the professional business environment, but also on the family structures. However, to interview CEOs might result in refined answers, since the risk of revealing unpleasant information about the company might affect the answers, which was a factor that Bryman and Bell (2017) described. Furthermore, since the company chose to not answer anonymously, the data collection could further be biased by conflicts of personal gains (Bryman and Bell, 2017).

In the initial phase of the interviews, the thesis was explained briefly. The representative was informed about the researchers' expectations, and the desirable outcomes with prevention of

confusion in regard to the interviews' intention in mind (Bryman and Bell, 2017). After a brief introduction of the purpose of the thesis, the respondents were asked questions about the company, in order to secure the respondent's interest in the research and interview. A combination of open and closed questions were then asked, which later allowed for simplification of the data analysis, considering closed questions being easier to decode than open ones (Bryman and Bell, 2017). The questions asked after the initial part were directly linked to the purpose of the thesis, which is to examine innovation processes, and then the focus shifts to more narrow and subjective questions of traditions and knowledge, in accordance with Bryman and Bell's (2017) methods. Through each subject there were more developed questions after an open question to get a depth in the answers. The interviews were recorded and later transcribed to be able to make an in-depth analysis, which Bryman and Bell (2017) suggested is of importance.

Apart from the collected primary data, qualitative secondary data was collected through Engelholmglass' and Magnihill's webpage and also some additional material was received from Carl-Gustaf Gudmundsson. The additional material consisted of a booklet about the history, assortment and business of Engelholmglass. Secondary data was collected since the interviews were limited to one hour, and Bryman and Bell (2017) meant that usage of secondary data has an advantage, since it saves time during research, if the data is objective and can be found elsewhere. The secondary data was mostly general information which did not need further description, including companies' visions, and was thus considered advantageous to collect through secondary research.

### 3.3 Data analysis

A within-case study analysis in combination with cross-case search for pattern was the method used, in order to analyse the primary data acquired from the interviews. A recording was made during the interviews, since Bryman and Bell (2017) suggested that a recording of an interview enables other researchers to review the data, if any allegations arise. The recorded data collected from the companies Engelholmglass and Magnihill was then reviewed and transcribed, in order

to gain an overview of the extensive data acquired, and in order to carefully document what has been said during the interviews, Bryman and Bell (2017).

The chosen method for analysis began, after transcription, with writing descriptions of the data collected, in order to gain meaningful insights for the analysis (Eisenhardt, 1989). Transcription of interviews also improves the memory of the interview occasion, and enables the researcher to go through the information several times, Bryman and Bell (2017) described. As the data collection from the two case companies was extensive, there was a large amount of data to process. The within-case study was thus chosen as one of the strategies for data analysis, since the analysis method is suitable for case-studies with a large data collection (Eisenhardt, 1989).

Furthermore, the within case study was combined with the cross-case search for pattern, as Eisenhardt (1989) explained that wrongful conclusions often are made by researchers, since researchers may look at the collected data with tunnel vision. Within group similarities were looked at together with differences, in order to gain a wider understanding and perspective of the possible conclusions from the data collected (Eisenhardt, 1989). The differences and similarities between the two case companies were analysed through a united framework, which helped in determination of both differences and similarities, but also with the connection to the theory (Eisenhardt, 1989). In order to reject or confirm hypotheses concluded in the proposed framework, the replication logic was then used, as Eisenhardt (1989) explained the method being suitable for studies developed upon within-case study in combination with cross-case search. The replication logic means for the two cases being similar, and if not, then the findings supplement the existing theory with new data (Eisenhardt, 1989).

### 3.4 Reliability and Validity

One of the significant notions in regard to reliability is that the interviews for this research were done in Swedish, meaning they have been translated into English when writing the thesis. The external reliability was thus affected negatively, since Bryman and Bell (2017) explained that problems may surface in association to the translation of an interview. External reliability focuses on the replicability of the case study, which can be affected by a translation since some



words and grammatical structures do not have a direct translation (Bryman and Bell, 2017). With the translation challenges in mind, two translations were created by the researchers, and then compared to each other and to a translation retrieved from google translate (Google, 2021).

Other precautions were also made, in order to increase the external reliability. Respondents had similar roles in the companies, and the situation of the interviews were reenacted as closely as possible, since external reliability also concerns whether the social situation where the data was collected could be reenacted in the same way in the future (Bryman and Bell, 2017).

Furthermore, the authors did their best to remain objective during the course of data collection and analysis, in order to avoid researchers' differing personal perceptions, and to increase the level of replicability of the data collection which internal reliability concerns (Bryman and Bell, 2017). One person being in charge of the interviews, and one being in charge of the notes, increases the internal reliability, since the researchers have a defined role in the data collection. Moreover, to transcript the interviews increases the ability for the researchers to go through and discuss the data, which enables a similar perception of the result.

Validity is another measure able to determine a case study's grade of credibility, Bryman and Bell (2017) state. The respondents from the two companies in the follow-up interviews did not receive the same questions as the CEOs, which lowers the internal validity, since different respondents may provide different answers to the same questions (Bryman and Bell, 2017). Concerning external validity, only two companies were part of the case study, which might affect the degree of how results of the study can be generalised to other situations and social environments, Bryman and Bell (2017) explains. A broader perspective might not be available, however, if the criterias from 3.2.1 can be applied to a targeted company, the possibility of generalisation and replication are significantly higher.

The generalizability of the study may also be affected by the usage of old sources in the theoretical chapter. Old sources were used, since traditions were a factor in the thesis, and a reasoning was made of innovation processes being affected by dated practises of older

generations in family businesses. The old research was thus combined with current research, in an attempt to explain the innovation processes in family businesses more accurately.

## Chapter 4 - Results

*In the following chapter results of the case-study will be presented. It contains results of the interviews with the two CEOs Carl-Gustaf Gudmundsson and Wiveca Almgren from Engelholmsglass and Magnihill, together with two interviews with one of the production managers at Engelholmsglass, Patrik Gudmundsson and the project leader at Magnihill, Jan Koivumäki.*

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### 4.1 Engelholmsglass

#### 4.1.1 Background and approach to innovation

Engelholmsglass is a family business who produces and sells ice cream, and is based in Ängelholm, Sweden (Engelholmsglass, 2021). According to Gudmundsson (2021), the business was founded in 1977 by him and his father, Gunnar Gudmundsson who became the first generation at the organisation. Gudmundsson (2021) explained that his father bought the ice cream production from a dairy company, where he was a manager when it was discontinued, to start his own business. To use the best raw materials when producing ice cream of high quality and good service is the vision of the company:

*“The customer is in the center of everything we do, we strive to always be approachable, and produce the best ice cream with cream base available to everyone. Employees shall be proud to work with our ice cream and within our company.”*

*(Engelholmsglass, 2021)*

Carl-Gustaf Gudmundsson is the CEO of the family business, and his sister Lisa Gudmundsson is the quality manager (Engelholmsglass, 2021). Furthermore, the children of Carl-Gustaf are Peter Gudmundsson and Patrik Gudmundsson, the production managers, who take a big responsibility in idea generation and production. In other words, the big decisions for the business are made by family members. The financial manager Cecilia Ekstedt is the only owner

that is not a part of the Gudmundsson family. The family members have a close relationship and share knowledge with each other when needed (Gudmundsson, 2021). Moreover, there are 30 other employees and additionally 25 during the summer (Engelholmsglass, 2021).

Moreover, Gudmundsson (2021) explained that innovation is a big part of the business and important for the future of the company. The definition of innovation at Engelholmsglass is, according to Gudmundsson (2021), quite broad. It consists of everything from making new products to the whole culture in the business, and that everyone works in the same direction. Carl-Gustaf Gudmunsson (2021) believes that:

*“If we are not innovative, the company stands still”*

*(Carl-Gustaf Gudmundsson, 2021)*

Innovation is also included in the company policy, as part of four defining words for the company :

*“Safe, down to earth, personal, development”*

*(Engelholmsglass, 2021)*

#### 4.1.2 Innovation Development at Engelholmsglass

Each year, Engelholmsglass has a minimum of one new type of ice cream to present for the new season, Gudmundsson (2021) explains. In other words, innovation is a natural part of the business. Beyond the development of product innovation, the business has also developed different types of service innovation (Gudmundsson, 2021). An example which Gudmundsson (2021) mentioned is when Engelholmsglass started to deliver ice cream on a regular basis to different stores themselves instead of using partners that usually handle the distribution.

The innovation at Engelholmsglass is driven by competitors and the market needs, among other factors (Gudmundsson, 2021). A strategy which Gudmundsson (2021) explained, is to observe what the competitors succeed with, and make something similar. Gudmundsson (2021) provides

an example of an innovation which was inspired by another Swedish ice cream company. When the competitor made an ice cream with licorice, Engelholmssglass started to develop a similar product, since the taste was a success among customers (Gudmundsson, 2021).

Gudmundsson (2021) gives examples of two product innovations from the past few years. The first innovation Gudmundsson (2021) presents is ice cream on a stick for children with strawberry flavour and sprinklers on the top. He further described that a new machine in the production made it possible to add sprinklers to the ice cream, making it more appealing to children. The second innovation which Gudmundsson (2021) brought up was an ice cream which can be scooped. It consists of different flavours of ice cream in the same box, making it possible to eat several flavours in the same bite (Gudmundsson, 2021).

The process from an idea of a new product to the part where the product enters the market, happened in a similar way for the two innovations (Gudmundsson, 2021). Moreover, Gudmundsson (2021) explains that the process of making a new product is almost always the same. The only thing that differs between the different processes are the new machines installed in the facilities. Peter Gudmundsson, son of Carl-Gustaf Gudmundsson, had a big responsibility in the idea generation part of the innovation process, Gudmundsson (2021) explains. Peter handled aromas and testing, while his brother Patrik Gudmundsson worked out technical parts of the innovation (Patrik Gudmundsson, 2021).

The working process with an innovation at Engelholmssglass starts often with one of the family members having an idea about a new innovation, Gudmundsson (2021) states and explains ideas of new products come from various sources such as customers, competitors or from employees' personal experiences outside of work. Gudmundsson (2021) clarifies that customers themselves are not part of the innovation process, but rather his son Peter listens to the customers' wishes, and works towards customer satisfaction with new flavours, among others. Peter has also access to sales statistics, and is thus able to combine the knowledge of customers' wishes with solid data on what customers actually buy (Gudmundsson, 2021). Likewise, when a competitor introduces a successful innovation, Peter looks at the possibility of producing a similar product of their own (Gudmundsson, 2021). Another way the idea generation begins is by samples from

partnering companies, Patrik Gudmundsson (2021) explains. The company gets samples of new products from subcontractors, which are then integrated in the innovation work at the company, by being combined with existing solutions and machines at the company (Patrik Gudmundsson, 2021).

After the idea generation process, Peter Gudmundsson works closely with Patrik Gudmundsson in order to produce samples of the possible flavours, and a trial and error process begins (Patrik Gudmundsson, 2021). Peter manually tastes the ice cream which is always made in the cheapest way possible, and if the ice cream is to his taste, he consults possibilities of manufacturing the ice cream with Patrik Gudmundsson (Patrik Gudmundsson, 2021). The possibilities in ice cream making are huge, since combinations of a big amount of flavours can be made, Gudmundsson (2021) elaborates, and while Patrik Gudmundsson (2021) agrees, he lifts the financial aspect being one of the main limitations to possible combinations. The manufacturing cost cannot extend the selling cost in order to gain revenue, which is one of the factors that the brothers discuss before introduction of the idea to other employees at the company, Patrik Gudmundsson (2021) evaluates. Different ideas and possibilities of flavours and production are also discussed briefly, and then the innovation is presented for and discussed with the company board consisting of the five company owners and a marketing manager (Patrik Gudmundsson, 2021). The committee then makes the final decision on whether the company should proceed with the innovation (Patrik Gudmundsson, 2021).

During production, Peter's brother Patrik Gudmundsson is organising the plan to make the idea into an actual product (Gudmundsson, 2021). Patrik and Peter Gudmundsson discuss the possibilities of production of the innovation back and forth even after the decision from the owners and the marketing manager, and decide how to proceed with the innovation (Patrik Gudmundsson, 2021). For the strawberry ice cream, this included installing the new machine which could add sprinkles, Gudmundsson (2021) presented. The first part of the production of ice cream is always the same, and contains the base for the ice cream (Gudmundsson, 2021). Then, the production varies depending on the innovation. Patrik Gudmundsson (2021) explains ice creams with flavours are made by adding ripples with the help of customised nozzles on their existing machines. The second innovation Carl-Gustaf Gudmundsson (2021) presented, an ice

cream with several flavours in one, was made with the help of the aforementioned technique, Patrik Gudmundsson (2021) clarifies. The company has five different production lines, where five different types of products are produced, and the machines in the production lines can be customised within their product areas (Patrik Gudmundsson, 2021). The customization of the machines in R&D happens on site, with Patrik Gudmundsson (2021) and other managers designing and building the machines in the factory by themselves. Since the company seldom uses outside help in the R&D and product process, the employees learn new knowledge they do not possess by educating themselves in the needed area of expertise (Patrik Gudmundsson, 2021). After the ice cream is produced, the company packages the ice cream on site (Patrik Gudmundsson, 2021). The packaging material is bought from subcontractors, but the packaging, boxing and shipping happens directly in the factory (Gudmundsson, 2021).

Lastly, the product has to enter the market. With help from an advertising agency, Engelholmssglass introduces the product to customers (Gudmundsson, 2021). According to Gudmundsson (2021), the first step is to introduce the news by using social media, which consist of the channels Instagram and Facebook. Through social media, Engelholmssglass offers the customer a brief introduction about the product presented with a picture (Gudmundsson, 2021). The new product is later introduced in the new price list, which is where the customer chooses the ice cream in a store, Gudmundsson (2021) explained. This is where the customer gets the first knowledge about the price of the product (Gudmundsson, 2021). When a product such as the strawberry ice cream for children is presented on the market, some stores give out free samples, to make people buy the product (Gudmundsson, 2021). Furthermore, Gudmundsson (2021) means that an important part of the market entry for Engelholmssglass is the cooperation with stores, since they only have one own store where they actually sell their products.

#### 4.1.3 Traditions role in innovation at Engelholmssglass

Although innovation and renewal is necessary, traditions are important for Engelholmssglass, and Gudmundsson (2021) explained that many processes and practises have changed since his father ran the company, but some parts of the business still remained traditional. The owner further

described how the history of the business is a big part of the organisation, and that ice cream is a part of his family. For Gudmundsson (2021), the whole business is basically a tradition and that the family is doing this as a tradition. Gudmundsson (2021) is on a regular basis visiting schools and other companies and stakeholders, and tells the story about Engelholmssglass. To lecture is very important for him, and he has been doing it for a very long time. How the family business was founded is well known for all the employees (Gudmundsson, 2021).

Engelholmssglass creates new traditions to follow the ice cream industry. For example, sugar free ice creams are something that nowadays always has to be a part of their menu, as well as lactose free products. What will probably never change, is the base of the products, which consists of cream, butter and sugar (Gudmundsson (2021)). Most other businesses in the ice cream industry have plant-based fat as a base, so this is something that is characterised for Engelholmssglass. The different temperatures ice creams must be frozen down to has also been acquired in the past, and are similar to when Carl- Gustaf's father ran the company (Gudmundsson, 2021).

The overall working process can be seen as a tradition according to Gudmundsson (2021), since the tasks for an ice cream manufacturer have not changed much. However, what has changed are the new products added to the business, and new or changed machines, which optimise the operations (Gudmundsson, 2021). The customers' consumption patterns have also changed, Patrik Gudmundsson (2021) elaborates. 20 years ago, in the early 2000's, a distinction could be seen between the most profitable products and other less profitable products (Patrik Gudmundsson, 2021). Nowadays, Patrik Gudmundsson (2021) describes the distinction between product sales being minimal, and people being more versatile in their consumption. The change in consumption patterns have affected the innovation at the company, Patrik Gudmundsson (2021) explains, since people not only expect a broader selection of products, but also an increased number of new products on the market. Furthermore, since the distinction between profitable and unprofitable products is minimal, the decision to keep or abandon a product has increased in difficulty, Patrik Gudmundsson (2021) means.

Besides the traditional ice cream base, the product lines in the production is another area at Engelholms Glass affected by traditions, Patrik Gudmundsson (2021) adds. Even though new



machines have replaced the old ones, and custom made machines have been added, the five different production lines have historically not changed much (Patrik Gudmundsson, 2021).

Gudmundsson (2021) worked for a long period of time together with his father who did not interfere much in his later days. According to Gudmundsson (2021), he does not interfere much in the business either, since his children do most of the work nowadays. He does not see himself as someone who prevents them from something, more of a support. He is not involved in production etcetera. A great deal of the production is controlled with computers, which Gudmundsson (2021) does not have the knowledge about. Something which can prevent innovation according to Gudmundsson (2021), is financial issues, since the business is not of a big size, this is something that they have to consider. Overall, Gudmundsson (2021) described that he needs to refrain from following too much into his fathers footsteps.

#### 4.1.4 Knowledge role in innovation at Engelholmssglass

Gudmundsson (2021) himself has acquired new knowledge throughout his life. While some knowledge has been passed down from his father, Gudmundsson (2021) elaborates, other knowledge is attributed to work/life experiences and education. The owner of the company used to drive dairy trucks during his youth, as an example, which contributed to not only knowledge within distribution, but also valuable social and networking skills (Gudmundsson, 2021). Carl-Gustaf Gudmundsson also actively participated in study visits at factories where ice cream machines were made, and still actively researches ice cream flavours during leisure travels, among others, the CEO (2021) explains.

Patrik Gudmundsson (2021), production manager at Engelholmssglass, recognizes his own knowledge being mostly of technological nature, and is most applicable to the production stage during innovation development. Patrik Gudmundsson (2021) considers machine building, handling of machines, and knowledge about temperature as three factors of his knowledge, and determines his father being responsible for sizable donations to this knowledge throughout the years the two had worked together.

The basic knowledge is transferred from generation to generation at Engelholmsglass. Some things, Gudmundsson (2021) makes by himself, that no one else does. The majority of people that get hired work in production, since Engelholmsglass seldom hires people higher in the hierarchy (Gudmundsson, 2021). In other words, the people who get hired can work towards more advanced tasks, but new employees cannot have a more advanced role at the company. The people who work with innovation at Engelholmsglass are a part of the family (Gudmundsson, 2021). A big part of the innovation is in other words the family's past and new knowledge, and also knowledge that the family gains on for example trips and events (Gudmundsson, 2021).

Gudmundsson (2021) means that the majority of the knowledge in Engelholmsglass is internal, but that some knowledge also comes from the outside. External knowledge is used, for example, in the part of the innovation process where the cover for the ice cream is developed, since this knowledge does not exist within Engelholmsglass (Gudmundsson, 2021). Moreover, in regard to external knowledge, the employees participate in education about the environment and rules for production and content in the food industry on a regular basis, since new regulations are constantly revised in the industry, Gudmundsson (2021) explained. Each year, there are new rules for what food is allowed to consist of and new rules for hygiene in production, which makes it important to stay updated (Gudmundsson, 2021). External knowledge about these factors which are important for the business' survival, is something that actively needs to be maintained (Gudmundsson, 2021).

## 4.2 Magnihill

### 4.2.1 Background and approach to innovation

Magnihill is a family business operating in the agricultural sector (Magnihill, 2021). In 1957, Lennart Pehrsson bought a farm in the south of Sweden, which led to the foundation of Magnihill the same year (Magnihill, 2021). In the early years of Magnihill, the main focus was on potato production, until the first purchase of freezing equipment in 1974 which led to the company shifting focus to frozen products (Magnihill, 2021). Nowadays, Magnihill still operates in the agriculture industry, but works with development, production, import and sale of freezed

products (Magnihill, 2021). The main focus for Magnihill nowadays is on high quality domestic and organic products, which the company buys from subcontractors (Almgren, 2021) elaborates. The company then freezes, packages and distributes the frozen products (Almgren, 2021). Magnihill's vision follows the aforementioned statement :

*“Magnihill shall be the customer's first choice of partner of natural frozen products. We also strive to promote the development of comfortable organic products, and work towards a sustainable business as a part of a larger context, and strive to be self-sufficient in energy.”*

*(Magnihill, 2021)*

Wiveca Almgren is the CEO of the company, and has worked as a CEO at Magnihill since her father's retirement in 1992 (Almgren, 2021). Almgren (2021) further explains her role at the company as not only the CEO of the company, but also as the head of the company board and as the owner of the company. The CEO's husband Fredrik Almgren is the financial manager of Magnihill, and their children also have an involvement in the family business in various ways, Almgren (2021) mentions and explains that the children are part of the company board.

The company has grown steadily since the introduction of the new CEO, and has now 45 employees, Almgren (2021) states. Almgren (2021) believes innovation in general and a strategy involving innovation contributed to the company's growth. Wiveca Almgren (2021) defines innovation with words “product development, improvements, new techniques, new products, new production lines, but mainly improvements in general”. Wiveca emphasises innovation being the main driving force for her company (Almgren, 2021):

*“A company can be in one of two positions. Either the company develops or ceases to exist, there is nothing in between.”*

*(Wiveca Almgren, 2021)*

The company works actively with innovation, and has one full-time employee, Jan Koivumäki, who works with project management within innovations (Almgren, 2021). The company also follows a thorough business plan, where innovation and investments are at the centre (Almgren,

2021). The current business plan extends until year 2030 and is revised every two years with short term goals, while also the long term goals are evaluated, and the plan is then used to control and guide the whole business, Almgren (2021) explains.

#### 4.2.2 Innovation Development at Magnihill

When asked about specific innovations the company has developed in the past Almgren (2021) brings up two innovations. The first innovation Wiveca Almgren (2021) talks about is an innovation in a defrosting process. Wiveca Almgren (2021) explains the company imports frozen products, which are then defrosted and repackaged at their own facility. The process where the products are defrosted were until recently done manually, by employees shaking and knocking the packaging in order to get the products less frozen, Almgren (2021) describes. In order to solve the problem, Magnihill collaborated with a roller production company, and built a new process where a robot and a new machine replaced the manual labour (Almgren, 2021). The new robot, named Greta, lifts the package onto a production line, where the package is then massaged by rollers until the products are crushed (Almgren, 2021). This innovation allowed the company to effectivise and automise the process, and also minimise their employees' workload (Almgren, 2021).

Almgren (2021) states the product development is centred around the idea of what humans will eat in the future. One innovation Wiveca Almgren (2021) discusses is the possibility of eating sugar beets in the future, instead of only using sugar from the raw product. This thought has made her make a new venture in buying locally produced sugar beets to deep freeze them as well as integrate them to Magnihill's assortment (Almgren, 2021).

All innovations at Magnihill have similar processes of development, from an idea to entry to the market, Almgren (2021) explains and proceeds to explain how the company works with innovations. The first part of innovation development is to introduce a case, where an evident problem is presented. Koivumäki (2021) describes that anyone at Magnihill can present an idea on something which is needed in the business. The ideas include improvements, new machines, ideas which may improve the employees' health or ideas related to environmental issues

(Koivumäki, 2021). The problem may also be financial in nature, some part of the business being too costly perhaps, Wiveca Almgren (2021) continues. A project plan is developed alongside a financial plan, and potential partners are evaluated for the project (Koivumäki, 2021). The project usually lasts for about a year depending on the innovation, and consists of different parts, where Magnihill and outside companies cooperate in the innovation development (Koivumäki, 2021). The partnering companies help Magnihill to further develop the idea, mostly in the R&D phase, where the engineers determine whether the idea is possible to manufacture or not (Koivumäki, 2021). A prototype is then made, evaluated and decided upon, and machines are then researched and bought by the partnering companies and Magnihill's employees, and then a whole production line is created before the innovation can be produced at Magnihill (Koivumäki, 2021). The packaging of the products are manufactured and customised on site at Magnihill (Almgren, 2021). Moreover, when the innovation is fully developed the project has reached a closure, and the team who has worked with the project always does a follow-up to evaluate the good parts and possible improvements (Koivumäki 2021).

The finished product is promoted through recipes and chef meetings, which show the ways Magnihill's products can be used. Wiveca Almgren (2021) further explains marketing often being challenging, and that the company markets their products mostly through their customers. Magnihill has customers in various areas, being distributors for e-commerce companies such as ICA, but also having their own customers in the form of hospitals and commercial kitchens (Almgren, 2021). Thus, Magnihill does not have a close relationship with the end customer, but focuses more on the business to business operation (Almgren, 2021). The products are mostly distributed through partnering companies to Magnihill's customers, but the company also hires one truck driver, whom Magnihill uses if needed (Almgren, 2021). Moreover, Almgren (2021) added that since the sugar beets have not been integrated to the market completely, a possible larger scale production might be relevant in the future.

#### 4.2.3 Traditions role in innovation at Magnihill

Magnihill is a company, which has through years fought to be innovative amongst other very traditional agricultural firms, Wiveca Almgren (2021) explains. The industry needs a change

from the traditional methods, and Magnihill hopes to lead the way for innovation in the sector (Almgren, 2021). Wiveca Almgren (2021) is thus hesitant to traditions, and means that traditions may result in “we have always done it this way” mentality. The owner (2021) discusses that the company history is important, and that being a family business has been a very safe way of operating the business, but means at the same time that traditions are sometimes holding the business back rather than moving it forward.

However, the methods used to produce and freeze products at Magnihill are, for the most part, still the same (Almgren, 2021). The company has also always bought raw materials and sorted it out and cleaned it on site, Almgren (2021) continues. The freezing temperature has also remained traditionally the same as during Wiveca Almgren’s father’s time at Magnihill (Almgren, 2021). Furthermore, Wiveca Almgren (2021) admits the tradition of hard work has also remained similar to when Lennart Pehrsson still ran the business. According to Koivumäki (2021), the innovation process has become a new tradition for the business, as it is done with the same steps for each project. Koivumäki (2021) adds that the strategy to early discover potential problems in the business is also a tradition, and something that the company works very actively with.

There are even some products inspired by other older products, Wiveca Almgren (2021) admits and means that sliced potatoes has led to other vegetables also being sliced. Almgren (2021) clarifies new traditions being continuously introduced within the business, and gives examples of domestic products as one of the new traditions. The CEO (2021) believes domestic products are the future of agriculture and eating habits, and has since becoming the CEO worked towards establishment of new traditions promoting the domestic products within Magnihill but also agriculture in general.

#### 4.2.4 Knowledge role in innovation at Magnihill

Wiveca Almgren (2021) claims knowledge is something Magnihill acquires while innovating, rather than something that leads to innovation. The CEO (2021) continues explaining her having many ideas of innovations, and the challenge to acquire the right knowledge, which sometimes

leads to failed innovation at the company. Wiveca Almgren (2021) emphasises the need for external knowledge :

*“Not everyone knows everything. One needs to dare to pay competent people for knowledge oneself does not possess.”*

(Wiveca Almgren, 2021)

Wiveca Almgren (2021) herself possesses knowledge from earlier generations, mostly from her father, who taught her how to work hard and how to operate a family business. Even though many of his practises are in the past, Wiveca Almgren (2021) believes that the knowledge about past practises has helped her to find better solutions for the future. Wiveca Almgren (2021) emphasises that learnings from past experiences consist of learning about what damages the business, and promotes the change the business needs in order to grow. The owner (2021) believes knowledge transfer is of importance between generations, and has been transferring her knowledge onto her own children. Wiveca Almgren (2021) has no doubts her children will have usage of the acquired knowledge in the future.

Almgren (2021) emphasises different cultural and professional experiences having a positive effect on operations at the company. Diversity and age differences between the employees also, in Wiveca Almgren’s (2021) opinion, affect the business positively, since the variety of employees can share different thoughts and insights with each other, as they see the world differently. The company recruits employees from various backgrounds, and focuses mainly on the employees competencies and how the person can contribute to the company (Almgren, 2021).

Almgren (2021) explains training having a central role in the development of the employees’ knowledge. The company establishes and follows a continuously revised training plan for the operations overall, and also, each employee participates in development dialogues (Almgren, 2021). The training plan and development dialogues are then evaluated, and the employees are offered the right training for their position. Almgren (2021) provided examples of Excel training and food handling as two common training forms. The owner further mentioned environment

and quality control training being of importance, since new regulations are common including food handling practises and new environmental rules.



## Chapter 5 - Analysis

*In the following chapter, there will be an analysis constructed with the theoretical data in chapter 3 and results from data collection in chapter 4. The chapter consists of a presentation of the innovation processes in the family businesses. This will be followed with an analysis of which parts are affected by the three factors of traditions and knowledge in the innovation process.*

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### 5.1 Analysis of innovation processes in family firms

Below, the theoretical framework from the theory chapter is analysed and explained together with data from Engelholmsglass and Magnihill. In the second part of the analysis, the first model is combined with the second to construct model number three.

Innovation process	
Stage 1	<b>Brainstorm</b> <b>Market Analysis</b> <b>Rationality Evaluation</b>
Stage 2	<b>Agreement</b> <b>Possibility recognition</b> <b>Alternation</b>
Stage 3	<b>Market Introduction</b> <b>Chain Reaction</b> <b>The finish line</b>

*Model 1.*

## 5.1.1 Stage 1

### *5.1.1.1 Brainstorming*

Real life experiences, market evaluations and similar innovations of competitors are the main driving forces of the brainstorming phase at Engelholmssglass (Gudmundsson, 2021). Much like March's (1991) theory, exploration of such driving forces and ideas often result in new innovations, which initiate an innovation process. Similarly, at Magnihill, brainstorming through explorations and discussions of problems, or curiosity of the question "What will people eat in the future?", lead to presentation of new innovations at the company, Wiveca Almgren (2021) explained. A shaping of an innovation purpose happens thus early at Magnihill, almost at the same time as formulation of the idea. Purpose formulation at Engelholmssglass also arises early during the phase, since each new idea has a purpose of either complementing the current products or processes or optimisation of workforce. In common for both companies is that new innovations shall increase the existing assortment of products and processes, which corresponds to the most common goal of brainstorming. Geissdoerfer et.al (2017) highlighted the importance of having a purpose, and goal for the specific innovation in the beginning of the innovation process.

In addition to the aforementioned factors of innovation sources, products from subcontractors also contribute to generation of thoughts and ideas about new innovations (Pavitt 2006). Patrik Gudmundsson (2021) explained that the production managers at Engelholmssglass often make use of products from subcontractors. Some of EngelholmsGlass' subcontractors provide Engelholmssglass with free samples of products for the company to try out, which are then used for generation of ideas for new innovations (Patrik Gudmundsson, 2021). Similarly, Magnihill takes advantage of subcontractors' improvements. One example Wiveca Almgren (2021) presents is the innovation of a new robot, which was initiated after a technological improvement at one of the subcontractors, and leading to an innovation optimising a current problem at Magnihill.

People in charge of innovation also play a role in the brainstorming phase. Management in different companies, especially family businesses, may affect the ability of employees to contribute to new ideas (Lumpkin, Martin & Vaughn, 2008). Gudmundsson (2021) presented his two sons Patrik and Peter Gudmundsson often having ideas about new innovations, but

emphasised that even other senior managers sometimes came up with new ideas. However, employees lower in the hierarchy at Engelholmssglass are not able to contribute to the innovation process (Gudmundsson, 2021). At Magnihill, on the other hand, every employee can present ideas which have the chance of being developed into an innovation, Koivumäki (2021) explained. The first part of the innovation process is thus limited to senior management at Engelholmssglass, while the first part of the innovation process at Magnihill is not restricted to any particular group of employees. The phenomena may be linked to the senior management at Engelholmssglass consisting of closely connected family members (Gudmundsson, 2021), since family members may feel a stronger need for improvement of the family business than other employees (Lumpkin, Martin & Vaughn, 2008).

The difference in management of innovation during the initial phase of the innovation process may also be linked to the companies' sizes, as Pavitt (2006) elaborated. While Engelholmssglass has around 30 full-time employees, Magnihill has 47, which allows for more personnel in specialised positions (Gudmundsson, 2021; Almgren, 2021). Moreover, Magnihill has one full-time employee within project management, and Engelholmssglass takes advantage of senior management with roles outside of innovation (Gudmundsson, 2021; Almgren, 2021).

#### *5.1.1.2 Market analysis*

Market analysis considers the second part of the first stage. March (1991) discusses that investment decisions have an important role in the first stage of an innovation process. Patrik and Peter Gudmundsson (2021) at Engelholmssglass makes a careful calculation of the costs of each new product, for both testing and the final production. During the Market Analysis phase, some investments are thus explored, but only in broad terms during initial experimentation. A more extensive financial analysis is constructed later on in the innovation process. Investment decisions within Magnihill also follow such a pattern, where discussions about investment decisions briefly start after the initial brainstorming, but most of the financial planning is done during the second stage (Almgren, 2021).

Engelholmssglass involves the market early in their innovation process as one of their strategies is to look for what competitors succeed with already in the brainstorming phase (Gudmundsson,

2021). In other words, knowledge about the market is integrated in the process as Rothwell (1992) and March (1991) agreed in research. While March (1991) proposed market integration being the most central in the beginning of an innovation process, Rothwell (1992) showed the importance of the market being included in the whole process. At Engelholmssglass, Peter Gudmundsson uses market evaluations, in order to propose ideas of new products (Gudmundsson, 2021). Peter Gudmundsson analyses the market evaluation, by determining the best selling products, and then his brother Patrik Gudmundsson produces samples of similar products (Gudmundsson, 2021). Magnihill on the other hand, involves the market later as it is not a part of the first part in the innovation process (Almgren, 2021). However, the customer is present during the first stage of an innovation process, as Wiveca Almgren (2021) bases many innovations on the question “What will people eat tomorrow” for new innovations at Magnihill.

#### *5.1.1.3 Rationality Evaluation*

During the first stage, parallel to brainstorming and market analysis, Engelholmssglass performs a trial and error process, where Peter Gudmundsson personally tests different versions of ice cream flavours (Patrik Gudmundsson, 2021). March (1991) described experimentation being a part of the first step in many innovation processes, similar to the Engelholmssglass’ innovation process. Experimentation occurs later on in the process at Magnihill (Koivumäki, 2021). The idea is of higher importance than the prototype itself at Magnihill, and while decisions at Engelholmssglass often occur after the experimentation phase at Engelholmssglass, at Magnihill, decisions are made beforehand (Gudmundsson, 2021; Almgren, 2021).

The difference between the two companies can be explained by the fact that while Engelholmssglass executes the R&D work on-site, Magnihill hires outside R&D firms in order to innovate (Patrik Gudmundsson, 2021; Almgren, 2021). The phenomena may be explained by Pavitt (2006) who elaborated R&D requiring specialised knowledge, in order for experimentation early on in the innovation process.

Cooperation with government and universities, Pavitt (2006) explained, is a part of the introducing step in an innovation process. Engelholmssglass follows rules governments continuously present closely about the environment and ingredients (Gudmundsson, 2021).

However, they do not cooperate with any university for research or other activities where that could be helpful, according to Gudmundsson (2021). The lack of cooperation between the company and universities and institutions may depend on the industry, as Pavitt (2006) believed some industries had more advantages than others by new research. Magnihill, much like Engelholmssglass, keeps updated on new regulations from the government (Almgren, 2021). The company does not have a cooperation with either a government or a university, but on the other hand makes use of other knowledge intensive companies for R&D among others (Almgren, 2021).

## 5.1.2 Stage 2

### *5.1.2.1 Agreement*

March (1991) described that for the second stage of an innovation process, decisions must be made for a continuation of the process. Magnihill makes a decision upon continuation of the initial innovation idea, and employees start up a project plan (Koivumäki, 2021). While the board may have overheard the idea in the company spaces during the first stage of the innovation process, it is not until Patrik and Peter Gudmundsson (2021) officially present the innovation in the second stage of the innovation process that a formal decision by the board is made. Furthermore, March (1991) supported that other crucial decisions for the innovation shall also be made during the agreement phase. For both of the companies, the financial possibilities are considered more in detail during the decision process as well as the possibilities of the actual implementation of the idea (Gudmundsson, 2021; Almgren, 2021). The ability to gain revenue is crucial for the investment decision for Engelholmssglass, since the margins are low (Patrik Gudmundsson, 2021).

After the decision has been made for which idea to invest in, Patrik Gudmundsson (2021) makes a plan for the production at Engelholmssglass which has a clear structure and includes the strategies of how to make the production efficient. The importance of good quality instead of high quantity is pervading through the process (Gudmundsson, 2021). Geissdoerfer et.al (2017) presented the making of a detailed plan as part of the middle section in an innovation process, since the innovation undergoes many adjustments and testing which needs to be documented.

Magnihill has a similar attitude to part two and makes a clear project plan and time frame for each innovation (Koivumäki, 2021). Time management may be of importance, since Rothwell (1992) considered it to be a competitive advantage to introduce a new innovation to the market as early as possible. At Engelholmssglass, time limits have an essential part in their plan since the new innovations need to be introduced at the beginning of every new season (Gudmundsson, 2021).

Moreover, Magnihill has an assigned project leader who, with help of other employees, draws up the project plan and the financial plan (Koivumäki, 2021). In this step of the process, the project group decides the strategy for the innovation, and which knowledge the company lacks and needs to buy from the outside (Koivumäki, 2021; Almgren, 2021). At Engelholmssglass, a strategy on how to proceed with an innovation is decided upon by Patrik and Peter Gudmundsson, after the innovation is granted by the senior management (Gudmundsson, 2021). Each innovation needs a strategy in order to explore all the possibilities of development (March 1991)

#### *5.1.2.2 Possibility recognition*

Pavitt (2006), similarly to Geissdoerfer et.al (2017) and March (1991), defined the second stage of an innovation process as the part where exploration of possibilities for the innovation are central. Magnihill explores potential external partners, potential machines for production and possibilities of adjustments to the innovation during the possibility recognition phase (Koivumäki 2021). The production managers at Engelholmssglass likewise explore possibilities for the manufacturing part of the innovation, but by researching the specialised area and learning new skills through internet and educational sources instead (Patrik Gudmundsson, 2021). The main difference between the two companies is that Magnihill hires people and companies for the most part of the exploration, while Engelholmssglass relies more on in-house development.

The data acquired from the two companies does not show much market integration in the second part of the innovation process, as Rothwell (1992) proposes, but the companies' vision aligns somewhat with market integration, which should be embedded in all of the companies' work.

Magnihill and Engelholmsglass could, however, strive to integrate the market in their second part of the process more.

### *5.1.2.3 Alternation*

Similarly to March's (1991) conclusion of exploration of improvements being linked to the second step of an innovation process, Geissdoerfer et.al (2017) highlighted adjustments' part in the second stage of an innovation process. In accordance with Geissdoerfer et.al's (2017) research, extensive experimentation during this part of the process leads to adjustments and improvements of the innovation. Magnihill makes prototypes for each idea to evaluate the possibilities each idea presents, and then partnering companies explore the possible adjustments to the innovation (Koivumäki, 2021). At Engelholmsglass, the production managers also make adjustments during the second phase of the innovation process, however the adjustments are more of manufacturing and technical nature than adjustments to the innovation itself (Patrik Gudmundsson, 2021). This mainly because of the already executed experimentation during the first stage of the innovation process (Patrik Gudmundsson, 2021).

As mentioned in the first part, Magnihill starts to experiment later than Engelholmsglass. When an innovation has been evaluated and decided upon by Wiveca Almgren, Magnihill makes purchases of new machines necessary for the production of the new innovation, and then prototypes are manufactured (Almgren, 2021). Magnihill's experimentation phase aligns with Geissdoerfer et al. 's (2017) research, since the research claimed that testing and experimentation shall be included in the second stage rather than in the initial one. Engelholmsglass, however, experiments in the first stage, as aforementioned, since Patrik Gudmundsson (2021) believes experimentation to have most importance in the first part.

Patrik Gudmundsson (2021) also contributes to the production and customization of machines at Engelholmsglass, which corresponds to the alternation phase, since production techniques are decided upon, and improvements to the innovation are made, as in accordance to March's (1991) research. Magnihill similarly takes part in researching production techniques and adjustments, however as aforementioned, most of such work is outsourced (Almgren, 2021).

### 5.1.3 Stage 3

#### *5.1.3.1 Market Introduction*

Implementation and diffusion of the innovation as Geissdoerfer et al (2017) and March (1991) described is a crucial part of the Market Introduction phase. The Market Introduction includes presentation of the product to the market and for this, Engelholmssglass takes external help from an advertising agency (Gudmundsson, 2021). The launch of the product occurs through social media and is presented in the new price list for the new season, where all the information about the product is being shared, Gudmundsson (2021) explained. Free samplers is also a large part of Engelholmssglass' implementation strategy, since it captures the interest of the customers (Gudmundsson, 2021). Magnihill has a slightly different strategy compared to Engelholmssglass, as they do not have a special price list in the same way as Engelholmssglass (Almgren, 2021). Through meetings with chefs, and sharing recipes, the product from Magnihill is introduced to the market, Almgren (2021) emphasised.

#### *5.1.3.2 Chain Reaction*

Moreover, Geissdoerfer et.al (2017) presented in his research that adjustments might be made during the final phase of an innovation process, which is not the case with Engelholmssglass, since the company do not make any changes to an innovation after launch (Gudmundsson, 2021). In regard to product innovations, when the implementation of the product has been made, the new product is manufactured in pre-existent product lines, which are already by that time prepared for a large- scale production of the product (Patrik Gudmundsson, 2021). At Magnihill, on the other hand, Koivumäki (2021) explained that the company always follows up on their innovations for improvements which can be made. If a large-scale adjustment would be necessary for the sugar beets, the company would make an evaluation of the possibilities, Wiveca Almgren (2021) elaborated. However, since the sugar beets have not been adopted by the market yet, there is no foundation to make that kind of decision (Almgren, 2021).

The adjustments companies might implement depend partly on the market, Rothwell (1992) once again emphasised. Pavitt (2006) reasoned similarly, to the need of matching production with practises and market evaluation. As an example, through integration of market evaluations, Magnihill realised the potential of sliced vegetables, and could improve the current products with



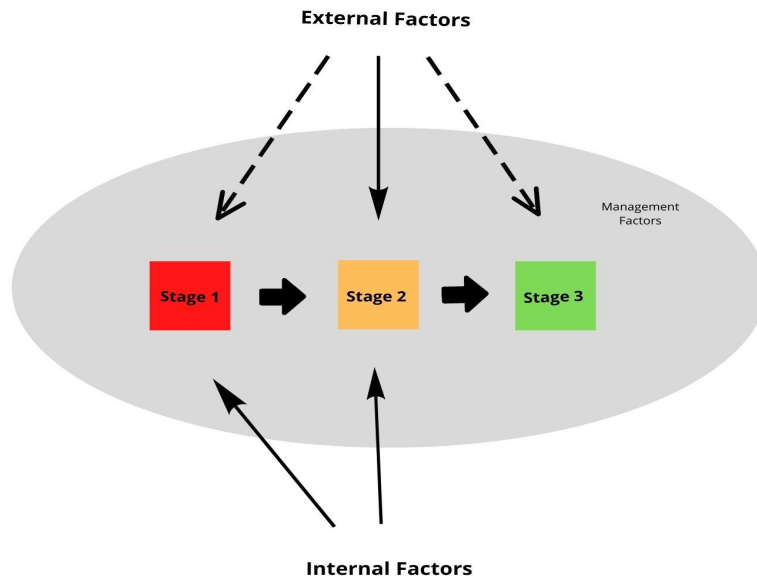
a sliced version. Knowledge about how the market reacts to the innovation might thus point to possible faults and improvements of an innovation. As aforementioned, Engelholmsglass seldom makes adjustments during the Chain Reaction phase, but market evaluations can affect the life length of a product (Patrik Gudmundsson, 2021).

#### *5.1.3.3 The Finish Line*

Rogers (2003) theory about diffusion explained how innovations are absorbed by the market. Knowledge is the first step in Rogers (2003) theory that contributes to a customer's decision about the product, since a customer must receive information about the product or service before buying. Magnihill has had problems with introducing their innovation of sugar beets to the market (Almgren, 2021). Rothwell (1992) presented, as mentioned, the importance of market knowledge integration, which has been reversed at Magnihill where the company did not include knowledge about the needs of the market when the company started to freeze gaps of sugar beets (Almgren, 2021). Engelholmsglass however, takes a great advantage of their free samplers as the market is being integrated by getting the opportunity to try the product for free (Gudmundsson, 2021). Since the company presents new products on a regular basis, their customers are often interested in what they have to offer the next time, which also makes it easier to make the market gain knowledge about the product (Gudmundsson, 2021).

Furthermore, time management also has a role in the finish line since competitors might make similar innovations, which have a risk of reaching the market earlier. The absorption of an innovation for the customers might be delayed and reduced if a competitor enters the market with a similar innovation during the same time. The persuasion ability of the innovation declines, if a competitor succeeds with persuasion of a percentage of the targeted customers (Rogers, 2003). Both companies integrate the concept of time in the Agreement stage of an innovation process, which contributes to a more efficient time management in the Finish Line as well.

## 5.2 Analysis of how of traditions and knowledge affect stages of the proposed innovation process



Model 3.

In the model above, the two theoretical frameworks, see model 1 and 2, have been combined in order to show a summary of findings in the analysis. The dotted arrows demonstrate partial affection of the innovation process, and are more in detail explained in the analysis below.

### 2.2.1 Internal Factors

In the Engelholmglass case, the company was founded by Gunnar Gudmundsson, a former employee of a dairy company in Skåne (Gudmundsson, 2021). The founder created an ice cream with a cream base, which to this day remains the foundation of the company (Gudmundsson, 2021). The tradition of keeping the cream base is one of the internal factors that has an impact on innovation processes in the company. Erdogan (2020) meant that conditions set upon the founding stage may affect the innovation process in a family business throughout the family businesses' lifetime. In the possibility recognition phase in an innovation process, the ability to see opportunities is vital. Since traditions might hold on to specific processes, the possibility of

looking into the opportunity of changing the cream base might be limited. The limitation can thus reduce the number of opportunities in the possibility recognition phase, as Carl-Gustaf Gudmundsson (2021) explained that the company strives to keep the tradition of the cream base in their ice cream. However, keeping the tradition of a cream base does not only have to affect the innovation process in a negative way. Since Engelholm's glass maintains their traditions, the company fits into the concept of integration presented by Erdogan (2020), which promoted traditions being of help rather than harm. The secret formula, according to Della Corte et al. (2018), is to balance innovation and tradition, which must be the case for the two case companies, since results show that both case companies work successfully both with innovation and traditions.

Furthermore, the CEO of Magnihill Wiveca Almgren (2021) believes that Magnihill is not in any way defined by traditions, and tries to avoid traditions to a large extent in the whole business, not only in regard to the innovation process. However, the company still shows similarities with the older version of the company. For example, Magnihill still operates in the same industry and cooperates with local producers of materials, as when Wiveca's father Lennart Pehrsson founded the company (Almgren, 2021). The company shows similarities to Erdogan's (2020) theory about revival, since organic and locally produced products have made a comeback to the market, and Wiveca Almgren (2021) tries to revive such old traditions through innovation. The company can thus be seen as almost an opposite of Engelholm's glass, since old traditions of organic and locally produced are reintroduced rather than kept. Past knowledge and traditions are thus an internal factor affecting innovation processes in family firms, and can further be connected to the market analysis phase, since the market controls the fact that former traditions are being integrated in the business again.

The cognitive ability where looking in the past enables the possibility of covering the needs for the future, demands pattern recognition (Nightingale, 1998). Magnihill reintroducing old traditions such as sugar beets is an example of such pattern recognition. Magnihill's innovation corresponds to the possibility recognition phase and rationality evaluation phase, since patterns were found by recognising patterns in consumption habits, which on one hand contributed to whether the innovation had a chance, and on another hand to the evaluation of possibilities.

In addition to the pattern recognition's impact on the two phases in the sugar beets example, the combination of explicit and tacit knowledge contributed further to the brainstorming phase. The contribution was in the form of knowledge about historical consumption and knowledge about how a similar product could be developed today at Magnihill. The example shows that the right combination of tacit and explicit knowledge, which Nonaka (2008) explained, results in new knowledge and processes in a business. Engelholmsglass innovation of an ice cream with sprinklers for children was also developed by a combination of tacit and explicit knowledge, since technological knowledge of a new machine, together with firm specific knowledge of ice cream production resulted in a new innovation. These aforementioned examples correspond to the brainstorming phase, since new knowledge has led to a new innovation.

Past knowledge not only affects the market analysis phase, but also affects phases of an innovation process with linkages to experimentation and development (Pavitt, 2006; Nightingale, 1998). At Engelholmsglass, not only past knowledge about customer needs, but also about machines is combined with aforementioned market evaluation. The production managers Peter and Patrik Gudmundsson have in some ways always been part of the family business, which means that they have acquired various specialised intra-firm knowledge for the most part of their lives (Patrik Gudmundsson, 2021). The specialised knowledge about technical parts of the innovation is then used in order to, for example, create samples during experimentation with new innovations (Patrik Gudmundsson, 2021). The specialised knowledge Peter and Patrik Gudmundsson (2021) possess is thus useful during the experimentation in the rationality evaluation phase in the first stage, and during the alternation phase in the second stage of the innovation process.

The shortage of specialised knowledge at Magnihill, which Almgren (2021) mentioned, results in the company hiring outside help in the rationality evaluations phase and the alternation phase. However, some specialised intra-firm knowledge is still needed, since the company needs to translate the outside knowledge to real life practises, as mentioned by Pavitt (2006). Magnihill translates the knowledge acquired through external partners intra-firm by establishment of project plans for each innovation (Almgren, 2021). The specialised knowledge can thus be seen

as fragmented, since knowledge from a number of sources is used, and as a part of several different phases of the innovation process at Magnihill. However, as aforementioned, the establishment and existence of a project plan offers the specialised knowledge an outlet, where the knowledge is shared between the different employees. With that being said, establishment of the project plan is one of, if not the most important internal factors affecting the innovation process at Magnihill. An establishment of a project plan occurs in the agreement phase, in the second stage of the process, which points to internal factors affecting the particular phase.

The project plan at Magnihill is not only of importance because of the specialised knowledge, but also defines the strategy of innovation in general at the firm. Della Corte et.al (2018) meant that a clear strategy with innovation embedded is crucial for family businesses, in order for traditions to improve rather than damage the business. Koivumäki (2021) presented that Magnihill always assigns a project group for each innovation, in which the possibilities and future for the new product, process or service are discussed. The group makes the aforementioned project plan, which includes, among other, practical and financial strategy for the innovation, Koivumäki (2021) further explained. The clear strategy formulation at Magnihill points at the project plan being of importance and further relates internal factors to the agreement phase of the innovation process. Price et al. (2013) research pointed, similarly to Della Corte et.al's (2018), to the need of innovation being incorporated with a strategy, in order to affect decision making in the agreement phase.

Engelholmssglass, on the other hand, follows a less formal strategy, where Patrik and Peter Gudmundsson are responsible for and drive the innovation process forward (Patrik Gudmundsson, 2021). Innovation is embedded in the company's vision, and the owner explained that the company presents at least two new ice creams to the product sortiment each season (Gudmundsson, 2021). All these findings point thus to Engelholmssglass having an innovation strategy, but a less formal one than Magnihill. An analysis of Engelholmssglass strategy confirms that internal factors may affect the agreement phase, but also point to the brainstorm phase being affected. The pressure of Engelholmssglass having a strategy which requires constant innovation may effectivise the brainstorming phase, since employees have innovation in mind at all times.

## 2.2.2 External Factors

Della Corte et.al's (2018) description of market integration includes the importance of maintenance of relationships with customers and partners, in order to combine traditions with a stable position on the market. Customers at Engelholmsglass have a central role at Engelholmsglass, as can be seen in the company's vision (Engelholmsglass, 2021). The company claims customers being in the the centre of everything they do, according to the company vision, and the customers also have a part in the Market Analysis and Market introduction phase of the innovation process, Gudmundsson (2021) explained. During the Market analysis phase, Gudmundsson (2021) expressed customer's wishes being listened to, and taken into consideration, while testing out different ideas during idea development. In this way, not only does the business generate a new popular innovation, but also the customer relationships become closer (Gudmundsson, 2021). Engelholmsglass also offers free samples in the Market Introduction phase, as mentioned by Gudmundsson (2021), which both helps the innovation hit the market, but is also a nice gesture towards loyal customers, which builds the relationship further.

Magnihill, on the other hand, does not include the market in many steps in their innovation process, Almgren (2021) presented. The company sells most of their products with the business to business strategy, which means that the end customers are hard to reach for the company (Almgren, 2021). The low customer engagement might be an obstacle for the company during the Market Introduction phase, as Wiveca Almgren (2021) explained herself that the company sometimes struggles with market introductions of new innovations. However, the company tries to engage customers in some way in the Market Introduction phase, by for example inviting chefs to cook with Magnihill's products, and by a close relationship with other partners instead (Almgren, 2021).

Some of these findings suggest that external factors in the form of relationships with customers have a central role in several phases of the innovation process. Established relationships with customers might provide security of not being retained by traditions, as researched by Della Corte et.al (2018). Customer relationships are the most evident in the first and third stage, but not

the second stage, which shows a different outcome of the Possibility Recognition phase, since market involvement is included in the phase. This finding may be dependent on specialised knowledge required of the innovation, in order to explore the possibilities of it, but on the other hand, the theory may also be right and the companies could strive for a better market integration during the phase. Since the possibility recognition is quite standardised for both of the companies, the market may not have as big a role as it should according to Della Corte et.al (2018).

As aforementioned, relationships not only to customers but also to subcontractors may affect the traditions' role in an innovation process. Magnihill has a close relationship with suppliers, since the company mostly relies on outside production of raw materials and new machines (Almgren, 2021). The company often hires outside help from partners, in order to develop certain parts of the business, and to help with innovations (Almgren, 2021). The outsourced suppliers help with R&D and distribution of the innovation, which are part of the Rationality evaluation phase, Possibility recognition phase, Alternation phase and the Market Introduction phase. Favourable relationships with suppliers can, in accordance to data from Magnihill, be seen as external factors preventing from keeping too many traditions during the most part of the innovation process, since the hired help is not biased by the past. At Engelholmsglass, relationships with suppliers are also of importance, but mostly in the Market Introduction phase and Chain Reaction Phase, since the company makes use of outside help for distribution and marketing (Gudmundsson, 2021).

Furthermore, both companies combine external and internal knowledge during R&D to some extent, in accordance to Munos-Bellon et.al's (2020) theory about external and internal knowledge of R&D in family businesses. Magnihill uses external knowledge for development of innovations by hiring external help from companies, while Engelholmsglass uses external knowledge in the form of education from different sources (Almgren, 2021; Gudmundsson 2021). Internal knowledge is also used, in form of past knowledge of the companies' employees and managers (Almgren, 2021; Gudmundsson 2021) Magnihill integrates the external and internal knowledge with the help of the project plan, and Engelholmsglass have a more informal integration of the two where Patrik and Peter Gudmundsson are in the middle (Almgren, 2021;

Gudmundsson, 2021). The successful integration of external knowledge with internal knowledge affects the phases with technological development the most, based on Munos-Bellon et. al's (2020) research, which is evident in Rationality evaluation, Possibility recognition, Alternation and Chain Reaction phase.

External knowledge may also arise from other sources than the ones in the same network. Nightingale (1998) researched knowledge in the form of screening for complex knowledge in alternative environments during development of an innovation. An example of such knowledge is when Patrik Gudmundsson (2021) searches for information about new possible machines for the production, which is being done via social platforms and other information sources. The external knowledge of this kind is evident in the Alternation phase. In order for Magnihill to secure a complex understanding of the environment, and understanding of possible alternatives, Magnihill employs people with various backgrounds and competencies in various roles (Almgren, 2021). The data cannot thus be linked to a particular phase, since employees in all positions and parts of the innovation are involved. However, a strategy promoting such employment of employees in the innovation process may be of importance, which is part of the Agreement phase.

Furthermore, the nature of the industry a family business operates in also affects the innovation process, Harrison (2020) and Erdogan (2021) mentioned. Erdogan (2020) presented companies in the food industry being especially affected by traditions in their industry. Magnihill can be seen as especially limited by the industry, since the new products the company can introduce are limited to what local producers produce (Almgren, 2021). The company ships some products from abroad, in order to offer a broader range of products, but with the vision of locally produced products in the future, the industry could affect the company even more. The phase that is most affected by the industry would be the Rationality Evaluation Phase, since the innovations need to be limited within possibilities of the industry. Engelholmssglass is also limited by the industry the company operates in, but in a different way. Engelholmssglass is part of an industry that is traditionally seasonal, which means that the income fluctuates during the year. Engelholmssglass needs to implement a strategy with this in mind, in order to manage the impact the industry has



on the financials. Establishment of strategy is part of the Agreement phase, which points to industry traditions affecting the particular phase.

### 2.2.3 Management Factors

Magnihill and Engelholmssglass are both family businesses, founded by the CEO of Magnihill Wiveca Almgren's father, and in Engelholmssglass case, the CEO Carl-Gustaf Gudmundsson's father (Gudmundsson, 2021; Almgren, 2021). The two CEOs are part of the second generation in the businesses, and control most of the decisions in regard to the businesses together with other family members (Gudmundsson, 2021; Almgren, 2021). The observed management of the businesses corresponds to Handler's (1989) theory about family businesses being managed by family members, and the management can be directly linked to management of the innovation process. Some steps of the innovation process rely widely on the management, the most obvious being the Agreement Phase. In both Engelholmssglass and Magnihill family members are in charge of the initial decisions on whether to develop an innovation or not, which points to management factors affecting the Agreement phase extensively.

The Agreement phase is not the only phase affected by the management conducted by family members, since family members often have the central roles in controlling the whole innovation process such as at Engelholmssglass (Handler, 1989; Gudmundsson, 2021). The high grade of control might reduce other employees' power in the innovation process, as mentioned by Gudmundsson (2021) who acknowledges it is hard for employees outside of the family affecting the innovation process. The Management Factor of a family being in control point thus to reduced insights from employees outside of family mainly in the Brainstorming phase. The initial stage of an innovation is for the most part controlled by the production managers and family members Patrik and Peter Gudmundsson, as explained by Patrik Gudmundsson (2021), while the other stages may be more affected by other partners and employees, as discussed in the analysis of the innovation processes in chapter 5.1. At Magnihill, however, the process is not as defined by control by family members and does thus not affect other phases much than the Agreement Phase.

Since family members, as established, occupy crucial managerial positions in family businesses, knowledge they possess affects the innovation process. Steinerowska-Streb and Wziątek-Staśko's (2019) research pointed to managers in family businesses, who expand their knowledge base continuously, more regularly initiating innovation processes. At Engelholmsglass, both Carl-Gustaf Gudmundsson (2021) and Patrik Gudmundsson (2021) participate in knowledge broadening activities, such as training, self-education and internet exploration. Wiveca Almgren (2021) mentioned that she also participates in training and education, to keep herself updated regarding subjects of significant meanings. Both CEOs furthermore mentioned that innovation is crucial for their businesses' survival, which shows that the updated knowledge has contributed to the heightened risk willingness needed for innovation in family businesses, as proposed by Steinerowska-Streb and Wziątek-Staśko (2019). The development of the owner's and managers' knowledge contributes thus to all phases of the innovation process, depending on the nature of the knowledge, since different knowledge is required for every part of the innovation process.

Various knowledge is needed throughout the whole innovation process, Pavitt (2006) believes. A company needs thus to have competent employees, with combined knowledge from various areas of the company and external environment (Pavitt, 2006). At Magnihill, Wiveca Almgren (2021) emphasised having people with right knowledge being crucial for not only the innovation process but also for the whole company. At Engelholmsglass, family members possess such combined skills themselves, since most of the family members are integrated in most of the managerial positions during the innovation process (Gudmundsson, 2021). The family members share insights and thoughts with each other on a daily basis, which further develops the combined knowledge, Gudmundsson (2021) means. Having overall knowledge in all or at least most of the business' areas points to improvement of the innovation process in most of the phases, similarly as concluded in the regard to extension of knowledge in the paragraph above.

Della Corte et.al (2018) emphasised that traditions need to be adapted to be able to be combined with innovation. It means that traditions should be changed in order for them to fit in with an innovative business. For Engelholmsglass, this includes the change of needs in the market and that the business has been forced to develop products for a more broad segment (Gudmundsson,

2021). Furthermore, Almgren (2021) as well Gudmundsson (2021) described that the history of the businesses is important for the business itself, and something which the company gladly talks about. Thus, they were both aware that traditions should be renewed to be able to fit new conditions. The experiences from their fathers way of working allowed both company owners to recognize patterns from the past, which allowed them to see the need for innovation (Nightingale, 1998). To recognition of patterns is a part of the brainstorming phase where purposes and goals are being developed, as well as the possibility recognition phase, where opportunities are analysed by the ability to see patterns.

Additionally, Almgren (2021) believes that much of her knowledge comes from her father and his traditions, likewise to Gudmundsson's (2021) thoughts. Such knowledge transmission from earlier generations can affect the innovativeness of a family business, Letonja and Duh's (2016) argued in research. Wiveca Almgren's (2021) and Gudmundsson's (2021) thoughts about not following too much into their fathers footsteps are of relevance, since Della Corte et. al, (2018) means that keeping traditions can both harm and help innovation in businesses. Gudmundsson (2021) stated that the company's history and traditions are of importance, but that following too much in the steps of his father would damage the business. Gudmundsson (2021) elaborated that a company must listen to customers' needs and innovate, in order to keep the business moving forward, but does not believe that traditions of how he used to manage the business or work in general would harm the innovation process. The former has a connection with the possibility recognition phase, since Gudmundsson (2021) does not consider earlier traditions harming the possibility of seeing opportunities. Similarly, Wiveca, rather than upholding the traditions, the knowledge about them allowed Wiveca to explore the future possibilities more clearly, which optimises the possibility recognition phase. Furthermore, Gudmundsson (2021) also emphasised that the production managers, his sons, have the freedom to develop the business, and that development is not restricted by the owner's traditions. This means that the decision making in the agreement phase shall not be affected negatively by traditions either.

## Chapter 6 - Conclusion

*In the following chapter, conclusions from the research are presented, on the basis of the analysis chapter and our findings of the case study. The conclusion will be connected to the purpose and answer the research questions for the thesis.*

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The purpose of this thesis was to examine the nature of innovation processes in family businesses, and the impact of traditions and knowledge on said innovation process. The conclusions answer the two research questions presented in heading 1.3 Research Questions. Furthermore, the study was conducted with an abductive approach, which resulted in a revised framework in chapter five Analysis, with a base in the framework presented in the theoretical section. The framework in the theoretical chapter presented innovation processes that consisted of three stages, which in turn included three phases each. The framework for traditions' and knowledge's impact on innovation processes in the theoretical section consisted of three different influential factors. Findings in results have shown linkages between the influential factors and stages of an innovation process in family firms, which are presented in a separate model in Chapter 5 "model 3".

The first research question sought for an explanation of the innovation process in family businesses. The findings for the two family businesses show similar results connected to the innovation process, however, when analysing the cases in relation to the theoretical framework there are slight noticeable differences. For example, Magnihill did not perform any experimentation during the first stage, as apart from Engelholmsglass. Engelholmsglass experiments during the rationality evaluation phase, while Magnihill starts experimenting in the alternation phase of the innovation process. Another example was that Engelholmsglass involves the customers to a larger extent in the first and the third stage, while Magnihill lacks customer engagement in all of the three stages. This could point to customer engagement not being of importance in the innovation process, however, Almgren (2021) explained that the company struggled with this particular factor. The largest noticeable differences in the different phases is the involvement of family members, since family members are part of all the phases of the innovation process at Engelholmsglass, while Wiveca and her children are not part of all of the

various phases of the innovation process at Magnihill. The difference in the alternation phase and rationality evaluation phase might thus indicate that family management of innovation affects the order of the different phases in the innovation process.

Moreover, the framework proposed a linear process, where stages and phases occurred in a specific order. However, findings from the two case study companies, particularly from Engelholmglass, showed that even though the stages are for the most part linear, the phases within the stages are more informal and occur parallelly with each other. One finding that indicated the phases within the first stage occurring simultaneously, is that market analysis and brainstorming phase was widely integrated within each other, since market evaluations were used during idea development. In both companies' case, findings have also shown that the Possibility recognition phase and Alternation Phase are integrated to some extent, which is perhaps most visible in Magnihill's case, since the company uses outside help for the R&D, which the phases have in common. Similarly, in Engelholmglass the two phases are connected by the production managers Peter and Patrik Gudmundsson who alternate the innovations at the same time as possibilities are evaluated.

In conclusion, the phases in an innovation process in family businesses being informal depend largely on the family members' involvement in the innovation process. Moreover, the theory and framework propose a linear relationship between the three phases in each stage of the innovation process while the findings have shown that these phases happen more continuously and parallel to each other. In summary, the thesis concludes that family businesses implement clear innovation processes constructed of three stages, with a number of subphases, which are more informal and intervened.

The second research question aimed towards an explanation of which stages and phases of an innovation process in family businesses are affected by factors of traditions and knowledge. Three factors of traditions and knowledge were constructed in the theoretical framework which are internal, external and management factors. The findings in the analysis shows the effect of the two factors in the innovation process as seen in "model 3". The analysis reaches the conclusion that internal factors of tradition and knowledge affect the first and second stage of the

innovation process and are not included in the last stage. This shows that internal traditions and knowledge has a large part in how ideas are being evaluated and developed, which might depend on the business being a family business. In order to develop an innovation further during the second and third stage, external factors of knowledge and traditions are required to be implemented. As presented in “model 3”, external factors affect the second stage in the innovation process to a larger extent than the first and the second stage. External factors are not a part of the very first phase, brainstorming, and the very last phase, the finish line. The phenomena may be linked to difficulty in integrating external knowledge and traditions in these phases.

Lastly, analysis of the management factors showed that management factors are of high importance in all stages and phases of an innovation process. The thesis emphasises thus the need for management factors, in order for family businesses to establish successful innovation processes. Since both companies have successfully managed to innovate their family businesses, innovation process establishment, with help of management factors of knowledge and traditions, should be considered favourable for family businesses struggling with innovation.

The secret of moving forward may thus be the establishment of an innovation process with help of management factors of traditions and knowledge, since the formal innovation processes provide security in a generally insecure environment of innovation. The traditions and knowledge in family businesses poses as a bridge or a link between the management and innovation processes, which affect the whole innovation process. In a similar way that traditions offer security from the unknown, a family management supported by traditions and knowledge in an innovation process may provide security to lean against in the otherwise intimidating environment constantly requiring innovation. While personal relationships may increase complexity of running a business, it also builds an environment where failure is more widely accepted, as can be seen in Engelholmsglass and Magnihill.

Della Corte et.al (2018) presents the uncompleted research in the area of innovation and traditions, and believes that the process of combining innovation with traditions is complex and not yet fully discovered. This thesis hopes to contribute to the aforementioned research, by

creating a framework with three factors constructed on the basis of current and historical research on traditions and knowledge, and provide an insight into which parts in the innovation process these three factors affect in family firms.

As for future research, the factors of knowledge and traditions can be explained and researched further. This thesis is limited to a definition of which parts of the innovation process the factors affect, which further opens the possibility for research into how the factors affect the different phases and stages in more detail. As the research on traditions and knowledge expands, a more detailed analysis of the two factors affecting innovation processes can be conducted in the future.

Moreover, since the case study was conducted through a data collection from two case companies, further research might be needed in order to clarify and confirm the findings further. Studies of other family businesses, and their innovation processes, would be in favour of the conclusions' trustworthiness. The extended research would also provide with extended generalisability of this particular research, and widen the narrow limitations the thesis was bound to follow.

Finally, the future research should consider other factors affecting innovation processes in family businesses. The thesis points to management of innovations being of significant importance in innovation processes, and further research within the area could confirm the findings by studying more factors of management than the limitation of this thesis to factors of knowledge and traditions.

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# Appendix

*In this episode, complementary appendices will be presented. It consists of the interview guides from the four interviews made for this thesis.*

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## Appendix 1 - Intervju guide for in-depth interviews (Swedish version; Original)

### Introduktion om oss

- Introducera oss själva
- Introducera uppsatsen och syftet med undersökningen
- Förklara GDPR dokument och fråga om anonymitet
- Skriv under avtal som ger oss rätt att publicera deras svar offentligt
- Fråga ifall inspelning är möjlig

### Generella Frågor

- Kan du introducera dig själv och din roll och ert företag?
- Kan ni berätta lite om ert företag?
- Hur och när grundades företaget?
- Vad var er första produkt?
- Hur ser åldersfördelningen ut på företaget?
- Brukar du och dina anställda delta på några specifika utbildningar eller kurser?

### Innovation

- Hur definierar ni innovation?
- Skulle du säga att ert företag aktivt jobbar med innovation? (Dvs är innovation en del av strategin?)
- Kan ni ge exempel på två av era innovationer senaste tre åren?
- Hur gick arbetet med innovationen till?
- Vad påverkade de olika stegen mest i processen? Kan ni skriva två faktorer som bidragit till att just det steget lyckats väl?

- Hur har kunskap (definition) påverkat de enskilda stegen i processen?
- Hur har traditioner (definition) påverkat de enskilda stegen i processen?
- Har någon i din familj påverkar innovationsprocessen? I så fall hur och i vilket steg?
- Har anställda/anställd som arbetat med innovationen arbetat inom företaget en längre period eller är de nyanställda?
- Har ni haft en innovation som har inspirerats av tidigare produkter? (produkter som inte är på marknaden längre / förnyat produkter)

### **Traditioner**

- Skulle du säga att ni har några specifika traditioner i företaget? Hur ser dessa ut?
- Har du märkt av att nya traditioner har skapats under tiden du har varit anställd på företaget?
- Finns det några gamla traditioner som har funnits men som numera inte är en del av verksamheten? - varför är de inte längre en del av verksamheten?
- Har ni förnyat traditioner någon gång? Dvs har ni haft traditioner som ni har kommit tillbaka till ?
- Används dessa traditioner som tidigare eller har det gjorts ändringar?
- Arbetar ni aktivt med bevarande / upprätthållande av traditioner?
- Skulle du säga att traditioner utgör en viktig del av företaget?

### **Kunskap**

- Skulle du säga att en del av dina kunskaper kommer från en tidigare generation?
- Och anser du att du själv har fört vidare kunskaper till senare generationer i din familj?
- Vad tittar ni på för erfarenheter när ni anställer personal?
- Vilka kunskaper tror ni att anställda som har jobbat hos er en längre period har i jämförelse med nyanställda eller utomstående?
- Vad strävar ni efter att era anställda ska ha för kompetenser?
- Arbetar ni aktivt med att utveckla kompetenser och kunskaper hos er anställda?
- Kan du berätta lite om er företagskultur?

## Appendix 2 - Interview guide for In-depth interviews (English version)

### **Introduction about ourselves**

- Introduce ourselves
- Explain purpose of the thesis and the interview
- Explain provided GDPR documents and ask about anonymity
- Sign agreement giving our right to public publication of the interview
- Ask about the right to record the interview

### **General Questions**

- Can you introduce yourself and your role within the company?
- What can you tell us about the company?
- How and when was the company founded?
- What was the company's first product?
- What is the age distribution in the company?
- Do you or/and your employees participate in any specific training and courses?

### **Innovation**

- How do you define innovation?
- Would you say the company actively works with innovation? Is innovation part of the company strategy?
- Can you give us two examples of innovation from the past three years?
- How do you work with innovation? Can you explain the process of an innovation from the beginning to the end for the two innovations? And in general?
- What affected the different steps in the process?
- Has knowledge, in your opinion, affected the innovation process? If it has, how?
- Have traditions, in your opinion, affected the innovation process? If it has, how?
- Has someone in the owner's family affected the innovation process? How?



- Have the employees who work with innovation at your company worked in your business for a longer period of time or are they newly employees?
- Have you had an innovation which has been inspired by earlier innovations at the company? (Products who no longer are in the market/ renewal of products)

### **Traditions**

- Would you say that you have specific traditions in your business? What kind of traditions?
- Have you noticed any new traditions during your time in the business?
- Are there any old traditions who no longer are a part of the business? Why are they no longer a part of the business?
- Have you experienced any renewal of traditions?
- Do these traditions occur in the same way as before or have there been any changes?
- Do you actively work with maintenance of traditions?
- Would you say that traditions are an important part of your business?

### **Knowledge**

- Would you say that parts of your knowledge comes from earlier generations?  
And do you think that you have carried on knowledge to later generations in your family?
- What kind of experiences do you consider when hiring new people?
- What knowledge do you believe that employees who have worked for you during a long period of time have, compared to newly employed or outsiders?
- What type of knowledge do you strive for your employees to have?
- Do you actively work to develop competencies and knowledge for your employees?
- Can you describe your culture here at the business?

### Appendix 3 - Interview guide with Patrik Gudmundsson at Engelholmssglass (original Swedish version)

- Kalle gav oss två exempel på innovationer som ni har tagit fram. Den första innovationen var en pinnglass för barn med strössel på, och den andra var en kulglass som hade olika smaker i en och samma glass. Vi tänkte kolla om du kunde förklara lite mer hur ni tog fram de två produkterna var för sig?
- Vad är det som egentligen händer i produktionen när ni testar en ny glass?
- Hur mycket möjligheter finns det egentligen när det gäller glass? Finns det oändligt med kombinationer att testa?
- Hur fungerar det med paketeringen? Köper ni in förpackningar men packar glassarna på plats?
- Brukar arbete med nya produkter skilja sig åt från produkt till produkt eller har ni tagit fram produkter på liknande sätt över åren?
- Använder ni er av vissa gamla maskiner för att tillverka nya produkter ?
- Vad är det som avgör att en produkt blir tillverkad och en annan inte blir det? Kan du ge några exempel på en produkt som ni tänkte ta fram men som inte gick?
- Kan du berätta om vilken kunskap du enligt dig själv besitter? (kan ex. vara marknadskännedom, maskinarbete, kunskap om recept osv)
- Finns det någon kunskap som du känner att du saknar när du tar fram en ny glass? Vad gör ni åt det? (tex går på utbildning / hyr hjälp / läser en tidning )
- Skulle du säga att du har lärt dig mycket av din far och i så fall vad?

### Appendix 4 - Interview guide with Patrik Gudmundsson at Engelholmssglass (English version)

- Kalle gave us two examples of innovations you have brought to the market. The first was an ice cream on a stick for children, and the other a ice cream for a box with different flavors. Can you explain the processes of developing these innovations?
- What happens in the production when you try a new ice cream?
- How many possibilities exist when it comes to ice cream?
- How does the packaging work?
- Do development with new products differentiate from product to product?
- Do you use old machines to produce new products?
- What determines if a product is being produced while others don't? Can you give examples?
- Can you account for what knowledge you possess?
- Are there any knowledge you miss when developing a new ice cream? What do you do with knowledge that you are missing?
- Would you say that you have learned a lot from your father, what have you learned?

## Appendix 5 - Interview guide of mail interview with Jan kouvimäki at Magnihill (Original Swedish version)

- Vem är det som kommer med en idé om en ny produkt eller en ny process och vem bestämmer om idén får ett ja eller ett nej?
- Hur lägger ni upp projektledningen för innovationer? Kan du berätta om de olika stegen i ett projekt?
- Brukar olika innovationer ha liknande tillvägagångssätt under projektets gång? Dvs är projektledningen samma vid olika projekt?
- Kan du redogöra för tillvägagångssätt i ett projekt från början till slut? (från när en idé bildas till att någon köper produkten)
- Vilka kunskaper har ni på magnihill och vilka köper ni in ? In-house / out-house
- Skulle du säga att ni har traditioner när det kommer till projektledning, vilka isåfall?

## Appendix 6 - Interview guide of mail interview with Jan kouvimäki at Magnihill (English version)

- Who comes up with ideas of new products or new processes and who decides whether the idea gets approval?
- How do you set up the structure for innovations? Can you clarify the steps in a project?
- Do different innovations tend to have similar approaches during the project?
- Can you account for the process in a project from beginning to end?
- What knowledge do you possess at Magnihill and which comes from external sources?  
In-house / out-house
- Would you say that you have traditions when it comes to project management, which?

## Appendix 7 - Summaries of transcriptions of the interviews

### **Carl-Gustaf Gudmundsson, Engelholmsglass**

Carl-Gustaf signed the GDPR document and became aware of the purpose of the interviews, as we explained the purpose of the thesis. During the general questions, Carl-Gustaf Gudmundsson started to explain about the company's history. He described that his father is the founder and told the story about how the dairy factory on which his father worked was shut down and that he took over the production of ice cream, which the dairy had implemented shortly before. The company was founded 1977, and already from the start, the quality of the ice cream was important, and what would come to characterize the company in the future. Furthermore, he talked about the structure of the company today, and that the business is runned mostly by his family members and that they plan on doing that for the future as well. Innovation is a big part of Engelholmsglass, since they need to present new products each year. He believes that the company will stand still, if they are not being innovative. The innovations which are newly introduced in the company are ice cream on a stick, and ice cream in a box with mixed flavors.

The innovation process at Engelholmsglass was described as quite standardized, and the structure is approximately the same for each new innovation at the company. During the first part of the innovation process, ideas are being discussed by Carl- Gustaf Gudmundssons sons, Peter Gundmundsson and Patrik Gustafsson. Peter comes up with an original idea, which Patrik helps him to make prototypes from, and after this, a testing of which flavors that works occurs. The ideas are driven by what competitors have succeeded with together with what the market wants, and inspiration from ice creams in other parts of the world. Peter specializes in flavors, and Patrik in the production, which means that when the experimentation part is over, Patrik takes a bigger responsibility. He organizes a plan of how the production will be made, for the ice cream on a stick included to install a new machine. When the products enter the market, they are introduced in social media and new price lists. The products are distributed to different stores with external help. They give out free samplers of the product to make people be aware of the new ice cream.

Moreover, when talking about traditions, Carl-Gustaf mentioned that traditions are important for the business, since their history is something that means a lot. For his family, ice cream is considered a tradition and will always be a part of them, and everyone at the company is aware of the history. Carl-Gustaf tries to not harm the innovation process by being too traditional. He is aware that the business needs to develop to be able to continue existing. The innovation process is quite traditional, but Peter and Patrik try to make renewal. The biggest tradition in the business is that their ice creams are made with the same base since the company was founded. Furthermore, the questions of knowledge were answered, and Carl-Gustaf means that knowledge also is a big part of the business. He has learned a lot from his father, and has tried to pass the knowledge on to the next generation. The majority of the knowledge in the company is knowledge which is possessed by the Gudmundsson family. They use most internal knowledge, but external knowledge is also used for the packaging and electrical problems etcetera. The employees also participate in education to develop their knowledge further. Something that they always have to maintain, is the knowledge about hygiene and environment in the production, together with which ingredients which are approved and not.

**Patrik Gudmundsson, Engelholmsglass**

Patrik Gudmundsson had further notions to add to the production part of the innovation process during the telephone interview with him, which he agreed to carry through. For example, which products are being kept or not depends largely on which is the cheapest. The possibilities of flavors are many, and there are many flavors which have not yet been tested. He also added that when he and Peter have decided on which products to further develop, they present it to the board and they together make a final decision. For the ice cream on a stick, they had to add a machine in the production which could add sprinklers to the ice cream. In the production, they have five product lines, meaning they can produce five different types of ice cream at the same time. He explained that the company does not use knowledge from the outside, but tries to learn new knowledge by themselves. For example, when Patrik lacks knowledge about the technical aspects for something new within the production, he finds the knowledge required through the internet and other sources.

### **Wiveca Almgren, Magnihill**

The interview with Wiveca Almgren starts with an introduction of the thesis and ourselves, and the respondent is informed about the possibility of anonymity and recording, and is then asked to sign a GDPR document allowing the authors to publish the answers from the interview. The interview progresses then with general questions, where Wiveca introduces the company Magnihill and her role as the CEO, owner and board member. The owner then proceeds in telling the history of Magnihill, and explains that her father once owned the company. The company has always operated in the agricultural sector, Wiveca explains, but focuses less on production of raw materials, and more with development and sale of freezed products today than when Wiveca's father ran the company. Furthermore, Wiveca explains that she took over the company after her father's retirement in 1992, and that the company has a history of being a family business. The CEO says that even though Wiveca controls most of the company, her husband and children are also part of Magnihill.

The interview proceeds then to questions about innovation, on which Wiveca answers innovation being something constantly and actively worked with at Magnihill. The CEO believes that innovation is crucial for a company's survival. The CEO presents Magnihill having a project

manager, Jan Koivumäki, dealing with innovation projects. Questions about specific innovations were then asked, and Wiveca presented two innovations Magnihill has developed in the past years, which were a robot automising a defrosting process, and a product innovation in the form of sugar beets. The two innovations were developed with the help of a case and project plan, Wiveca explains, which Jan Koivumäki manages. Wiveca explains further that innovations often arise from problems arising in the daily operations of the business, such as problems of financial or workplace nature. Wiveca goes on to talk about challenges of introducing products in the market, since the company does not have access to end customers.

The owner is then asked questions about traditions in the company, which she answers hesitantly since she believes that traditions harm innovation. She explains that the agricultural industry has historically been a very traditional industry, and that she tries to manage Magnihill with innovation in mind as much as possible. When asked some follow up questions, Wiveca explains that some methods the company uses have remained similar, such as the freezing of the products and production, with exception of effectiveness of processes by new machines. She also talks about some products being inspired by older products, and gives examples of sliced potatoes leading to other vegetables being sliced.

Questions about knowledge are the last on the agenda, and begin with questions about knowledge acquired from the earlier generation. Wiveca believes that she acquired much of her knowledge from her father, and mentions knowledge of how to operate a business and of hard work being two of the learnings. She also elaborates that learnings of how things were done help her see the problems in the industry. When asked if she wants to transfer her knowledge down to the younger generation, Wiveca explains that she has already started transferring her knowledge onto her children. Furthermore, the CEO is asked about the competencies of their employees, to which Wiveca answers that the employees are quite diverse in both personal and professional matters. The CEO believes that diversity affects a business positively, since employees with different backgrounds provide the company with various perspectives. Lastly, Wiveca emphasises the importance of acquiring competent personnel, in order to operate a successful business.

## **Jan Koivumäki, Magnihill**

The interview with Jan Koivumäki was completed through email contact, where the authors first asked for permission for an interview. The respondents agreed to answer questions through email contact, where the first question was about ideas of new innovations at Magnihill are generated and decided upon. The project manager answers that any employees in the management, market, maintenance and production have the freedom to present an idea of something the company could have a usage of. The ideas are then decided upon by a project group. If an idea is decided upon, the project group establishes a project, which is similar for all innovations. The project manager defines the steps in the work process with innovations linear and in broad terms as following: ideas, decisions, possibility exploration, decisions, project start, project group meetings, collaboration with supplier and subcontractors, ordering machines, installation of machines, project end and follow up. Furthermore, when asked which parts of the process are managed by the company, and which are managed by partners, Jan answered that most of the project planning and management happens directly at Magnihill, while more specialised knowledge is acquired through external partners. Lastly, Jan explains that the project management at Magnihill is a tradition, and that communication during the project is important in that matter.