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A Born Global Firm and Challenges when Establishing on Complex Markets

Vitrolife AB and the Biotechnology Market of Egg Freezing

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Abstract

Title: Born Global Firms and Challenges when Establishing on Complex Markets
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Background and problem: World conditions are constantly changing and companies are forced to adapt in order to maintain competitiveness. In order to achieve growth, firms commonly need to internationalize faster and in a greater extent. The phenomenon where small and medium-sized enterprises, with limited resources, conduct international business at or near the founding is called Born Globals (BGs). Niche markets, global networks and specialized products are crucial for BGs, which for instance is the case in the biotechnology industry. An example of an emerging, as well as highly complex, biotechnological subsector is the market of Egg Freezing (EF). Several difficulties and challenges need to be considered when establishing on this market. As a result, effective resource allocation is crucial when trying to survive in today's business environment.

Purpose: The purpose of this thesis is to enhance the understanding of BGs' precipitated internationalization process and the consequences of advanced biotechnology, in light of cultural and ethical aspects. Furthermore, the aim is to investigate what type of knowledge and capabilities that are needed when establishing on a new, emerging, and sensitive market, like the market of Egg Freezing.

Methodology: In order to answer the research question of this thesis, a theoretical framework was conducted and empirical material was collected through eight qualitative interviews. Furthermore, collected data was compared with theory, and an analysis enabled findings of differences, similarities, and empirical patterns.

Analysis and Conclusion: This study implies that several factors contribute to the complexity of the market for assisted reproduction, whereby the market of Egg Freezing is an extreme example. The treatment of Egg Freezing is offered due to both medical and non-medical reasons. Since both products and treatments are extremely narrow and specialized, with aim of satisfying extremely specialized needs, the turnover in each country is relatively narrow. Although products within this sector are standardized and provided in an international manner, opposing norms and values forces BGs to adapt messages and statements among countries. Local knowledge is crucial when providing the specific market with appropriate and adequate support. Moreover, BGs need to consider extensive regulatory approvals, which are costly and time-consuming. Assessment of potential market profits need to be compared with required investments and resources. Consequently, resource allocation is crucial and extremely complex.

Keywords: *Born Global, Internationalization, Resource Allocation, Institutional Aspects, Cooperation, Niche Market, Egg Freezing, Social Egg Freezing, Ethical Dimensions*

Abbreviations

BG - Born Global

EF - Egg Freezing

IVF – In Vitro Fertilization

MNCs - Multinational Companies

R&D - Resource and Development

SEF - Social Egg Freezing

SME - Small and Medium Sized Enterprise

SMER - Swedish Government's Medical-Ethical Council

CE-marking – a product label in accordance with European Commission Directives, stating that the product fulfill regulatory EU requirements (ec.europa.eu).

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1. Introduction

The introduction chapter aims at clarifying the importance of this essay's purpose. Firstly, a brief background is stated in order to introduce the relevant topic. Secondly, the topic is further overviewed through a problematization of the underlying issue, which highlights the importance of further investigation. The problem discussion is followed by the research question and the purpose of the essay. Lastly, comments on delimitations of the study are given to clarify the extent of this essay.

1.1. Background

During the twentieth century, an extensive technological expansion took place in the world economy. Together with a production boost and a sense that human can overcome nature, an ethical discussion arose regarding international development (Astroulakis, 2011). World conditions are constantly changing and companies' globalization and internationalization approach commonly need to be changed in order to maintain competitiveness (Casadesus-Masanell & Ricart, 2010; Chetty, Johanson & Martín, 2014; Madsen & Servais 1997; Oviatt & McDougall 2005). Hence, application of traditional theories regarding the internationalization process is questionable (Wictor, 2012). The Uppsala model (i.e. the U-process or the internationalization process) of Johanson and Vahlne (1977, 2003, 2009) points out a traditionally defined internationalization process as a gradual process driven by experiential market knowledge. Firstly, the company implements export activities in neighbor countries or markets that are comparatively similar and well known. Thereafter, the international presence is increased by gradual activities in other markets. The traditional model has been revised and Johanson and Vahlne (2009) examine the impact in companies because of rapid changes in the environment, whereby the importance of networks as well as knowledge is investigated further. Although traditional models have been supported in literature, the internationalization process of several enterprises has been proven as different compared to stated approaches. According to several studies, the internationalization process of small and relatively young firms has been faster (Vissak, 2007; McDougall, Shane & Oviatt, 1994; Knight & Cavusgil, 1996). Hence, fast internationalization can be stated as particularly crucial for Small and Medium-Sized Enterprises (SMEs) with limited resources that need to be handled efficiently (Chetty et al, 2014). The phenomenon where companies conduct international business at or near the founding is called Born Globals (BGs) (Knight, 2001; Wictor 2012). BGs are defined as "a company that has achieved a foreign sales volume of at least 25% within three years of its inception and that seeks to derive significant competitive advantage from the use of resources and the sales of outputs in multiple countries" (Andersson & Wictor, 2003, p. 254). The emergence of BGs can for instance be explained by the increasing importance of niche markets, global networks and alliances, and specialized and customized products (Vissak, 2007; Knight & Cavusgil, 1996, 2004; Rennie 1993; Autio, 2005; McDougall et al. 1994; Oviatt & McDougall, 2005; Rasmussen, Madsen & Evangelista, 2001).

The biotechnological sector is an example of an industry where markets often are niched and knowledge-intensive (Nicolau & Santa-María, 2015; McMillan, Narin & Deeds, 2000). In fact, it is stated as one key sector in the emerging knowledge economy (Tripl & Tödtling, 2007). The market of assisted reproduction is a growing market within the biotechnological sector, with major progress during the 20th century. This subsector stands for the use of different biomedical techniques for assisting human reproduction (SMER, 2013). World Health Organization states that In Vitro Fertilization (IVF) is “one of many procedures in the increasingly complex and sophisticated field of biomedicine known as assisted reproduction” (p. xv). An example of an emerging treatment within assisted reproduction is Egg Freezing (EF). The concept of EF concerns the process of freezing women’s egg for future use (National Center for Chronic Disease Prevention and Health Promotion, 2014). Since the chance of motherhood decreases, as the woman gets older, several factors influence the need of this process. Social reasons, for instance educational pressure and lack of partner, as well as health reasons, cancer or other illnesses, are factors that impose reasons for women to undergo EF (Gertler & Levitte, 2005; Lockwood, 2011; SMER 2013). So far, the concept of EF has been used in limited scale. However, since 2011, at least one clinic in Sweden has offered EF commercially. The treatment is offered due to both medical and non-medical reasons, so called Social Egg Freezing (SEF). In an article in *Nyteknik*, TT (2015, March 20) states that EF has been implemented as a fringe benefit in several Swedish companies. The proponents argue that women are provided with the opportunity to put efforts in a career, without renounce the ability for childbearing. Nevertheless, the market of EF is an emerging biotechnology sector that can be viewed as a knowledge that opposes the state of the nature. EF, and particularly SEF, raises various ethical discussions, which for instance cover reproductive autonomy and self-determination (SMER, 2013). As a highly science-based sector, which is highly knowledge-intensive and ethically complex, the capabilities and the virtue requirements of market participants are extensive (Gertler & Levitte, 2005; Nicolau & Santa-María; 2015).

1.2. Problem Discussion

Even though internationalization and globalization are controversial concepts, which have been thoroughly studied and examined, it is not always clear what kind of challenges that BGs have to overcome in order to make a success of the internationalization process (Gray, 1995). According to traditional theories regarding internationalization, the process is gradual and operations begin at a domestic level (Wictor, 1012). However, when companies consider major investments in new markets, it is not uncommon for the domestic market to be insufficient and forcing the strategy perspective to be global from the beginning (Knight & Cavusgil, 1996; Auito, 2005; Rennie, 1993; Oviatt & McDougall, 2005; McDougall, Shane & Oviatt, 1994). Accordingly, a typical BG’s realization of such a new strategic perspective not only demand for financial and human resources, but also for how these resources can effectively be allocated to create competitiveness and firm value, and, thereby, being capable of establishing its global niche (Harrison, 2003). Knight & Cavusgil (1996) state, “with the

globalization of markets and increasing worldwide competition from large multinationals, many smaller firms may have no choice but to specialize in the supplying of products that occupy a relatively narrow global niche” (p. 21). The sector of biotechnology is an example whereby firms operate within advanced, knowledge-intensive, evolving, and niche markets. Market participants are commonly forced to deal with issues beyond pure economic problems (Nicolau & Santa-María, 2015; McMillan, Narin & Deeds, 2000; Gertler & Levitte, 2005). Investments in biotechnological markets require extensive up-front costs associated with multi-year processes of research and development. Moreover, there are commonly expensive regulatory reviews and trials that cause barriers to enter the sector (Gertler & Levitte, 2005). Substantial resources and investments are thus needed, for instance investments in Research and Development (R&D), human capital, organization structures, relationships, and learning by interacting, in order to establish on local markets (Gertler & Levitte, 2005; Nicolau & Santa-María, 2015). BGs are commonly SMEs with limited resources. Hence, the resource allocation among countries is a crucial challenge when BGs trying to operate in an international manner (Aspelund, Madsen & Moen, 2007).

In recent years, several studies regarding BGs have been conducted (Knight & Cavusgil, 1996; Madsen & Servais, 1997; Gabrielsson & Kirpalani, 2012; Oviatt & McDougall, 1994). Technological improvements and increasing complexities of markets can alter challenges faced by BGs. Vitrolife AB is a Swedish company that operates internationally and provides products and techniques within assisted reproduction (Vitrolife’s annual report of 2014). Since Vitrolife is planning at establishing on the international market of EF, a fundamental question is what challenges and difficulties the company is encountered in order to establish its business activities among foreign countries. According to Boter and Holmquist (1996) “coordination of strategic business functions in different cultural settings is a prerequisite for survival in international business” (p. 473). Development of strong strategic competence and understanding of local needs are required in order for BGs to enter foreign markets successfully (Knight, 2001). The market of EF, particularly SEF, has arisen extensive attention, since the treatment involves ethical dilemmas and is partly provided commercially (SMER, 2013). Thus, the implementation process in a complex market, as the market of EF, can encounter several challenges. On one hand, cultural aspects and differences among countries, for instance regarding institutional requirements, complicate the internationalization process of BGs (Knight, 2001; Boter & Holmquist, 1996; Harrison, 2003; Carroll & Gannon, 1997). Companies are more likely to evolve relationships and entering markets in countries whose culture is similar to the domestic market. Cultural distance creates a significant barrier to foreign market-entry (Townsend, Yenyiyurt & Talay, 2009). Carroll and Gannon (1997) state, “with the ever increasing globalization of business, we also have renewed interest in national cultural differences and their influence on international business operations” (p. ix). On the other hand, ethical aspects, for instance value systems, differ across international borders and ethical factors are more complex when firms are global (Harrison 2003). One substantial question when companies implement activities in several countries is how to handle ethical difficulties associated with the offered product.

From the above discussion, today's technology can lead to an evolution beyond traditional concerns. Advanced operations of the companies can encounter ethical aspects, arising with the increasing knowledge and the capability to oppose the course of the nature. Cultural differences are considered substantial when companies enter new markets, and it contributes to crucial uncertainty. International development and internationalization has historically been defined as a pure economic issue. The importance of ethical issues, which influence decision making, as well as cultural aspects, that constitute an obstacle when operating in an international manner, are example of factors beyond economic aspects (Haines, Street & Haines, 2008; Townsend et al., 2009). From the above discussion, one can conclude that several difficulties and challenges need to be considered by BGs, which thus highlights the importance of effective allocation of limited resources when operating among foreign countries. Hence, understanding of challenges that arise due to improved and advanced biotechnology, as well as the influence on internationalization, seems to be at an early stage, indicating that further studies are needed (Astroulakis, 2011).

1.3. Research Question

- 1. What kind of challenges arises when BGs, with fast internationalization processes, establish on new markets?*
- 2. When the market is emerging, knowledge-intensive, and sensitive, as the market of EF, how will market requirements alter?*
- 3. Which are the main aspects when allocating resources in order to achieve different local markets successfully?*

1.4. Purpose

The purpose of this thesis is to enhance the understanding of BGs' precipitated internationalization process and the consequences of advanced biotechnology in light of cultural and ethical aspects. Furthermore, the aim is to investigate what type of knowledge and capabilities that are needed when establishing on a new, emerging, and sensitive market, like the market of EF.

1.5. Delimitations of the Study

This study will entirely focus on outlining the impact on challenges faced by BGs within the sector of assisted reproduction, with the market of EF as stated example. Hence, the evolvement of BGs within other industries might differ. The firms that participate in the empirical study are geographically limited to Sweden. Thus, answers regarding challenges of the EF market could be based on the development in Sweden, which might differ from other countries.

2. Theoretical Background

The theoretical chapter illustrates relevant theories gathered from previous studies and aims at providing a comprehensive picture of the relevant topic. Firstly, a definition of the phenomenon BG is given followed by the process of fast internationalization. Secondly, a section that states expansion into new markets is provided. International and niche markets are overviewed followed by a section for biotechnology markets, relationships and cooperation, and resource allocation. Lastly, international barriers are provided, including standardization, ethical aspects, as well as IVF and EF. The chapter is concluded in the same theme as the empirical chapter, namely through a summarizing table of key aspects, in order to follow the hermeneutic approach of this essay.

2.1. Born Globals

2.1.1. Definition

The concept of BGs has raised from the international behavior of several companies, which opposites the traditional stated pattern of the internationalization process. These companies internationalize in a faster manner and the phenomenon has been known as “Born Global (BG)” (Knight & Cavusgil, 1996; Madsen & Servais, 1997; Gabrielsson & Kirpalani, 2012; Oviatt & McDougall, 1994). Although high-tech industries are mainly reported to involve this phenomenon, it is clearly stated that BGs occur in a wide range of industries (Aspelund et al., 2007; Knight 2000; Gabrielsson & Kirpalani, 2012). Wictor (2012) states, “the environment changed during the 1990s to a world with new communication possibilities such as the Internet, cheaper transportation and lower custom duties. This made it possible, especially for smaller firms with niche products, to target the global market.” (p. 16). As a result, the internationalization process has faced an evolvement and the range of markets and firms has become more extensive (Gabrielsson & Kirpalani, 2012; Knight & Cavusgil, 1996; Madsen & Servais, 1997; Aspelund et al., 2007). Rennie (1993) first identified the concept of BGs as a company that exports at least 25 percent of its production and started exporting no later than two years after its inception. The management should look at the world as one market and the company should be relatively small with a turnover under \$100 million. In his McKinsey study of Australian high-value-added manufacturing exporters, Rennie (1993) found that the main part of BG companies were created by active entrepreneurs and were mainly based on a technical breakthrough. Leading-edge technology, either in manufacturing or in the way that business was done, was applied. Moreover, the products that BGs offered were mainly addressed to other companies. Since then, this phenomenon has been investigated and examined through several studies (Oviatt and McDougall, 1994; Knight & Cavusgil, 1996; Madsen & Servais, 1997; Anderson & Wictor; Oviatt & McDougall, 2005; Wictor 2012). Gabrielsson et al. (2012) states, “given the number of studies being carried out, the increase in importance of this relatively new breed of companies in many parts of the world is clear”. Gabrielsson et al. (2012) also discuss differences in definitions of BGs, which seems to depend on the school of thought and characteristics of the investigated companies. However, these disagreements mainly include the percentage of foreign sales

volume and the time within a start-up company needs to internationalize in order to be called a BG, and they are relatively small. Thus, these companies are generally defined as having “achieved a foreign sales volume of at least 25% within three years of its inception and that seeks to derive significant competitive advantage from the use of resources and the sales of outputs in multiple countries” (Andersson & Wictor, 2003, p. 254). Hence, the definition of BGs can be described as a form of SMEs, which revolve an entrepreneurial mindset and establish on foreign markets at an early stage (Cavusgil, Knight & Riesenber, 2013; Gabrielsson & Kirpalani, 2012).

2.1.2. Fast Internationalization

For many years, slow and gradual internationalization was appropriate in most companies and traditional internationalization theories were relevant (Wictor, 2012; Aspelund et al., 2007). It was logical to first target the domestic market and thereafter successively point at culturally similar and nearby countries (Wictor, 2012). However, several factors of the globalization have altered smaller companies and their internationalization process. Thus, motivated them to internationalize, as well as having a broader perspective, from the founding (Wictor, 2012; Cavusgil et al., 2013; Gabrielsson & Kirpalani, 2012; Aspelund et al., 2007). Several trends have been traced in order to explain reasons behind the emergence of BGs, as well as how such companies managed to internationalize successfully (Gabrielsson & Kirpalani, 2012; Knight & Cavusgil, 1996). Firstly, the globalization of market conditions has resulted in an increase of niche markets, whereby customer needs have become homogenized across world markets (Wictor 2012; Levitt, 1983; Yip, 1989). Thus, forcing smaller firms to specialize in narrow global niches (Knight & Cavusgil, 1996). The changed environment has altered the integration of financial markets, the evolvement of technology firms, and the opportunities to benefit from global networks. As a result, firms have been able to internationalize through a faster process (Gabrielsson & Kirpalani, 2012; Knight and Cavusgil, 1996). Secondly, the development of technology is an important trend that enables scale and cost advantages, which enable firms of different sizes to compete globally (Gabrielsson & Kirpalani, 2012; Knight and Cavusgil, 1996). Furthermore, the evolvement of transportation has increased possibilities for companies to establish internationally. The ability to coordinate cross-border activities has been enhanced due to reduced cost, as well as increased efficiency, of international travel and communication (Auito, 2005). Thirdly, the availability of international managerial experience has increased and a capability development of people and small firms has taken place (Oviatt and McDougall, 1994; Auito, 2005). As a result, there has been an improvement of international flexibility and experience, thus enabling BGs to increase flexibility, speed, and adaptivity to requirements of different markets. The enhancement of competent and ambitious among entrepreneurs has enabled flexibility to be a competitive advantage against large MNCs (Gabrielsson & Kirpalani, 2012). Lastly, Gabrielsson et al. (2012) state that home market conditions alter the emergence of BGs, whereby smaller and more open economies tend to increase the emergence of these, fast internationalizing, companies.

Knight (2001) points out implementation of strategy as the key when BGs try to internationalize successfully. Skilled entrepreneurs, who are innovative, aggressive, and internationally alert, might be able to identify market opportunities across borders in order to explore and exploit resources in an international manner (Lumpkin & Dess, 1996; McDougall and Oviatt, 2000; Bell, Crick & Young, 2004). Aspelund et al. (2007) point out focused factors, which are related to the international marketing strategy, as the speed of the internationalization process, the niche focus versus the commodity, the international intensity versus the global diversity, the market selection (including psychic distance), and the entry mode decision. Firstly, Chetty et al. (2014) state the definition of speed as including time and distance components, and speed is “a relationship between the internationalization distance covered and the time passed to reach it” (p. 640). Speed is an important factor in order to capture the phenomenon of early and rapid internationalization, and it can be used in order to create competitive advantages (Wagner, 2004; Chetty et al. 2014). Secondly, specific marketing concerns have been investigated in addition to the overall pattern of the time and the speed of the process (Aspelund et al., 2007; Fletcher, 2004). Born Global Firms often target specific market niches in order to avoid competition from global players, at the same time as profit opportunities are substantial (Knight et al., 2004; Knight & Cavusgil, 2004; Moen, 2002). However, several studies also state examples of BGs that operate in commodity markets (Fletcher, 2004; Aspelund et al. (2007). Thirdly, BGs need to make a strategic decision whether to focus on a few important foreign markets or allocate resources among an extensive range of markets. The former is called international intensity and the latter is called global diversity (Preece, Miles & Baetz, 1999; Aspelund et al., 2007). BGs often combine these strategies by actively trying to obtain new global opportunities, at the same time as resource commitment is focused on crucial markets (Crick & Jones, 2000). Fourthly, although markets are selected based on growth opportunities, experience and networks of the founder are essential when deciding the sequence of establishment, market selection, and choice of entry mode (Crick et al., 2000; Aspelund et al., 2007). When expanding internationally, lead markets need to be targeted in every part of the world that the BG is present (Jolly, Alahutha & Jeanett, 1992). Lastly, a crucial strategic decision to undertake when expanding internationally is the choice of entry mode, which has proven to alter the performance of BGs substantially (Bell et al., 2004; Crick & Jones, 2000; Burgel & Murray, 2000; Bell, 1995). In order to handle risk and to overcome resource constraints, it is common for BGs to target relatively low commitment entry modes (Gabrielsson & Kirpalani, 2004; Aspelund et al, 2007; Shrader, Oviatt & McDougall, 2000; Burget & Murray, 2000; Crick & Jones, 2000; Jolly et al., 1992). However, in order for BGs to satisfy and meet specific customer demands at different market implementations, further commitment modes might be required (Aspelund et al., 2007). Examples of specific customer demands that require further commitment are sale service, customization, and support. Hence, BGs need to base their entry mode decision on available resources as well as on local specific demands (Crick & Jones, 2000; Burgel & Murray, 2000). In conclusion, Aspelund et al. (2007) state that

“it is a recognized fact that an increasing number of firms obtain a considerable international involvement already shortly after establishment. This is a clear indication that they operate differently than older firms that have followed a gradual export development process. As noted earlier, rapid international expansion alone is not a sufficient strategy for new firms; it must be supported by other strategies and the firm must be prepared for strategic change (McDougall and Oviatt, 1996). This need or ambition of rapidness/speed might have a significant impact on the development of the international marketing strategy” (p. 1433).

2.2. Expansion into new markets

2.2.1. International and Niche Markets

The internationalization process of BGs is one of their defining features and academic interest has thus been triggered (Aspelund et al., 2007; Chetty et al., 2014; Wictor, 2012). Targeting narrow and niched markets is commonly a strategy evolved in order to compete against large MNCs, since it allow BGs to be fast and flexible (Gabrielsson & Kirpalani, 2012; Madsen & Servais, 1997). Knight and Cavusgil (1996) state that “technology is facilitating the production of widely diverse products on an ever smaller scale (Robinson, 1986). The consequence of this is increasing specialization in many industries - more and more customer goods will likely be tailor-made to fit ever diverse products” (p. 21). The evolvement of technology and communication has created an extensive flow of information among different markets in different countries (Autio, 2005). As a result, the psychic distance between markets has been reduced, thus enhancing the international integration between markets (Autio, 2005; Aspelund et al., 2007; Crick & Jones, 2000). In fact, several studies have argued that geographical proximity and physical distance is less important for BGs than for traditional small international firms (Bell et al., 2004; Crick & Jones, 2000; Boter & Holmquist, 1996; Keeble, Lawson, Smith, Moore & Wilkinson, 1998; Madsen, Rasmussen & Servais, 2000). BGs are argued to target specific niche markets instead of geographic regions and although psychic distance might alter the international activities, other factors have crucial influence on the market selection (Andersson, 2004; Bell, 1995; Madsen et al., 2000). Moreover, firms that establish on markets that are already internationalized are stated to behave different (Johanson & Mattson, 1988). The structure of the industry is crucial and affects the internationalization process. High-technology firms are for instance often faced with emerging international and specialized markets (Boter & Holmquist, 1996; Crick & Jones, 2000). When markets are international, companies do not have the luxury of gradual domestic development beforehand (Bell, 1995; Oviatt & McDougall, 1994). Bell et al. (2004) point out industry and product characteristics as the most crucial factors affecting new market development approaches, whereby key products often are targeted to key international markets.

2.2.2. Biotechnology, one key sector of the emerging knowledge economy

Trippel and Tödttling (2007) state biotechnology as one key sector in the emerging knowledge economy. The industry of biotechnology is a highly-science based sector, whereby biological systems are used and

impact regional and national economies in a direct and indirect manner (Gertler & Levitte, 2005; Nicolau & Santa-María, 2015). According to existing studies of innovation in biotechnology firms, knowledge and capital are fundamental to the firm's research capabilities and its successfulness when commercializing the outputs of its research (Prevezer, 2001; Feldman, 2001; Zucker & Darby, 1996). Investments in emerging biotechnology markets are characterized by extensive up-front costs, which are associated with multi-year processes of research and development (Nicolau & Santa-María, 2015). Innovation can be stated as a critical cornerstone in biotechnology firms, due to the complexity and the knowledge-intensive products (Gertler & Levitte, 2005; Trippel & Tödtling, 2007; Cooke, 2001; Casper, Lehrer & Soskice 1999). In conclusion, Gertler & Levite (2005) discuss the need of openness in biotechnology firms in order to achieve knowledge from a wide range of sources. This requires local relationships for capital and know-how and BGs need to be connected to globally circulating knowledge and people.

2.2.3. Relationships and Cooperation

Johanson & Mattsson (1988) state international interdependence between firms, and within industries, as extensively and increasingly crucial. Several studies regarding industrial marketing and purchasing has investigated the existence and evolvement of long-term relationships between suppliers and customers (Levitt, 1983; Ford, 1978; Wind, 1970; Håkansson & Östberg, 1975). Johanson & Mattsson (1988) state that

“one of the reasons for the existence of long-term relationships is that suppliers and customers need extensive knowledge about each other if they are to carry on important business with each other. They need knowledge not only about price and quality, which may be very complex and difficult to determine; they also need knowledge about deliveries and a number of services before, during and after delivery. Much of that knowledge can in fact only be gained after transactions have taken place. Besides, they need knowledge about each others' resources, organisation and development possibilities” (p. 289).

BGs often create strong relationships with competent foreign distributors, firms, and institutions in order to perform superior abroad and evolve firm capabilities (Knight & Cavusgil, 2004). However, generation of such relationships can be time-consuming (Gertler & Levitte, 2005; Johanson & Mattsson, 1988). This process, through which competitive advantages can be achieved, is known as “Learning by Interacting” (Lundvall & Johnson, 1994). In order to maintain successful relationships, parties need to establish confidence regarding trust and willingness to fulfill commitments (Johanson & Mattsson, 1988; Lundvall & Johnson, 1994). Johanson & Mattson (1988) point out that technical and administrative arrangements can link suppliers to customers, forcing them to create close relationships. Moreover, creation of relationships might be required in order to establish on a new market (Johanson & Mattson, 1988).

2.2.4. Resource Allocation

According to competence-based views of companies, innovative performance depends on acquired and evolved resources and capabilities (Gertler & Levitte, 2005). Investments in R&D, skilled human capital, organizational routines, relationships, and other practices are crucial (Gertler & Levitte, 2005). Moreover, interaction with external firms, or in other words, “Learning by Interacting”, can be used in order to evolve crucial capabilities. Critical capabilities and resources can thus be generated both internally and externally (Lundvall & Johnson, 1994; Gertler & Levitte, 2005). Resource allocation can be defined as a set of characteristics that must be considered when designing the overall strategy. In other words, the way in which resources are allocated and used shapes the designing strategy of the firm (Bower & Gilbert, 2005; Gabrielsson & Kirpalani, 2012). All commitments of the firm, internal and external, will result in changes in resource allocation, and changes in strategy, which constitutes the primary sources of profit (Grant, 1991; Bower & Gilbert, 2005; Teece, 2014). The relationship between resources, capabilities, competition, and profitability, as well as how they interact, are investigated in order to analyze how resource allocation can sustain competitive advantages. Hence, contributing to the “resource-based theory” for management (Grant, 1991; Teece, 2013).

Aspelund et al. (2007) point out limited resources as one of the reasons why BGs often focus on niche markets, relationships, and market spread. Harrison (2003) states global diversification as providing incremental resources. However, it also creates challenges and opportunities, in addition to those found on the domestic market. Resources need to be balanced against the risk of several factors (Knight, 2001; Crick & Jones, 2000) As a result, today’s business is increasingly complex and challenging for the management to handle efficiently (Harrison, 2003; Wictor 2012). In order to operate successfully in the long run, all resource areas, financial, physical, human-based, knowledge-based, and general, need to be taken into account (Harrison, 2003). In today’s knowledge economy, firms need to evolve into a knowledge-generating, knowledge-integrating, and knowledge-protecting organization (Teece, 2000). In order to handle limited resources efficiently, BGs need to succeed in foreign markets earlier. Thus, manipulation of strategic variables is crucial in order to operate internationally and survive. Capabilities-based resources are commonly particularly important to BGs, since they need to handle diverse environments among foreign markets (Knight & Cavusgil, 2004). In conclusion, Knight and Cavusgil (2004) state that “the ability to consistently replicate the firm's capabilities across numerous and varied markets produces value for born globals by supporting, especially, international expansion (Teece, Pisano & Shuen, 1997)” (p. 128).

2.3. International Barriers

2.3.1. Standardization

In order for BGs to enter foreign markets successfully, development of strong strategic competence and understanding of local needs are required (Knight, 2001). Boter and Holmquist (1996) imply that

“coordination of strategic business functions in different cultural settings is a prerequisite for survival in international business” (p. 473). Market research, commitment of resources to international operations, and adaption of products are examples of internationalization preparations in order to suit foreign conditions (Knight, 2001). Although R&D might be costly, it is often required in order for BGs to survive. Knight (2001) state that “Internationalization preparation is also important because it implies that top management will assemble human, financial, and other resources sufficient to their international activities. Such specific resource allocations are important in light of the often highly specialized circumstances that confront the firm in foreign settings. Such conditions may require management to devise a distinctive mix of products, services, packaging, and other such elements tailored to local needs and tastes. Finally, as revealed here, internationalization preparation appears to support efforts aimed at achieving strategic competence and also has a highly significant direct effect on international performance” (p.168).

As have already been accounted for, companies are commonly forced to look overseas in order to reach management expectations of growth (Harrison, 2003). Factors in the external environment, for instance government policies and competition, are often uncontrollable to the firm (Crick & Jones, 2000). Although increasing globalization has several implications, the management cannot ignore opportunities arising in foreign markets (Boter & Holmquist, 1996). The business method of one country differs from another, as well as customer needs and requirements. Political aspects, cultural factors, and market conditions are thus crucial. In order to improve the chances for success, understanding and knowledge of the management are important (Knight, 2001; Boter & Holmquist; Harrison, 2003). The degree of difficulty when entering a new market depends on several factors (Harrison, 2003). Government can both restrict and encourage new business through laws, regulations, tax incentives and subsidies (Wictor 2012). In fact, investigations have proven that government regulations hinder innovation, due to limited market competition and enhanced focus on the regulatory process as competitive advantages, rather than merits (Tece, 2000). Regulatory controls are commonly used among several industries. The survival of a firm is solely dependent on government regulators in several companies. In other countries, firms are forced to go global from inception due to the regulatory environment of their home market (Harrison, 2003). This is presumably a key reason why firm strategies commonly are international from establishment (Harrison, 2003; Wictor 2012). In more complex industries, for example the pharmaceutical industry, new products must undergo several tests in order to get regulatory approvals. The time required for these procedures varies considerably among countries (Harrison, 2003; Wictor, 2012). Biotechnology markets are commonly characterized by expensive, regulatory reviews and trials. Thus, crucial barriers exist when trying to enter this complex sector. As a result, companies that establish on these markets are often pure BGs (Gertler & Levitte, 2005; Nicolau & Santa-María, 2015; Wictor, 2012). Even though international barriers make it complex for management to operate in a global manner, it can also increase the market power of the firm (Grant, 1991).

From the above discussion, one can conclude regulatory aspects to alter the internationalization process of companies. This can be connected to organizations known as standardization organizations, which include both the private and the public sector (Brunsson & Jacobsson, 1998). Professional organizations that formulate standards, for instance medical organizations, can both be national and international. The European Union is actively delegating rule-makings to standardization organizations. The aim is to facilitate creation of one single European market (Meyer & Rowan, 1997). International standardization organizations contribute to a global order. Standardizations, which can be extensive and time-consuming, are commonly motivated by four main arguments. Firstly, standards are an efficient tool for information transfer. Customers commonly trust participants that follow known standards. Secondly, standards are an important method in order to coordinate, which facilitates acts between market participants. Hence, standardization generates simplification. Thirdly, standardization is often emphasized to compose the best solution, or at least a good solution. Lastly, a market with specific standards might facilitate variation, due to innovative solutions created within the aspects that are not regulated (Brunsson & Jacobsson, 1998; Van Wegberg, 2004). However, standardizations are often argued to unify and stabilize the world too much. One fundamental question is why the market itself should not decide which solution that is a standard (Brunsson & Jacobsson, 1998). On the other hand, standardization can be an important tool in order to succeed when launching new products, since firms might be interested in developing standards that require their own products to be used. Hence, complex barriers, as well as an extensive head start, can be created. The standard can serve as an effective approach to ensure provision, instead of patent, investments in marketing, or other initiatives of the company (Brunsson & Jacobsson, 1998; Kwon, 2008).

2.3.2. Ethical Aspects

Although ethical dimensions have been thoroughly investigated, business ethics is a newer phenomenon in research history (Carroll & Gannon, 1997). All strategic decisions of the firm involve ethical dimensions, since they contribute to the interaction with the organization's stakeholders (Harrison, 2003). Ethical standards may consist several dimensions, including individuals, firms, professions, and nations. Value systems are commonly different across international borders and ethical factors become more complex when the firm is global. As a result, firms that are growing, developing, and internationalizing tend to adapt in order to be appropriate and friendlier in international factors (Carroll & Gannon, 1997; Harrison, 2003). Ferrell, Fraedrich and Ferrell (2013) state, "the ability to recognize and deal with complex business ethics issues has become a significant priority in twenty-first-century companies" (p. 3). Hence, ethical dimensions need to be integrated in all business decisions (Ferrell et al., 2013). One fundamental challenge when BGs establish activities around the world is preserving of their organizational ethical standpoint across national borders. Management decisions are affected by both national cultures and the firm's organizational culture (Carroll & Gannon, 1997). The

biotechnology market is an example of a highly-science-based sector. It is knowledge-intensive and impacts economies extensively. Thus, the biotechnology market is an example of a market that faces several ethical implications and discussions on different levels (Gertler & Levitte, 2005; Nicolau & Santa-María, 2015; Levidow & Carr, 1997).

2.3.3. IVF and Egg Freezing

The market of assisted reproduction is emerging within the biotechnological sector, whereby reproductive medicine had major progress during the 20th century. World Health Organization (2002) states that IVF is “one of many procedures in the increasingly complex and sophisticated field of biomedicine known as assisted reproduction” (p. xv). Until 2002, almost one million babies had been born through some sort of assisted reproduction, which implies the significant impact of the sector (World Health Organization, 2002). In the early 90s, the Swedish society’s attitude towards assisted reproduction was permissive, which can be explained by the complexity of the market and the tendency to perceive it controversial. However, the attitude has changed as a result of new knowledge and altered values and norms in the society. From the beginning, the method was strongly questioned and considered as opposing the nature (SMER, 2013). Nevertheless, the method was successful and quickly became a routine treatment in several medical centers and it is widely accepted throughout the world today (van Balen, 1998; World Health Organization, 2002). Improvement of technology and medical opportunities, as well as changing behavioral pattern and values, entail continuous monitoring and revision of rules and guidelines of the fertilization area (SMER, 2013). As already have been mentioned, the concept of EF has been used in IVF treatments on a limited scale. However, technological development implies that EF will expand. In Sweden, the treatment is partly performed due to medical reasons, for instance before a cancer patient undergoes radiation therapy. Since 2011, at least one clinic in Sweden has offered EF commercially, whereby SEF was established (SMER, 2013). SEF raises various ethical discussions, which for instance cover reproductive autonomy and self-determination. There are several arguments for using EF, including the possibility for the women to wait for the right time and partner. Woman’s autonomy is strengthened and she has an insurance against future disease or age-related infertility. There are also several arguments against EF. Firstly, it exists medical risks for women when undergoing hormone and oocyte retrieval. Moreover, when marketing SEF, women are encouraged to pay for an expensive and unsecure method, which can provide woman with vain hopes regarding future reproductive ability (SMER, 2013). The Swedish Government’s Medical-Ethical Council (SMER) states that women have to be well informed regarding risks, as well as the fact that EF is not a guarantee for pregnancy. However, after investigating ethical dimensions regarding EF due to sickness-related factors and EF due to social reasons, SMER (2013) concluded that no differences existed and consider both as acceptable.

2.4. Summary Table

<p>Driving Forces for Fast Internationalization</p>	<ul style="list-style-type: none"> • Niche markets and homogenized customer needs • Changes in world conditions; which have altered integration of financial markets, the evolvement of technology firms, and opportunities to benefit from global networks. • Evolvement of technology, transportation, and communication, which facilitate cross-border activities. • Improvement of managerial skills, which enables BGs to increase flexibility, speed, and adaptivity. • Home market conditions, whereby smaller and more open economies tend to increase the emergence of BGs.
<p>Cooperation</p>	<p>Long-term relationships among market participants are increasingly crucial. When trying to provide sustainable business with each other, extensive knowledge and trust are commonly needed. Moreover, relationships and cooperation might be required in order to establish on new markets.</p>
<p>Resource Allocation</p>	<p>Innovative performance depends on acquired and evolved resources and capabilities. Critical resources can be generated both internally and externally and resource allocation shapes the strategy. Moreover, BGs need to base their entry mode decision on available resources and local specific demands. In fact, limited resources are one reason why BGs often focus on niche markets, relationships, and market spread.</p>
<p>Institutional Aspects</p>	<p>In order for BGs to enter foreign markets successfully, development of strong strategic competence and understanding of local needs are required. Government can both restrict and encourage new business through laws, regulations, tax incentives and subsidies. Biotechnology markets are commonly characterized by expensive regulatory reviews and trials. Crucial barriers thus exist when trying to enter this complex sector. Standardization can be an important tool when offering products among numerous countries, since it enhances efficiency and facilitates establishments.</p>
<p>Ethical Aspects</p>	<p>Value systems are commonly different across international borders and ethical factors become more complex when the firm is global. In order to satisfy specific customer demands, further commitments may be required. Examples are sale service, customization, and support. Thus, decisions are altered by both national cultures and the firm's organizational culture. The biotechnology market is an example where several ethical implications and discussion continuously arise.</p>

3. Methodology

In this chapter, the choice of method is describes and justified. The methodology is a system of scientific methods to study a particular activity or area of investigation. The choice of research approach, as well as a justification of the choice, is provided. Moreover, it explains the collection of the theoretical framework and the empirical material collection. A further description of the analysis, as well as the credibility and validity of this thesis, is provided. Lastly, the ethical position of this study is stated.

3.1. Scientific Approach

3.1.1. Hermeneutic

The scientific approach of this essay is hermeneutic, a methodology in which understanding of the relevant topic is increased by interpretation, as well as by placing the phenomena in an understandable context (Merriam, 2009). Empirical findings are stated in relation to the theoretical framework, which provide understanding of the empirical material and the research questions (Alvesson & Sköldberg, 2008; Collis & Hussey, 2009; Holme & Solvang, 1997). The hermeneutic approach pervades the whole essay, for instance through a summary table in the end of the theoretical framework, as well as in the end of empirical findings. These tables are linked to the analysis in order to fulfill the purpose of this essay, to provide a more understandable context of BGs and establishment on advanced biotechnology markets.

3.2. Research Method

3.2.1. Qualitative Method

Since the aim of this thesis is to examine a topic beyond the pure sum of different data, a qualitative method is appropriate. Understanding of the relevant issue, as well as the entities that are operating within it, is crucial in order to fulfill the purpose of this thesis (Holme & Solvang, 1997). A qualitative method requires an intense study, where the sought content often is below the surface of the text, and it is characterized by proximity to the research object. When using a qualitative method, the researcher is trying to provide a perspective from within the investigated phenomenon. Thus, a deeper and more comprehensive idea of the issue can be provided (Esaiasson, Gilljam, Oscarsson and Wängnerud, 2012; Holme & Solvang, 1997).

3.2.2. Justification of the Choice of Research Method

The choice of research method is crucial in order to fulfill the purpose of the essay (Collis & Hussey, 2009; Holme & Solvang, 1997). There is a large extent of prior studies on early internationalization of potential BGs, whereas different methods have been used (Rialp, Rialp & Knight, 2005). Wictor (2012) discusses the importance of research method when illustrating five different papers regarding BGs. The qualitative method is used in all papers except in one, which aims at testing “a set of relationships between contingent factors and international activities and whether these contingent factors can explain why some international small firms continue to expand, while others do not”. However, when for instance investigating “the foreign entry modes choices of Born Globals and assess whether they develop

similar foreign entry market channel strategies” (p. 71), a qualitative method is used. Thus, when contributing to the theory, the qualitative method is appropriate. Moreover, a qualitative method was carried out by Teece (2014) in his paper *A dynamic capabilities-based entrepreneurial theory of the multinational enterprise*, which aims at developing a dynamic capabilities-based theory of multinational enterprises. The purpose of this thesis is to enhance the understanding of the precipitated internationalization process and the consequences of advanced biotechnology in light of ethical and cultural aspects. According to Jacobsen (2002), a qualitative method is appropriate when the aim is to generate extensive information about entities rather than to generalize. Thus, in order to provide understanding of the research question and the content of the phenomenon, the qualitative method is assumed to be the most appropriate. Since the purpose of this essay is to generate detailed and comprehensive understanding, as well as a holistic perspective, the qualitative method is the most applicable.

3.3. Research Approach

3.3.1. Abductive Approach

There are two main research approaches, which have different perceptions regarding the theoretical and empirical relationship, the inductive approach (moving from the general to the practical) and the deductive approach (moving from the practical to the general). A research approach can also be abductive (which is a mix between the inductive and the deductive approach (Jacobsen, 2002; Alvesson & Sköldbberg, 2008; Collis & Hussey, 2009)). With respect to the purpose of this thesis, namely to investigate fast internationalization and the consequences of advanced biotechnology in light of ethical and cultural aspects, the abductive approach is appropriate. The abductive approach presumes both empirical findings and theoretical structure as crucial and has characters from both the inductive and the deductive approach. However, in contrast to the other approaches, it involves understanding. The abductive approach is no simple mixture of the other approaches. Instead, the research does not entirely rely on neither theory nor practice and the empirical material and theories could be combined in order to find differences and similarities. The abductive approach is commonly used as the research method in case studies (Alvesson & Sköldbberg, 2008). This approach is appropriate in this essay, since empirical development and theoretical structures are combined in order to compare and find connections and disparities. Through analysis of empirical practices, in combination with theoretical structures, it intends to discover patterns that generate further understanding of the investigated topic. Furthermore, the abductive approach corresponds to the hermeneutic approach of this essay, whereby the process of understanding, the “hermeneutic circle”, involves generation of knowledge and information, as well as increasing understanding, as theory and empirical findings are reversed (Alvesson & Sköldbberg, 2008).

3.4. Developing the Theoretical Framework

3.4.1. Literature Sources

Secondary, tertiary and primary sources of literature can be used in order to provide the theoretical framework of an essay (Saunders, Lewis & Thornhill, 2003). Primary sources represent the original works and constitute full-text publications. Secondary sources, on the other hand, are provided from already existing sources. Thus, secondary sources are compositions of information (Blumberg et al., 2011; Jacobsen, 2002). In this essay, the main sources of the theoretical framework are databases, journals and books and a combination of primary and secondary sources is conducted. Moreover, tertiary sources of literatures are used, which involves use of keywords in order to gather data through the Internet as well as different search engines or databases (Saunders et al., 2003).

3.4.2. Literature Gathering

The literature study of this essay is conducted through secondary data of the selected area, which consists already published literature, and aims at providing a more understandable context of the issue (Bryman & Bell, 2011). Academic journals serve as the main tool to generate knowledge of earlier studies and thus generating the base that enables comparison between the theoretical framework and the empirical material. Furthermore, it provides information regarding factors that need to be further investigated.

3.5. Method for Empirical Material Collection

3.5.1. Primary Data

Although an empirical development can have several purposes, it is always seeking for knowledge. Generation of knowledge can either imply genuinely new knowledge or reinforcement of already existing knowledge (Jacobsen, 2002). As will be further elaborated, the empirical material of this thesis is developed through a case study at Vitrolife AB, as well as interviews at Sahlgrenska University Hospital, Karolinska University Hospital, Fertilitetscentrum, and Nordic IVF Center. The material was used in order to enhance the theoretical framework, and to provide new findings about the relevant topic (Alvesson & Kärreman, 2007). Hence, the main purpose was to reinforce existing knowledge and introduce a discussion regarding the relevant topic.

When working with primary data, information is gathered directly from the source and is thus generated for the first time. This type of data gathering is tailor-made with respect to the specific research question (Jacobsen, 2002). The main empirical study of this essay was generated through interviews at Vitrolife, which is a company in Gothenburg that operates within the fertilize area. "Vitrolife's business concept is to develop, produce and market advanced, effective and safe products and systems for assisted reproduction" (vitrolife.com). Since Vitrolife has an interest in establishing on the EF market, they represent the case study of this essay. Interviews with three key representatives of the company contributed to the empirical study, namely the Chief Financial Officer (CFO), Mikael Engblom, the

Strategic Project Director, Tony Winslöf, and the International Product Manager, Daniel Poté. The aim was to gather information regarding Vitrolife, their operations, as well as their internationalization process. Information regarding resources and capabilities that are required when entering this knowledge-intensive market was provided. To supplement the interviews, secondary data from Vitrolife's annual report of 2014 was gathered. In order to generate information regarding the ethical aspects of the relevant issue, representatives at Swedish clinics, which are operating within the sector of assisted reproduction, was interviewed. The aim was to provide and obtain information regarding the evolution of this market, as well as the different approaches of the offered product. It should be pointed out that this essay uses a qualitative research approach. Thus, the purpose is not to generalize results but to generate extensive information about the entities. Participants in this study are relatively few, whereby one company is investigated in order to gather information regarding supply of products and techniques within this complex sector. The reason for this narrow case study is the fact that EF is in the beginning of its lifecycle. Thus, there are few global companies that offer techniques within this sector.

Interview Table: Complication of Participants

Name	Company	Title	Experience of Assisted Reproduction	Date	Interview Time
Mikael Engblom	Vitrolife AB	Chief Financial Officer	8 years	2015-05-07	37 min
Tony Winslöf	Vitrolife AB	Strategic Project Director	14 years	2015-04-07	65 min
Daniel Poté	Vitrolife AB	International Product Manager	5 years	2015-04-22	80 min
Kersti Lundin	Sahlgrenska University Hospital	Laboratory Director at the division of Reproductive Medicine	25 years	2015-04-28	30 min
Jan Olofsson	Karolinska University Hospital	Area Director at the division of Reproductive Medicine	30 years	2015-05-18	25 min
Thorir Hardarsson	Fertilitetscentrum AB	Laboratory Director, Senior Clinical Embryologist	18 years	2015-04-28	52 min
Ann Karin Lind	Fertilitetscentrum AB	Medical Director at IVF Sweden, Specialized within Obstetrics and Gynecology	17 years	2015-05-05	45 min
Ulf Zackrisson	Nordic IVF Center AB	Medical Doctor, Specialized within Obstetrics and Gynecology	25 years	2015-05-04	50 min

3.5.2. Interviews

Qualitative interviews, which can embrace face-to-face, email, or telephone, are commonly used in order to collect primary data. The choice of method, as well as the skills and competences of the interviewer, alters the results of the study (Jacobsen, 2002). In order to collect the empirical material of this study, personal interviews were used in all cases except for one. Thus, extensive and detailed information was generated. A personal, or in other words a face-to-face, interview is often costly and time consuming. However, the obtained information is commonly more detailed compared to the information gathered from telephone interviews (Jacobsen, 2002; Blumberg et al., 2011). Karolinska University Hospital is located in Stockholm and a telephone interview was thus appropriate in order to gather information from its representative. The interviews were designed according to the semi-structured approach, which uses a standardized method in order to minimize the difference between the interviews that constitute the survey. Thus, differences in the formulation of relevant questions, as well as the overall formation of the interviews, were humble. Moreover, a semi-structured interview provides the opportunity to add supplementary questions (Bryman & Bell, 2011; Blumberg et al., 2011). An open method, which is commonly used in qualitative studies, was used together with customized questions in order to collect data adjusted for the research questions (Jacobsen, 2002; Eriksson & Kovalainen, 2008). In order to provide detailed answers, open-ended questions were used in interviews at both Vitrolife and the clinics. Jacobsen (2002) points out notes as important when analyzing data gathered from interviews. Furthermore, recording of interviews can be used as a tool in order to solve problems with vague and unfinished notes. When recording was allowed, it was used in combination with notes in order to collect the empirical material. When the study comprises numerous interviews, transcription is time-consuming. However, it enables retention of formulations and expressions of the participants and is thus valuable when analyzing the empirical material (Bryman & Bell, 2011).

3.6. Method for Empirical Material Analysis

According to Merriam (2009), empirical material analysis is the most difficult part of the study process, whereby the researcher consolidate, reduce, and interpret the collected data with the theoretical framework. In a qualitative study, data collection should be carried out in parallel to analysis, and the observer should make comments during the collecting process (Merriam, 2009; Eriksson & Kovalainen, 2008). This study involved gathering of extensive information, which had to be managed and analyzed accurately (Esaiasson et al., 2012). Transcription was used in order to facilitate the process of finding empirical patterns. In order to create a structured analytical framework, with categories that were consonant with the research questions, the analysis of the empirical material was introduced by rearrangement of the collected material (Saunders et al., 2003). The collected data was thus clustered according to different labels and summarized without changing statements from the participants. Information from interviews needs to be edited, particularly when an open-ended character is used, in order to provide understanding and interconnect with the theoretical framework (Sekaran, 2003). The

main purpose is to provide meaningfulness through findings in empirical patterns, which are linked together and compared with existing theory (Eriksson & Kovalainen, 2008). Data analysis thus involves the process of making data meaningful, with regard to the purpose of the study. Findings, as well as understanding, contribute to the conclusion of the study (Merriam, 2008).

3.7. Validity and Reliability

When implementing an empirical investigation, there is always a risk that provided results are created by the researchers. In other words, results can be generated from the design of the investigation (Jacobsen, 2002). Validity and reliability of the results are thus crucial in order to ensure that the research has acceptable conform between its results and the comprehension of the reader. Reliability implies the extent to which repeated studies present the same results and thereby the consistency in the study (Eriksson & Kovalainen, 2008). Since a standardized structure is unsuitable for qualitative studies, reliability has a more central role when using a quantitative approach (Merriam, 2009; Holme & Solvang, 1997). Merriam (2009) highlights one important question in qualitative studies as, “whether the results are consistent with the data collected” (p. 221). In this study, the theoretical framework was constructed from scientific articles gathered in trustworthy databases. Moreover, articles were carefully examined in order to achieve reliability. When searching for previous studies, the starting-point was famous and featured scientific articles. Thereafter, further articles were found through reference lists and tertiary sources.

Validity, on the other hand, is a measurement that specifies the extent of which the research accurately reflects the phenomenon that is analyzed (Bryman & Bell, 2009; Collis & Hussey, 2009; Blumberg et al. 2011). In other words, Saunders et al. (2009) state, “the extent to which data collection method or methods accurately measure what they were intended to measure” (p. 603). In order to create sufficient validity of this study, leading actors within this industry, in Sweden, were interviewed. The semi-structured interviews, with open-ended questions, made it possible for the participants to explain and elaborate their answers. When it was allowed, interviews were recorded in order to counteract misleading rewording. In order to validate collected data, as well as avoid misinterpretations, the empirical findings were sent to the participants, who confirmed the stated facts. This process counteracts the risk that results are created by the researchers. Thus, the transferability of this study’s results, towards further discussions, was increased.

3.8. Ethical Position

When conducting studies through the methodology approach, ethical aspects of the investigation need to be considered (Holme & Solvang, 1997). According to Blumberg et al. (2011),

“ethics is the study of the ‘right behaviour’ and addresses the question of how to conduct research in a moral and responsible way. Thus, ethics not only addresses the question of how to use methodology in a proper way to conduct sound research, but also addresses the question of how available methodology may be used in the ‘right way’” (p. 114).

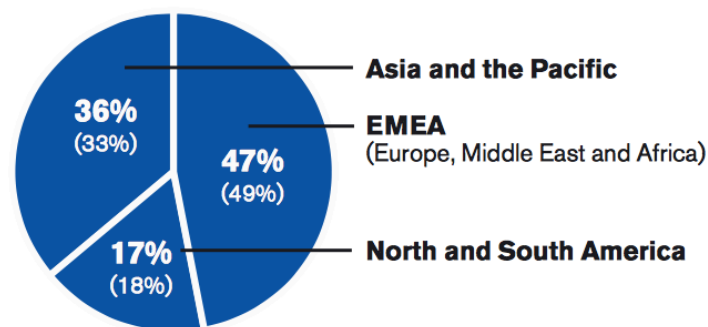
The ethical standpoint of this study has been carefully considered in order to treat involved participants correctly. Firstly, Collis & Hussey (2009) states the free choice of participants as crucial, since people should not be forced into the study through coercion. The purpose and the benefits of the research should be stated clearly for all participants (Holme & Solvang, 1997). In this study, participants were given information regarding the purpose of their participation, where they had a free choice whether to contribute or not. The aim of this thesis was clearly stated in an initial e-mail, as well as in the introduction of the interview. Moreover, anonymity and confidentiality were offered in order to protect physical and psychological integrity (Holme & Solvang, 1997; Collis & Hussey, 2009). In accordance with good practice, the study was shared with all respondents when finished (Blumberg, et al. 2011).

4. Empirical Results

This chapter covers the compilation of interviews held at Vitrolife AB, Sahlgrenska University Hospital, Karolinska University Hospital, Fertilitetscentrum, and Nordic IVF Center. The empirical material is divided into two main parts. The first constitutes findings at Vitrolife, whereby different aspects of their operation are discussed and explained. The second part provides results from interviews at the clinics, in which EF is discussed through an ethical perspective.

4.1. Vitrolife AB, A Swedish Provider of Products and Systems for Assisted Reproduction

Vitrolife AB is a Swedish company with head office located in Gothenburg. It was founded in 1994 and has been listed on NASDAQ OMX Stockholm since 2001. In Vitrolife's annual report of 2014, the business concept is stated as "develop, produce and market advanced, effective and safe products and systems for assisted reproduction" (p. 6). Customers constitute both private and public clinics, hospitals, and laboratories, to which Vitrolife for instance offers media, labware, needles for oocyte retrieval, and vitrification systems.



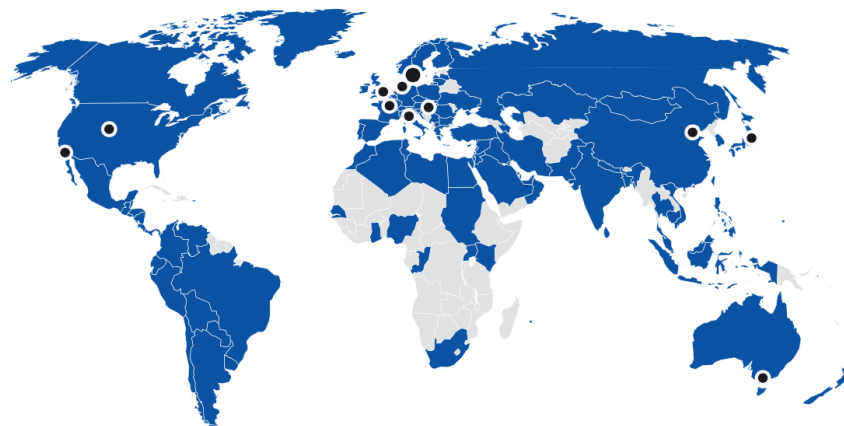
Source: Vitrolife's annual report of 2014.

Figure 4.1. Sales per Region 2014 (2013).

4.1.1. Born Global and Forces Behind Fast Internationalization

Vitrolife is consistent with all conditions that Rennie (1993) states as required in order to be called a "Born Global Firm". According to the Strategic Project Director, Tony Winslöf, Vitrolife had activities in 70 countries in 2001, seven years after the founding, and the view of the management has been global from the very start. Today, Vitrolife has activities in 110 countries and according to the Chief Financial Officer of Vitrolife, Mikael Engblom, it is broadly all countries in the world that offer some form of IVF. When looking at resource allocation, Vitrolife has its own representation in 20 countries, for instance in the form of local sales representatives. Thus, they have invested more in some markets compared to others. In some parts of the world, Vitrolife is working with distributors, for example where markets of distributors are extensive and where sales partners are appropriate. The International Product Manager at Vitrolife, Daniel Poté, states two fundamental key reasons that forced Vitrolife to go global from the founding. Firstly, Poté points out one fundamental reason as business-like. That is, the market is extremely niched and specialized. Thus, it is impossible to be successful with the domestic market as the only target. Since Sweden has a small market, with few clinics that offer treatments within assisted

reproduction, it is not enough to make a sustainable business. A company, which operates within specialized products for specialized use and treatments, cannot base the business on one market when both the treatment sector and the domestic market are small. Engblom discusses the fact that fixed costs are high when developing products and systems for assisted reproduction. When the niche and the demand are specialized and narrow, a global view is required in order to have enough production. Furthermore, the market of assisted reproduction is narrow from a global perspective and it has been international from its appearance. Hence, Poté states the manner in which R&D evolves as one reason for fast internationalization. During the 70s and 80s, the R&D took place in a few places of the world. It was a competition among the researches regarding whom that would be the first to create a baby through assisted reproduction. In fact, it was a pure coincidence that the IVF team of England was the first to succeed. Moreover, the cooperation within assisted reproduction has always been across borders. From the founding, researchers have gathered on global conferences. This is partly due to the complexity and knowledge-intensity of the products and methods, which require close relationships and networks in order to succeed within the sector. The market is international and cooperation across borders is needed in order to develop successful products, which in fact can include collaboration with competitors. In conclusion, two fundamental factors can be traced in order to explain the early internationalization of Vitrolife. The first factor is how R&D is provided, and the second factor is the manner in which profitability is generated within this business.



Source: Vitrolife's annual report of 2014.

Figure 4.2. Global Reach (2014): Vitrolife is a global company with activities in approximately 110 countries. The blue areas represent Vitrolife's activities. Small dots state where local company offices are established and the large dot in Sweden represent the head office.

Competition

According to Poté, there are approximately four global firms that offer products within assisted reproduction with the same price bracket as Vitrolife. However, prices of these treatments vary extensively across the world. Engblom states the brand as the most important competitive advantage, and it is thus used in order to handle competition efficiently. Vitrolife is perceived as a high-quality company

with stable results and products. Every product needs a lot of argumentations when communicating with customers. Loyalty and trust are thus important, as well as education and support towards customers. The treatments and the methods are namely complex, as well as the products, and devices and tools that Vitrolife is selling are specialized. Hence, extensive support towards customers is required in order to guarantee that the products are used in an appropriate manner. Poté states one competitive advantage of Vitrolife as the narrow focus, whereby all activities and operations are within the sector of assisted reproduction. The majority of competing companies are major according to Poté. Assisted reproduction is only a small part of their total range of products. Vitrolife can use its narrow focus in order to enhance flexibility and hastiness against MNCs. Moreover, the narrow focus can be used as an argument when creating trust towards customers and partners. The niched focus is a unique advantage of Vitrolife, which creates opportunities to interweave marketing of products and thus ease communication to customers. Vitrolife has a history as provider of pioneering products. Hence, the company is perceived as a serious participant, aiming at develop enhanced products and methods.

4.1.2. Expansion into a new market

When expanding into new markets, Vitrolife mainly bases its establishment on laws, rules and demands of the local market and Winslöf states the investment decision as excluding ethical and religious aspects. Poté points out that the investment process of EF will not differ significantly from other products within the assisted reproduction area. However, in several countries, the treatment has been given extensive attention in media. Two different approaches can be used when developing a new product; an internal or an external approach. Vitrolife can evolve the product internally, through collaboration with external scientists that help providing a “recipe” for the specific product. Thus, the product can be developed, tested, validated, and regulatory approved. On the other hand, Vitrolife can choose to purchase the right to provide an already existing product.

Relationship and Cooperation

One fundamental factor regarding the success of Vitrolife’s business is cooperation. Poté highlights the importance of access to networks within the assisted reproduction sector. Networks that are contributing to decisions and activities within the IVF organizations are thus crucial. Distributor partners are used in order to obtain contacts and networks in different countries, which is substantial when determining how the market will evolve and how the business should adapt. Furthermore, cooperation is common within R&D, since it is beneficial for all parties. The researcher may contribute to new ideas and products that Vitrolife can develop in-house. Clinics can provide tests and evolution of new products, which is beneficial for all participants in the form of extensive studies of the specific treatments. Key leaders, so called opinion-leaders, of the industry are fundamental. Through collaboration with key leaders, Vitrolife can access a global network of these global treatments. In fact, Poté points out the initial global approach of this industry, where cross-border collaboration was used in order to develop the first products. Networks and contacts were useful in the initial internationalization process. Cooperation with customers

and distributors throughout the world was thus required from the founding, since the domestic market was too narrow.

Resource Allocation

When allocating resources, Engblom states financial assessment and profitability evaluation as fundamental tools. Projects are compared carefully in order to decide which one to go through with. It is crucial to evaluate risks and potential success rates, whereby projects that require extensive time and risks are given lower priority. The first step when considering an investment is the project investigation, in which the International Project Manager, Poté, assesses the potential of the market, the plausible sales, and the potential sales growth. The decision to undergo a project commonly begins with stated needs of the market, where Vitrolife does not yet provide solutions. This may include specific steps within a method, which determines whether customers want to buy the product or not. Thereafter, the project is presented, along with necessary requirements of the market and the product, and the potential profitability of the investment is discussed. One fundamental question when allocating resources globally is the allocation among countries. Vitrolife is aiming at enhance growth. In each country, opportunities are analyzed in order to determine the most appropriate approach when integrating with local customers. Growing markets are crucial and several factors are assessed in order to decide where sales representatives should be used, as well as where cooperation with distributors is appropriate.

Engblom states China as an example of a market where extensive resources have been invested. Mature markets, for instance USA and Japan, are substantial and targeted when allocating resources as well. The market share in Sweden is minor from a global perspective. Although Vitrolife has a high market share in Sweden, due to its Swedish origin, it constitutes only three percent of Vitrolife's total sales. Poté discusses the fact that all parts of the world with a "global middle class" are important. Firstly, the "global middle class" has the ability to finance these relatively expensive treatments. Moreover, "the global middle class" is educated and thus often delays childbearing. Age is in fact the most crucial factor when looking at decreasing fertility. Lifestyles overall are one fundamental factor when tracing the driving forces behind assisted reproduction. In addition, public systems affect demand for these treatments, and subsidies are important. Thus, Europe is an important market, mainly due to its public systems. USA, in which these treatments are commercial and where some insurance companies serve as public systems, is a substantial market as well. The Asian market is crucial due to the growth of the "global middle class" and the future potential. Vitrolife's annual report of 2014 states the IVF market growth as approximately five to ten percent per year. The growth of the Asian and the Eastern European market is considerably larger than the growth in Western Europe and North America. According to Poté, key factors are the solvency of the population, the reimbursement, and the cross-border-IVF (medical tourism). Hence, these factors are important when deciding the business allocation of Vitrolife.

Egg Freezing

In today's society, Egg Freezing is provided due to medical and social reason. The initial method included a slow freezing process in which the eggs were frozen with varying results. Winslöf states the development of the vitrification method as the reason behind the evolvement of this market. Poté argues the use of this treatment, which partly aims at providing a non-medical service, as increasing the complexity. When a part of the product's purpose is non-medical, the requirements are different and the examination of the product differs from the ordinary product assessment within assisted reproduction. Poté claims this as one of the reason why Vitrolife has waited with launching this product, even though a CE approval was already received, since they wanted to ensure the results of the method when it was implemented on the clinics. Hence, complications regarding the implementation process of clinics have been investigated. The extended time, in which this product has been under consideration, has entailed new regulatory approvals and Vitrolife could obtain several approvals before launching the product. Vitrolife aims at using these regulatory approvals as competitive advantages when implementing a product at the EF market. Customer relationships are in fact already evolved, since customers of the EF product are assumed to be the same as with other products within the assisted reproduction area. Moreover, Vitrolife has used the extended time to train and improve knowledge of the distributors, since they will perform support and service to clinics. Poté points out their carefulness and nicety as a potential advantage in the future. The EF technology has evolved rapidly and Poté argues that regulations concerning the EF service are lagging behind. It is important to consider the fact that further regulations are likely to exist in the future. As a result, in addition to global support and a reliable brand, it is crucial to have an open discussion with clinics as well as with end customers. In fact, Poté states one of the most important ethical aspects as the woman herself, who will undergo the treatment. The information part is crucial and end customers need to be aware of all possibilities and risks with the EF treatment. The EF market is complex and the development can be twisted. Poté argues that SEF is likely to be accepted and common in the future. He also thinks that Vitrolife will be a part of the expansion. According to Engblom and Winslöf, the market of EF will grow extensively and an establishment on the market can contribute to growth.

4.1.3. International Barriers and Cultural Difficulties

Although Vitrolife is globally active, with establishments in all parts of the world where a market of assisted reproduction exists, it is a relatively small company. Requirements that arise from an international business are extensive and managerial requirements regarding understanding of foreign markets are crucial. Firstly, Poté points out competition as a variable factor. In some countries, cooperation with distributors serves as an important competitive advantage against competitors. In some markets, for instance some growing markets, the appropriate tool to use is establishment of sales representatives. Secondly, the transportation of these complex and sensitive products is a challenge of great importance. In fact, the transportation was an important barrier when Vitrolife first

internationalized. According to Poté, although transportation and communication have evolved substantially, the challenge is still crucial. However, today's technical challenges are only a part of the requirements that Vitrolife, a BG within the biotechnology sector, face when operating across borders.

Regulations

Vitrolife's products are established globally and knowledge and understanding of foreign markets are crucial. Regulatory barriers and local laws can hinder establishment, thus preventing Vitrolife from operate in some countries. Engblom points out the phenomenon of increasing globalization as affecting Vitrolife both positively and negatively. Several advantages can for instance be derived from the European Union and its harmonization. The main barrier when operating internationally is in fact different regulations and regulatory approvals that must be considered. Harmonization of regulations facilitates establishments, both in a cost point of view and the degree of which operations are effective. Authorities namely have to approve products within assisted reproduction in order for the company to provide them in a specific country. This is a challenge for Vitrolife, since regulations differ among authorities and countries. Engblom states this process as time consuming and costly, and the specific market needs to be large and profitable enough to justify the approval process. Poté points out the importance of assessing the registration costs in comparison to the market potential. Winslöf discusses the fact that profit opportunities must justify the investments and resources that are required in order to obtain a specific approval. Poté states that the European CE-marking is used as a base when developing products, due to its extensiveness. Required information, in addition to an ordinary registration, involves the production process, the clinical data, the quality systems that are used at the company, how patient safety is ensured, how complaints are handled, and so on. Countries with advantageous regulations regarding egg banking is thus of interest when establishing on the EF market. Understanding of different regulations is a challenge when operating globally. Winslöf argues that regulatory approvals, except from being time-consuming and costly, also generate opportunities to develop competitive advantages. Regulatory approvals, and the fact that the company carefully follows laws and rules, contribute to Vitrolife's image according to Poté. The aim is to be known as careful and accurate, which is important when establishing on a new market, as the market of EF. In addition to regulatory requirements, Engblom states other forms of local rules as important, for instance tax systems and duties. The main challenge, however, is the fact that Vitrolife, as a relatively small firm with activities around the world, needs to handle all these institutional aspects. They need to respond to rules and laws in all countries, although the turnover in each country is relatively small.

Norms and Values

Poté points out that marketing and integration of products differ according to countries' norms and values. A particular step of a method might be a requirement in Sweden, whereby incremental resources are invested in order to provide this specific step. However, this step may be less important in other countries, where the focus for instance is directed at cost-effectiveness. Hence, the key aspects that

Vitrolife base their products on might differ from values in a specific country. Norms and values thus create challenges when offering products internationally and marketing needs to be adapted. Vitrolife may base a specific product on different reasons and values, which they consider the most appropriate, as a part of the product design. Marketing of these aspects differ, and the message is customized and adapted to values and norms of the specific country. Generally, the methods and procedures in which treatments are performed are similar around the world. Hence, the products and techniques can be offered globally. Patients are treated and responded differently among countries due to various norms and values. Although products and methods are used in a similar manner around the world, the degree of education differs considerably. Hence, Poté states one fundamental challenge as the support to customers. Products within assisted reproduction are complex, and the method in which they are used is knowledge-intensive. In order for Vitrolife to fulfill the promises of their brand, they have to ensure that products are used correctly. There are several countries where education is inadequate and the responsibility part is therefore complex. Support is a crucial requirement in order to provide trust and loyalty to customers. When locating on a foreign market, Vitrolife always offer a “global support” organization in order to support clinics, whereby a team of embryologists for instance can be sent to provide services. Poté points out risks that alter and hinder support activities, for instance civil war. Firstly, Vitrolife has to consider these risk factors and decide whether to send support embryologists or not. Otherwise, alternative solutions must be offered. Moreover, Vitrolife has to provide support and educate their distributor partners. Engblom argues that service and support are fundamental in order to provide a sustainable business. The procedures are extremely sensitive and Vitrolife has to ensure that their products generate high-quality final results.

4.1.4. Ethical Aspects

In several countries, the treatment of EF has been given extensive attention in media. Overall, the industry of assisted reproduction is surrounded by ethical discussions. Thus, companies that are operating within the industry have to relate and adapt to several ethical dimensions. According to Engblom, IVF treatments were perceived as extremely controversial from the outset. EF is a relatively new phenomenon and the treatment has contributed to an ethical debate. Engblom discusses the fact that Vitrolife has noticed a growing interest regarding sustainability and social responsibility, for instance from investors. Thus, information generated to investors needs to be adapted and clarified in order to provide further ethical, equality, and sustainability statements regarding Vitrolife’s activities, from an ethical and environmental perspective. According to Engblom, Vitrolife is participating in these discussions. However, they are not proactive and Poté states that they are trying to have an objective position. Vitrolife is aiming at provide products for general use. Issues arise with EF since a part of the targeted end customers will undergo EF due to non-medical reasons. Vitrolife does not have direct contact with end customers. Thus, it is mainly the clinics that will face these ethical dilemmas. Vitrolife will provide the market with the ability, as well as the technical knowledge, to offer EF as a treatment.

Poté argues that requirements are somewhat different when generating a product that aims at satisfying both medical and non-medical needs. When looking at ethical discussion of this sector, Vitrolife has taken responsibility in the form of providing products with high quality, and thus opt out “quick and dirty” solutions. Vitrolife is trying to have an objective stance regarding ethical discussions, and the manner in which clinics market and offer these products cannot be controlled. Products with high quality are offered, as well as extensive support and service, in order to create reliability and ensure sufficient results. As a result, Vitrolife preserves the reputation of the brand and Poté points out that this act can be viewed as both ethical adaption and risk minimizing.

4.2 Market Participants that are Offering Egg Freezing

4.2.1. Expansion into the Egg Freezing Market

EF was founded due to medical reasons. SEF, which is a non-medical treatment, was established on the Swedish market, particularly among citizens in Stockholm, during the twentieth century. According to Thorir Hardarsson, at Fertilitetscentrum in Gothenburg, the implementation process was complex and an in-house investigation was provided in order to assess the treatment carefully. Ulf Zackrisson, at Nordic IVF Center in Gothenburg, states that collaboration was provided with a leading IVF-clinic in Spain in order to implement EF at their clinic. Both Fertilitetscentrum and Nordic IVF Center are private clinics within the assisted reproduction sector. In order to provide EF as a service, they bought the technology externally and they highlight the importance of high quality. Thus, the clinics are willing to spend internal funds in order to improve their services. Kersti Lundin, at Sahlgrenska University Hospital in Gothenburg, and Jan Olofsson, at Karolinska University Hospital in Stockholm, state that public hospital only provide EF due to medical reasons; in other words to patients that are remitted from other doctors.

All clinics, both private and public, highlight the advanced method of EF as the main challenge when the treatment was implemented. Moreover, Lundin points out the difficulty for public hospitals to invest in a new and advance technology, when no extra resources were allocated in order to facilitate the implementation. The public sector always consists of a budget and investments need to be considered carefully in order to spend the public resources on optimal treatments. At Karolinska University Hospital, methods and protocols for EF were developed in-house and the process was long. In fact, the procedure is constantly evolving. Hardarsson points out relationships and collaboration as important when trying to evolve products, and cooperation with technology companies is important in order to test and study new procedures. Thus, collaboration enhances quality, knowledge, and reliability. Suppliers within the assisted reproduction area are relatively few and relationships are crucial in order to create reliability and loyalty. Anna Karin Lind, at Fertilitetscentrum in Gothenburg, states competition among technology companies as crucial in order for procedures and products to evolve and improve. When valuating the appropriate supplier, key aspects are the brand, the reliability, and the extent in which products are tested and studied. Collaboration includes research institutions, development partnership,

and clinical studies of new products. Within the sector of assisted reproduction, international and national contacts are crucial and the learning process can be facilitated by cooperation, whereby studies and tests can be provided.

Marketing

EF is a complex treatment, surrounded by extensive ethical dilemmas. Both Hardarsson and Zackrisson point out the importance of appropriate information when marketing a treatment like EF. It is important to consider women's self-willingness. Thus, it is crucial to highlight the fact that the treatment serves as an opportunity to enhance future chances, but it is not a guarantee. Nordic IVF was the first private clinic to offer EF as a service in Sweden. However, the competition has increased. Zackrisson highlights the importance of the correct purpose when undergoing EF. Marketing towards end-customers should not aim at increasing sales, but increase knowledge and understanding. Information is crucial when looking at both medical EF and SEF, among specialists, patients, and customers. When a customer wishes to undergo EF, Zackrisson explains that an individual evaluation is needed in order to state the potential chances and limitations of the treatment. Zackrisson points that every clinic has a responsibility to brief opportunities, and foremost limitations. The EF treatment, as well as Nordic IVF, has been given attention in various news channels and Zackrisson states that extensive marketing is provided through external publishers. Hardarsson argues that Fertilitetscentrum use marketing cautiously in order to avoid disseminating of vain hopes. According to Hardarsson, the purpose when marketing a service like EF should be to disseminate knowledge. Encouraging marketing, which is aiming at increasing sales, should be avoided. Lind explains that Fertilitetscentrum looks at women that undergo these treatments as patients instead of customers and women that consider EF are encouraged to meet a psychologist. Hence, health and wellbeing is fundamental key aspects. Before Fertilitetscentrum offered the EF service in a commercial manner, an investigation was generated in-house in order to examine the success rate of the treatment. Hardarsson states the main reason as the fact that studies abroad often are executed on young women, which are not the general Swedish customer of EF so far. Hardarsson highlights validity and loyalty as fundamental when offering a sensitive treatment as EF. Hence, Fertilitetscentrum wanted their own study in order to create trust and loyalty towards customers.

An important difference between marketing of the private sector and the public sector is the fact that the private sector mainly provides treatments that are financed with solely personal funds. Hardarsson points out this as one of the reasons why most medical treatments are provided from public hospitals. The purpose of the treatments that are performed by the public sector is medical and SEF is not generated. Olofsson explains that Karolinska University Hospital only provide EF when the fertility is seriously threatened due to medical factors. When looking at marketing, Olofsson argues that the appropriate position for EF has not yet been found on the market. Discussions in the Swedish society are still modest and an overall acceptance has not emerged. Olofsson points out the importance of spreading information

and understanding and larger efforts are thus needed. When freezing eggs, it is not a complete product that is generated, namely it is not a child. Thus, EF is complicated and the fact that the treatment only freezes opportunities and chances should be clearly stated. EF is not a guarantee; it is in fact only a part of a complete product. At Sahlgrenska University Hospital, EF is only provided due to medical factors as well. Lundin states that information needs to be spread among specialists and doctors within other areas in order to increase the use of EF treatments. In fact, it is not widely known that EF can be used in order to increase the chance of preserving fertility. EF is for instance an appropriate treatment to use before young women with cancer undergo radiation therapy. Commercial marketing, on the other hand, should be carefully used according to Lundin. EF is a treatment that creates opportunities and increased chances for women in different situations. However, a lot of risks arise if EF is marketed in an inadequate and mongering manner.

4.2.2. Ethical Dimensions

Hardarsson points out the evolvement of assisted reproduction as arising several ethical dilemmas and risks. According to Zackrisson, an ethical debate has always been imbued in the sector. It is likely that costs of these treatments will decrease in the future, at the same time as technology is improving, resulting in an increasing acceptance and use in the society. The EF treatment is in fact a small part of the potential development in the future. Hardarsson thus highlights the risk that naturally childbearing, without any IVF-treatments, might be considered as irresponsible in the future. In today's society, one is expected to perform and experience a lot of things before childbearing. Lundin is afraid that delaying childbearing can lead to difficulties when trying to find the appropriate time to build a family. Lundin fear that EF can increase the social pressure and thus force women to use the treatment, since it is a possibility to avoid future infertility. SEF is a complex treatment since it arises several ethical questions. On one hand, EF can be considered as increasing women's opportunities and control. Hardarsson states several social and personal reasons that may hinder childbearing and the "fertility clock" is always ticking. Thus, EF can be used in order to decrease and hinder psychological stress. Hardarsson also highlights the risk when the society accepts a treatment like SEF and the message provided to young women; namely to delay childbearing. According to Lind, two different perspectives can be used when looking at consequences of SEF. Firstly, SEF can increase women's empowerment of her fertility. Moreover, SEF can be assessed through an equality perspective. Zackrisson states that the ability to freeze sperms has been provided to men for a long time. Thus, from an equality perspective, women should be provided with the opportunity to freeze their eggs. Lind points out that SEF is more complicated than solely increase of equality. Olofsson states one fundamental risk as the fact that inadequate information results in vain hopes and incorrect reliance, which might lead to delaying childbearing and give away the chances of natural fertility. The dilemma is complex and SEF can be seen as a "women-trap" if information is inadequate.

Today's discussions regarding ethical dilemmas include assisted reproduction in an extensive manner. According to Lundin, the technical evolution has resulted in an increasingly business-driven market. Nowadays, it is not the hospitals, but external stakeholders, that drive the technical development. SEF arises extensive ethical dimensions., Zackrisson points out the lack of laws and rules regarding this treatment. Medical treatments are always faced with risks and complications. Technology companies have the responsibility to develop products with good quality, as well as detailed information and descriptions. Thereafter, the clinics have to provide this treatment in an appropriate manner. Firstly, procedures and methods need to be correct. Secondly, the marketing and the provided information towards customers need to be extensive. Lastly, limitations need to be clearly stated and SEF should only be performed on women where chances of successful results are sufficient. When discussing the number of treatments that are provided due to medical reasons, compared to the number that is provided due to social reasons, the speculations differ. There is a consistency in the opinion that the line between medical and non-medical reasons is ambiguous. According to Hardarsson, the increase in SEF will be fundamental. However, it seems to be a difficult question to answer since the market of EF is relatively new and SEF can be seen as controversial. Nowadays, several large companies are offering EF as a fringe benefit, which may arise multiple dilemmas. Hardarsson argues that companies that offer EF as a fringe benefit is likely to increase. It is a complex evolution, however, due to ambiguous consequences. On one hand, Olofsson points out that it can be viewed as increasing options and opportunities for women. It can also be viewed as increasing social pressure for women. Lundin points out the question when and if childbearing is ever considered appropriate from a career perspective. There is a risk that women will be negatively affected if they choose not to undergo EF when it is offered as a fringe benefit. This form of fringe benefit is also complicated if women choose to leave the company, for instance when considering egg storage and the cost of acquiring eggs. Women are taking on a risk when choosing to delay childbearing in order to put effort on a career, due to the lack of guarantee and uncertainty regarding the future function of EF. Zackrisson and Olofsson point out the importance of understanding, particularly regarding limitations of EF, and the company has to take responsibility when offering this as a fringe benefit. When EF is offered as a fringe benefit, it is important that this treatment is a part of several medical treatments and applications. Otherwise, the company encourages late childbearing and Lind states this as a threat towards women's position in the society. Olofsson argues that fringe benefits, in the form of EF, are an unexplored subject, which need to be investigated in detail.

4.3. Summary Table

<p>Driving Forces for Fast Internationalization</p>	<p>One fundamental reason is stated as business-like, namely the fact that the market of assisted reproduction is extremely niched and specialized. It is thus impossible to success with the domestic market as the only target. A global strategy is thus required in order to have enough production.</p> <p>Secondly, the market of assisted reproduction is narrow from a global perspective and it has been international from its appearance. The manner in which R&D evolves is one reason for fast internationalization. Cooperation within assisted reproduction has always been across borders.</p>
<p>Cooperation</p>	<p>Within the sector of assisted reproduction, networks and relationships are crucial. Cooperation is common within R&D in order to provide benefits to all parties. Thus, cooperation across borders is needed in order to develop successful products</p>
<p>Resource Allocation</p>	<p>Financial assessment and profitability evaluation are fundamental tools. One fundamental question is how to allocate scarce resources among countries. In each country, opportunities are analyzed in order to determine the most appropriate approach when integrating with local customers. Potential profitability is compared to costs and investments that are required in order to establish on the specific market.</p>
<p>Institutional Aspects</p>	<p>Requirements that arise from an international business are extensive and understanding of foreign markets is crucial. The main barrier when operating internationally is in fact different regulations and regulatory approvals that must be considered. The process is time-consuming and costly, and the specific market needs to be large and profitable enough to justify the approval process.</p> <p>Regulatory approvals, expect from being time-consuming and costly, also generate opportunities to develop competitive advantages. At Vitrolife, the European CE-marking is used as a base when developing products. Moreover, it is important to consider the fact that further regulations are likely to exist in the future. The main challenge, however, is to handle institutional aspects when the company is relatively small with scarce resources. It needs to respond to rules and laws in all countries, even though the turnover in each country is relatively small.</p>
<p>Ethical Aspects</p>	<p>Marketing and integration of products differ according to countries' norms and values. Marketing adaption is thus a challenge when offering products internationally. Generally, methods and procedures in which treatments are performed are similar around the world. However, patients are treated and responded differently among countries due to various norms and values. Furthermore, the degree of education differs considerably. There are several countries where education is inadequate and the responsibility part is therefore complex. One fundamental challenge is thus support and service toward customers.</p> <p>Products within assisted reproduction are complex, and the method in which they are used is knowledge-intensive. However, support is a crucial requirement in order to provide trust and loyalty to customers. Products with high quality are offered, as well as extensive support and service, in order to create reliability and ensure sufficient results. When a part of the product's purpose is non-medical, the requirements are different and the examination of the product differs from the ordinary product assessment within assisted reproduction.</p>

5. Analysis

This chapter provides an analysis based on findings in the empirical material, in relation to the theoretical framework. Summarizing tables were provided in the end of the theoretical framework, as well as in the end of the empirical material, in order to summarize the main results. These findings are compared and linkages and relationships between categories are stated. Hence, further understanding is provided and a basis to the conclusion is obtained.

5.1. Driving Forces for Fast Internationalization

Findings from the study at Vitrolife, as well as the clinics, indicate two fundamental reasons why the sector of assisted reproduction is international. Firstly, the narrow and niche characteristic of the market force companies to have global activities. The products that Vitrolife is providing aim at satisfying an extremely specialized need, which is rather homogenized among the world. Consequently, the domestic market is insufficient given extensive investments within assisted reproduction, which is consistent with previous research (Wictor, 2012; Knight & Cavusgil, 1996; Gabrielsson & Kirpalani, 2012). Knight et al. (2004) found that BGs commonly target specific market niches in order to avoid competition from large MNCs. From this study, the narrow focus of Vitrolife's operations is stated as one of the most crucial competitive advantages against MNCs, since it is used to create a brand recognized as trustful and reliable. It enables Vitrolife to be fast and flexible, for instance when responding to market evolution, which corresponds to theories regarding narrow and niche markets as competitive strategies (Gabrielsson & Kirpalani, 2012; Madsen and Servais 1997).

Secondly, the market of assisted reproduction was born globally, since the development of the first products and procedures were generated in an international manner. Johanson & Mattsson (1988) point out international markets as forcing companies to provide specialized products globally, which cohering with conclusions from this study. However, this research put more emphasis on the initial R&D as the reason why an early player had to operate internationally. Both demand and knowledge regarding a specialized area as the sector of assisted reproduction are extremely narrow, thus forcing Vitrolife to collaborate and operate in most parts of the world. This is partly consistent with the study of Gertler and Levite (2005), which states that biotechnology firms need to be open to new knowledge from a wide range of sources. Firms must integrate globally with circulating knowledge and people. Moreover, this study indicates narrow knowledge as a fundamental aspect in niche markets, in addition to narrow demand. Capabilities and knowledge within assisted reproduction are specialized and participants need to establish cooperation around the world in order to keep up with changes in the fast-moving environment. This might indicate a limitation and knowledge gap to what current studies have found in comparison to findings in this study. Specialized and narrow knowledge seems to be a key aspect,

forcing companies within assisted reproduction to establish contacts around the world in order to maintain sustainable and developing business.

5.2. Cooperation

Findings of this study reveal the importance of cooperation within assisted reproduction, in order to develop new products, knowledge and reliability of the brand. When trying to perform superior abroad, Knight and Cavusgil (2004) point out that BGs often create strong relationships with competent foreign distributors, firms, and institutions. This is coherent with findings from the study at Vitrolife, which state close relationships, for instance with distributors, as substantial in order to obtain contacts, networks and knowledge regarding the specific market. Global operations are required due to the niche focus of the market and networks are used in order to expand. Hence, findings regarding relationships correspond to the study of Gabriëlsson et al. (2004). This study shows that networks within assisted reproduction also involve global sharing of knowledge, which is needed in order to develop this sector. Furthermore, previous research indicates that shared knowledge can be vital when trying to commercialize results of the research outputs (Prevezer, 2001; Feldman, 2001; Zucker & Darby, 1996). Cooperation with customers, or in other words, clinics, is fundamental since long-term relationships are beneficial to both parties. One example is product development, where investigations and tests commonly are needed. Johansson and Mattsson (1998) point out the importance of trust and commitments when establishing successful relationships. From the study at Vitrolife and the clinics, clinical studies appear crucial in order for companies within assisted reproduction to achieve reliability, due to complex and knowledge-intensive products. According to Johansson & Mattsson (1998), extensive knowledge about external companies can be required when providing business with each other. Thus, close relationships are commonly needed. For instance, service and support, before, during, and after delivery, might be required, which correspond to conclusions from this study. The study at Vitrolife points out the complexity of the product as one fundamental reason why close relationships are crucial. Although these products are tangible, the quality is complicated to measure. The products are used as mediums in complex procedures, and the method in which treatments are performed is thus crucial in order to generate successful results. Hence, close relationships enable parties to collaborate and generate tests and studies regarding different products. In conclusion, this study shows that companies that offer products that serve as mediums in treatments face incremental challenges when trying to create trust and loyalty.

5.3. Resource Allocation

Results of this study show that resource allocation is fundamental in order to maintain sustainability within the firm. This corresponds to previous studies, which highlight the need of successfulness in foreign markets in order to handle limited resources efficiently (Knight & Cavusgil, 2004). Knight and Cavusgil (2004) states capabilities-based resources as crucial, since BGs need to handle diverse environments among foreign markets. When looking at BGs, the implemented strategy can be taken as

international intensity or global diversity (Aspelund et al., 2007; Preece, Miles & Baetz, 1999). On one hand, Vitrolife has activities in all parts of the world where a market of assisted reproduction exist. Thus, the internationalization strategy can be classed as global diversity. On the other hand, Vitrolife has invested incremental resources in some market, for instance through sales representatives, which is consistent with international intensity. Hence, Vitrolife can be taken as using a combined strategy, which Crick and Jones (2000) states as aiming at obtain global opportunities at the same time as resource commitments are focused on crucial markets. Findings from the study highlight the challenge when allocating scarce resources among numerous foreign markets. The turnover in every market is narrow, since the market is extremely niche and demand in every country is minor. Thus, resource allocation among countries needs to be carefully balanced in order for every investment to be justified by the potential profit. Aspelund et al. (2007) point out the importance of satisfying specific customer demands at different market implementations and further commitment modes may be required in order to provide enough market knowledge and understanding. This tendency is clearly defined in the study at Vitrolife, whereby every market is stated to be individually evaluated in order to use the most appropriate implementation strategy. Hence, the result is consistent with previous research regarding entry mode decisions, where available resources and local specific demands are integrated (Crick & Jones, 2000; Burgel & Murray, 2000).

5.4. International Barriers

5.4.1. Regulatory Approvals

When BGs operate globally, political aspects, cultural factors, and market conditions are crucial. The appropriate business method of one country differs from another, as well as customer needs and requirements (Knight, 2001; Boter & Holmquist; Harrison, 2003). The study at Vitrolife found that establishments are based on laws, rules, and demands of the local market. The findings state that although Vitrolife is globally active, it is a relatively small company with scarce resources. Requirements that arise from internationalization are extensive and comprehensive understanding of foreign markets is crucial. Teece (2000) points out government regulations as a fundamental dilemma when operating globally. In complex industries, new products commonly have to obtain regulatory approvals in order to be offered at the local market (Harrison, 2003; Wictor, 2012). This study shows that regulatory approvals are fundamental challenges for Vitrolife. In fact, regulations and regulatory approvals are stated as the main barrier when operating internationally. As a relatively small company with scarce resources, regulatory approvals need to be tackled effectively. Since regulations differ among authorizes and countries, the regulatory process is stated as time-consuming and costly. Hence, the market potential needs justify regulation costs. Finding from the study of resource allocation, as well as international barriers, indicate that firms within these complex and international markets need to develop extensive managerial capabilities. The turnover in each country is relatively small due to the narrow niche of

assisted reproduction. Local demands and requirements force exhaustive knowledge and understanding. One fundamental challenge is thus to balance resources required in order to gather local knowledge with the relatively narrow turnover in every market.

This study emphasizes regulatory approvals as a challenge when trying to offer international products. This is consistent with previous studies, which state biotechnology markets as characterized by extensive, regulatory reviews and trials (Gertler & Levitte, 2005; Nicolau & Santa-María, 2015). Crucial barriers are stated to face companies that are trying to enter a biotechnology market (Gertler & Levitte, 2005). Wictor (2012) point out these complexities as one of the reasons why players that establish on these markets often are pure BGs. Findings of this study show that similar products and methods, within assisted reproduction, are used around the world. Thus, standardized products are required in order for Vitrolife to operate globally in an efficient manner. However, regulations and requirements differ among countries. Brunsson and Jacobsen (1998) discuss standardization and its influence in today's economy. Although standardization might be extensive and time-consuming, it can serve as an efficient tool for information transfer and coordination. Findings from the study indicate that the European CE-marking is used as standardization when developing products, due to its extensiveness. Vitrolife can be taken as using a comprehensive regulatory approval in order to standardize products. Hence, BGs can be taken as forced to use some form of standardization when trying to offer products globally. This study shows that internationalization involves consideration of numerous regulations, which can be handle efficiently by using the most extensive standard in order to standardize products.

The market of EF, particularly SEF, is stated as arising several ethical dilemmas and complexities. Regulatory requirements have emerged gradually, which is stated as an aggravating circumstance when trying to launch a product on the market. Participants illuminate that laws and rules are lagging behind the technology development of EF. Hence, parties at the EF market need to consider the question of further regulations and requirements. This tendency indicates a limitation of current studies regarding the impacts on global operations due to regulations. This study found that advanced technologies, in which laws and rules have stayed on the sideline, force firms to evolve strong relationships with numerous market participants in order to consider the future development of regulations. Extensive responsibility is thus moved towards participants of the market, who need to consider the appropriate manner to provide this treatment. Brunsson and Jacobsen (1998) point out standardization as an effective approach to ensure provision and it can serve as an important tool when launching new products. This is coherent with findings at Vitrolife, which highlight the fact that regulatory approvals and further deliberation of potential laws and rules can serve as competitive advantages. When having an open dialog with customers regarding present and future regulations, trust and reliability might be created. Thus, enhancing the brand reputation. Regulatory approvals serve as information transfers since customers tend to trust companies that follow these requirements.

5.4.2. Contradictory Norms and Values

Knight (2001) point out strategic competence and understanding of local needs as required when trying to enter foreign markets successfully. Vitrolife is providing global products, since procedures and methods within assisted reproduction are similar among countries. However, norms and values differ among countries and personal treatment depends on the specific country. Vitrolife evolve products based on values and arguments, which are parts of the product design. However, these values might opposite values of a specific local market and a crucial challenge is to adapt messages to customers in different countries. Although products are internationally standardized, appropriate statements need to be considered carefully. Knight (2001) states that specific conditions might require distinctive mix of products, services, and other factors tailored in order to face local needs. Findings from this study show that messages and statements should be based on local needs, even though products and procedures are standardized. Hence, local needs appear to create a need to customize messages, even though products are used globally. Consequently, this study shows that emphasis is not only put on standardization of products, but also to the capability of adapting standardized products to different markets. This tendency can be referred to earlier studies regarding ethical dimensions, whereby Carroll and Gannon (1997) state one challenge of BGs as preserving of their organizational ethical standpoint across national borders. This is coherent with findings of the study, which indicate that the company has to adapt their values and arguments, which constitute a part of the product design, across national borders.

Moreover, the study at Vitrolife, as well as the clinics, highlights the complexity of their products, since they are used as mediums in advanced processes. Although Vitrolife provides technical products with high quality, results will be insufficient if methods and procedures are performed inadequately. Hence, the performance of customers that use Vitrolife's products is crucial in order to provide sufficient final results. When looking at quality, the knowledge and skills of customers are crucial for treatment results, in addition to the product quality that is generated from Vitrolife. Johanson and Mattsson (1988) state that suppliers and customers often need extensive knowledge about each other in order to provide substantial business. This study emphasizes that the level of educational attainment differ conspicuously among countries. Thus, it appears to be a need of extensive and global support in order to generate sustainable business. Local knowledge is crucial in order to use an appropriate support strategy, which is reliant with Johanson and Mattsson's (1988) theory of strong relationships. In conclusion, this study emphasizes the importance of an effective support system in order to provide support globally, at the same time as support needs to be adapted to each country. Hence, when looking at specific local needs, there seems to be limitations in previous studies regarding the importance of the degree of educational attainment. When products are complex, and used as mediums in specialized treatments, the degree of educational attainment alters the degree of support that is needed in the specific country.

Moreover, global support is particularly important due to the fact that products within the sector of assisted reproduction affect the health of the end customer, which arises several ethical dilemmas. EF causes incremental difficulties since it is partly offered in a commercial manner. Although products within EF are based on medical needs, they are used in commercial purposes, which makes products within this treatment more complex and new aspects need to be considered. When offering SEF, the target group is not patients, but customers. As a result, incremental aspects need to be considered when developing products. Quality assurance is crucial due to the free choice of end customers whether to undergo the treatment or not. This study emphasizes the importance of how information is conveyed to end customers. This is consistent with SMER's (2013) condition that women have to be well informed regarding risks and limitations of the treatment. Thus, this study indicates that complexity of products within assisted reproduction increase when offerings are commercial, for instance due to information requirements. Furthermore, support and service affect integration with customers substantially. Focus should thus be devolved towards these factors, in order to handle the complexity of the products efficiently.

6. Conclusion, contributions and further research

The conclusion chapter states a conclusion that links and relates the analysis to answers of the research question. Furthermore, empirical and theoretical contributions are stated, as well as suggestions for further research.

6.1. Conclusion

This study implies that several factors contribute to the complexity of the market for assisted reproduction. Firstly, products and techniques within this sector serve as mediums in different treatments. Both products and treatments are extremely narrow and specialized, and they are aiming at satisfy extremely specialized needs. Hence, demand, as well as the turnover, in each country is relatively narrow. Although products within this sector are standardized and provided in an international manner, due to similar methods and procedures among countries, opposing norms and values forces BGs to adapt messages and statements to different countries. Local knowledge and understanding are crucial in order to provide the specific market with appropriate and adequate support and service. In addition, regulatory approvals are commonly used in biotechnological markets. Within the sector of assisted reproduction, numerous regulatory approvals are needed among countries and the processes are costly and time-consuming. When trying to establish on a specific market successfully, BGs need to consider several factors when assessing potential market profits against investments and resources that are needed. Consequently, resource allocation is crucial and extremely complex since each market requires commitments and extensive knowledge. In addition, the total turnover on each market is relatively narrow and a fundamental challenge is thus to allocate scarce resources efficiently.

EF is an extreme example of a market within assisted reproduction, which arises several ethical dimensions. In fact, EF is taken as an unusually complicated market when trying to launch products. Firstly, although the treatment is evolved based on medical needs, it is commonly offered in a commercial manner in order to satisfy social and personal needs. BGs that provide products and systems for EF treatments need to consider the fact that several customers, which consider undergoing EF, have a free choice whether to go through with the treatment or not. Products are standardized in order for the BG to provide them globally. Moreover, the company needs to find an appropriate strategy when allocating resources effectively among countries, in order to generate sufficient commitments on local markets. These products and systems are used in order to provide treatments for end customers, which involves their personal health. Hence, technical providers of mediums need to take responsibility and ensure the quality of the final results. Reliability and trust are key aspects, since “quick and dirty” solutions are adequate when trying to maintain sustainable operations.

6.2. Empirical and Theoretical Contributions

This research provides contributions in how BGs within assisted reproduction need to handle different barriers when internationalize in complex markets. The empirical contribution of this study enhances understanding of complexities that participants within assisted reproduction face when offering products and treatments. Findings at Vitrolife indicate the importance of resource allocation and managerial capabilities, which need to be handle efficient, in order to operate internationally within this complex industry. This study has contributed with further insight in local needs, international barriers, and responsibility toward end customers. Thus, findings can be valuable for potential BGs and clinics that operate within this sector. As for BGs, it provides a suggestion of important factors that need to be considered when internationalizing, which can guide them with new ideas and tips.

The theoretical contributions encourage a discussion regarding incremental challenges and complexities when BGs are operating within advance biotechnological markets. Product characteristics, cooperation, institutional aspects, local market conditions, and ethical dimensions are further investigated in order to place these aspects in an understandable context. Theoretical contributions of this study, compared to previous investigations, emphasize influences on resource allocation when the market is associated with ethical and cultural dimensions. That being said, this is no generalization. The results, on the other hand, emphasize important factors that need to be considered.

6.3. Further Research

The aim of this study is to introduce a discussion regarding incremental requirements of BGs that provide products within ethically complex markets. Prior to this study, a shortcoming in investigations of these markets, particularly from a business perspective, was identified. Nevertheless, the biotechnology markets are constantly evolving. Knowledge and techniques can be used to oppose the course of the nature in an increasing extent. Ethical dimensions are thus likely to constitute an increasing part of the decision making within companies. Moreover, EF is a new concept that needs further investigations, from different perspectives and countries. This study indicates influences on BGs, which provide these products, when establishing on local markets. These primary findings suggest in-depth studies, for instance regarding degree of educational attainment, support, and service. This thesis aims at introduce ethical discussion from a business perspective, and further research is continuously needed.

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