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Piggybacking your way to independent
internationalization

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This thesis is a part of the MSc programme at BI Norwegian Business School. The school takes no responsibility for the methods used, results found and conclusions drawn.

Preface

This thesis marks the ending of the MSc in International Management at BI Norwegian Business School. The thesis is a part of the research project “A local cluster going international: Balancing local and non-local networking” which is financed by The Research Council of Norway, NCE Subsea and NCE Maritime and led by Inger Beate Pettersen at BI Norwegian Business School. Being a part of the project, we have received a lot of support, both financial and practical. For that we are very grateful.

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During the process we have gained a lot of new knowledge and we hope the future readers will enjoy our contribution.

Sincerely

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Summary

The purpose of this study has been to increase the understanding of piggybacking in international market entry. A piggybacking relationship consists of two partners, a rider (SME) and a carrier, where the rider exploits the marketing system of the carrier. Piggybacking comes in different forms, but our focus has been piggybacking as a mean to enter the international market. A rider pertaining to such a relationship enters the international market either by exporting indirectly through the carrier or by establishing abroad together with the carrier. These relationships are beneficial when the rider lacks resources and competencies to conduct independent international strategies. The literature emphasizes that such relationships have finite lives and will cease to exist when the rider has achieved the necessary qualifications. However, the literature has not investigated how the rider can use the piggybacking relationship to improve its resource base and competencies or what happens when the piggybacking relationship ends. That has been the purpose of our study where we have tried to answer the question: *“Under which circumstances do piggybacking increase the probability of a rider evolving into an independent international actor”*.

To answer the research question, we conducted a multiple-case analysis of eight firms belonging to the NCE Subsea cluster located in and around the Bergen area. These firms are SMEs acting as riders in piggybacking relationships. Central to our study has been the different ways riders` perform piggybacking. The simplest form is exporting indirectly through a domestically established rider. This requires little resource commitment, but the rider gains little to none foreign experience. On the other end of the scale, we find riders that establish abroad together with the carrier. Here both resource commitment and foreign experience are high. The latter form of piggybacking is advantageous with regard to developing independent international strategies. By establishing abroad together with a carrier, the rider is invited into the carrier`s network. Our findings from the case analysis support the arguments from network theory, stating that firms embedded in a network are more exposed to market opportunities and network knowledge. Thus, riders that co-establish with their carrier abroad are more likely to find new potential partners and gain knowledge about the international market and international best practices which they can utilize to develop independent international strategies.

In addition to differences in rider modes, other factors help determining the probability of independent success. Developing a close relationship to the carrier is paramount and a prerequisite for getting access to its network. Of course, this is easier for the foreign-established riders. Domestically established riders exporting indirectly often do not have the same closeness to their carrier. Our analysis shows that entrepreneurial riders with a proactive attitude towards their carriers have been able to develop a closer relationship and thereby come in contact with potential partners. These riders also report that they have gained relevant knowledge. Domestically established riders are often invited abroad for specific transactions. Reason may be for training of personnel or product maintenance. We found that type of foreign experience matters. Riders which are able to meet and interact with the end customer have the potential to develop personal relations with the customer and thereby enter the network. However, firms which go abroad only for reasons of product maintenance lose out on this possibility. Again, we see that entrepreneurial managers that are proactive and able to see the potential advantages will more likely enter a valuable network. Another factor that should be taken into consideration is the nature of the product. We see that there are differences in the characteristics of the products offered by the rider modes. All firms deliver high quality products, but there are differences in product complexity. The foreign-established riders deliver products that are more technical and complex than the domestically established riders. Firms delivering such products may be seen as more attractive for carriers to invite abroad as they have greater potential for further product development and market specific development. Also, they may be more prone to needing maintenance and thus, it may be useful for the carrier to have the rider close to the market.

1. Introduction

1.1 What is the paper about?

Piggybacking has been called “a quick road to internationalization”, but what happens when the piggybacking relationship ends? In this paper we will examine factors that give piggybacking riders a higher probability of becoming independent international firms.

In today`s business arena, firms in highly globalized industries are not always in a position to choose whether they want to compete on the global arena or not. International competition is stiff and powerful international trade organizations work to eliminate trade barriers even further. Major international companies with sufficient resources of personnel, economy and knowledge are able to participate and take advantage of the globalization of industries.

However, internationalization challenges the working conditions for small domestic firms in many industries. These are often firms founded by entrepreneurial individuals, firms which deliver standout, high quality products. Still, they lack the same resource base as bigger companies and need to find alternative ways of entering the international market. For many firms, this alternative is to piggyback on the marketing system of bigger firms. Piggybacking is a non-equity relationship, meaning that the SME must contribute to the relationship (Telser, 1980, as cited in Terpstra & Yu 1990, 53), a contribution which often manifests itself as a product desired by the MNE. The contribution of the MNE is entrance to the foreign market. The barriers with entering the foreign international market is overcome either by exporting indirectly through the MNE`s domestic subsidiary or by the MNE inviting the firm to co-establish abroad.

However, a piggybacking relationship is not considered to have an infinite life. (Terpstra & Yu 1990, 57). Both firms commit to the relationship to compromise for lack of resources, and at one point in time, the SME will have gained the necessary experience and resources to expand independently (Chapman et al. 2004). What happens then? That is the focus of our paper. Previous literature has concluded that piggybacking is not infinite, but has not examined how the SME

can take advantage of the relationship to develop independent international strategies. Thus, our research question is:

“Under which circumstances do piggybacking increase the probability of a rider evolving into an independent international actor?”

1.2 Why is it important?

The paper has both important theoretical and practical implications. We have briefly touched upon the insufficiency in literature concerning piggybacking. The concept of piggybacking in business research is quite recent and was first treated in detail in an article from 1990 by Terpstra and Yu. The concept has subsequently not received all that much attention, and we have not registered literature that seeks to explore the positive outcomes of piggybacking for SMEs. This is quite interesting as previous literature (Terpstra & Yu 1990, Chapman et al. 2004) assume that piggybacking relationships have finite lives.

This research paper is a part of the larger research project “A local cluster going international” (Pettersen et al. 2008). This project’s focus is the internationalization process of the NCE Subsea cluster outside Bergen. To explain the practical implications of our research, it is appropriate to show to this cluster. In the oil and gas industry, there is an increasing global tendency of national authorities requiring a higher level of in-country or local content (INTSOK 2006). This means that firms will be required to use suppliers and firms from the countries they establish in, which is supposed to be a tool to sustain and develop local industry and local suppliers. As this is a global industry with a high share of international sales, local content has important implications. Large contractors may be forced to use local suppliers to penetrate and enter new markets or continue to be actors in a foreign market where they are already established. Also, smaller suppliers, SMEs, will need to invest and establish in host markets in order to make contracts and establish partnerships to expand internationally.

Thus, local content is a challenge for cluster dynamics and forces firms that have earlier depended on cluster relationships to seek international partners. Pettersen et al. (2008) describe the NCE Subsea cluster as a cluster with a few large firms that operate globally (MNEs) and a larger amount of SMEs that are earlier in the

internationalization process. The MNEs and SMEs cooperate closely and the latter have been highly dependent on the MNEs in their internationalization, for which they function as subcontractors. This means that the majority of the SMEs' international sales are indirectly exported through the larger firms. Thus piggybacking relationships have been highly important for SMEs in the NCE Subsea cluster. However, with the increasing requirements for local content, and an acknowledgement that the oil and gas industry is global, being mainly dependent on a larger firm is not considered sustainable in the long run. SMEs in the clusters will need to call out for a more independent internationalization process. Thus, further information on how to use the piggybacking relationship and how to proceed when the relationship ends would be valuable for the SMEs.

1.3 How will we proceed?

We begin with a review of the current piggybacking literature. On the basis of the review we end up in a hierarchical classification of rider modes. We then examine the deeper intricacies of network membership and the knowledge exchange that happens in business networks, drawing on network theory generally and the Uppsala theory specifically. Our theoretical considerations are then followed by an explanation of the lock-in effect and the implications of entrepreneurial attitudes, before we continue with a description of the differences between planned and unplanned strategies and the significance of specialized products in high technology firms.

In our discussion we develop a conceptual model that contributes to the understanding of how riders in a piggybacking relationship can become independent. We have developed six propositions, and our claims are that higher involvement in networks, along with a keen entrepreneurial spirit, are the most important factors that influence the independency after the piggybacking relationship. Also, firms that are less rigid in their business planning and those providing the market with highly specialized products will have a higher probability of independent success.

To answer the propositions, we have conducted a case study research. After a discussion concerning methodology, the paper gives a description of the data

analysis, ultimately leading to the conclusion focusing on both practical and theoretical implications.

2. Literature Review

2.1 Defining piggybacking

In the most basic sense, a piggybacking relationship is a form of marketing collaboration where firms seek to achieve a goal by allying with partners that complement their strengths and weaknesses (Terpstra and Yu 1990, 52). However, different from collaboration practices such as joint ventures or mergers, piggybacking is a non-equity relationship where the partners maintain their independence. This means that for such a relationship to hold, both partners need to perceive themselves better off by the agreement than the alternative; ending the relationship (Telser, 1980 as cited in Terpstra & Yu 1990, 53).

According to Terpstra and Yu (1990), piggybacking consists of both a carrier and a rider, where the carrier markets the rider's products. Such a loose description of the term does not put heavy limitations on the practice, meaning that piggybacking can occur in different forms. Depending on the characteristics of the rider and its products, it may use the carrier to establish in a new market or simply use the carrier to distribute a new product. Although piggybacking can be used to serve domestic purposes, our focus will be on piggybacking as a mean to overcome barriers with entering the foreign market. However, this does not necessarily require foreign establishment. Piggybacking for international purposes can be performed through exporting from the domestic headquarter, or indirect exporting through a domestically established carrier (Terpstra & Yu 1990, 56).

Piggybacking connotes someone riding on someone else's back, implying that there are differences in strength and size between the allies. For a carrier to take on the marketing activities of the rider's products, the carrier must be in possession of some characteristics that the rider is lacking. Chapman et al. (2004, 392) find an increasing recognition among the SMEs in the Aberdeen oil cluster that networking with larger firms brings advantages such as new market opportunities and increased learning. This is supported by Echeverri-Carroll et al. (1998, 723) who find that firms in high technology sectors are vertically disintegrating, leading to the larger firms specializing in their core functions and subcontracting other functions to the smaller firms. Such networks are characterized by asymmetry, meaning unequal power relations and dependence

between the partners. The rider will in most cases be more dependent on the carrier than the opposite, often because a higher proportion of their total sales are dependent on the success of the piggybacking relative to the carrier. Terpstra and Yu (1990, 58) point to the fact that the input needed by the carrier is a specific product that can be marketed through an already existing marketing system. If the relationship is ended, the carrier's loss is limited to the loss of the rider's product. The loss of the rider is however greater, as he loses out on the whole marketing system the carrier is providing.

Although piggybacking has several advantages, such an arrangement is seen as a transitional strategy with a finite life (Terpstra and Yu 1990, 57). The rider enters such relationships to compromise for lack of resources and competencies within its own firm. However, as the firm gains experience through such relationships, the benefits will decrease to a point where another mode of operation will be preferred. This is supported by Chapman et al. (2004, 392) who claim that piggybacking will subsequently lead to independent expansion when the piggybacking relationship has made the rider able to retain strategic control over their operations.

Piggybacking comes in different forms. We have chosen to arrange the term in three different groups based on Raines et al.'s (2001, 970-971) findings in their study of the linkages of localized multinationals and the globalization of local business networks in the oil-gas and electronics industry. What they found was that the rider will in different degrees commit to the relationship in terms of resources and investments in and experience with the foreign market. We believe that these differences in the riders' choice will have effect upon how able the different riders are at expanding independently. Therefore, we will classify the different piggybacking relationships as following:

1. Exporting Rider (ER)

A domestically established rider sells internationally by selling through a carrier. The carrier moves the products to the international market either by resale or by bringing the products to the carrier's foreign subsidiary. The rider exports indirectly and receives no foreign experience.

2. *Involved Rider (IR)*

The involved rider resembles the exporting rider as their international sale is based on indirect export through a carrier. However, the carrier invites the rider into the export markets for specific transaction. Reasons may be training of personnel or product instalments.

3. *Foreign-established Rider (FR)*

Here the rider follows the carrier into their foreign market by establishing their own subsidiary close to the carrier. The rider is invited to co-establish with the carrier for reason of cooperation.

The degree of experience in the foreign market will increase progressively when moving from 1 – 3. Also, both ERs and IRs will have low resource commitment compared to FRs. These findings are summarized in Table 1. An important assumption is that the rider modes are organized in a hierarchy where FR has the highest probability of evolving into an independent international firm.

Table 1

	ER	IR	FR
Resource Commitment	Low	Low	High
Foreign Experience	Low	Medium	High

(Based on Raines et al. 2001)

2.2 *Membership in networks*

As SMEs are piggybacking on the marketing systems of MNEs, they are tapping into the networks of the larger firms. We will now look more closely into how the mere presence in a bigger network can help facilitate the internationalization of SMEs. According to Johanson and Vahlne (2003, 2009) there is nothing outside the relationship. They argue that markets are made up by webs of complex relationships between firms and their suppliers and customers. Hence, being established inside a network is a necessary condition for successful business development, and firms trying to enter a foreign market where it is not enrolled in a network will suffer from the liability of outsidership (Johanson & Vahlne 2009, 1415). An important point in their argument is the development of knowledge, trust and opportunities in the network. We will return to the discussion concerning

knowledge next. For now the assumption is that since knowledge is created between partners in the network, outsiders will not have access to the knowledge. Opportunities are then identified and exploited based on the network knowledge and the interaction between partners that commit to the relationship because of trust having been developed (Johanson & Vahlne 2009, 1419-20). A similar view is presented by Coviello and Munro (1997, 376) in their case study of four New Zealand-based software firms. They find that SMEs are presented with market opportunities and potential partners through their international networks, thereby being shaped in their international process, suggesting that enrolment in a network is a necessary precondition in the maturing of SMEs internationalization process.

There are however studies presenting challenging findings. Ojala (2009, 58) finds that knowledge-intensive SMEs entering distant markets are not influenced by their networks, but rather enter because of strategic reasons. He states that following their networks, SMEs might actually lose out on market opportunities and end up where market potential is low. This means that for opportunities to be discovered by SMEs, an active role must be taken.

Relationships formed through networks are not only of a formal character. Information disseminates through society via social clusters, and social network theorists claim that the social structure within a network creates opportunities for some people, but not for others (Ellis 2000, 447). According to Ellis (2000, 462), market opportunities are commonly acquired through an individual's social network and decisions made upon information from social ties are much more prominent than formal search activities based on objective data. These findings are consistent with Johanson and Vahlne's claim that establishing relationships are of the most important in the internationalization process. Arenius (2005) finds support for the positive effect of social ties, or what she describes as social capital, defined as the quality of the external relationships possessed by the firm. According to her, social capital can help in attaining foreign partners through valuable contacts in networks. Also, the higher the social capital, the more attractive firms are as partners. This can be related to issues concerning risks and uncertainty. Decision makers respond to costs related to risk by placing more reliance upon social networks. Thus, social capital becomes a mean to increase legitimacy and market power.

2.3 Knowledge in networks

Returning to the paper by Terpstra and Yu (1990), the rider and the carrier in a piggybacking relationship commit to these relationships to overcome the barriers of lacking knowledge. Whereas the carrier buys the rider's products because the appropriate knowledge for production is perceived to be too costly to acquire, the rider will, in addition to managerial shortcomings, also lack knowledge of foreign markets. However, as these relationships mature over time, we assume that some of the knowledge will be transferred between the firms. We will in the following paragraphs discuss what types of knowledge is important in the internationalization process and knowledge dissemination between firms in network relationships.

When internationalizing, firms are dependent on different types of knowledge. Different researchers focus on different aspects concerning this matter. Eriksson et al. (1997) identify three components of knowledge critical to internationalization; internationalization knowledge, foreign business knowledge and institutional knowledge. Internationalization knowledge concerns the knowledge of the firm's capabilities and resources in enrolling in international operations. This kind of knowledge is firm-specific and describes the firm's ability of organize and manage internationalization efforts. Business knowledge is more external as it is concerned with knowledge about the customers, markets and competitors in the foreign markets. Institutional knowledge is defined as knowledge of governments, political and institutional frameworks and the way in which the bureaucracy works in the foreign markets in which the firms are engaged in. Mejri and Umemoto (2010) capture business and institutional knowledge into what they describe as market knowledge. They argue that the accumulation of this kind of knowledge is critical in the pre-internationalization phase to reduce the uncertainty and high risk of market entry. They also discuss the importance of cultural knowledge, which they refer to as "knowledge of values, manners, and ways of thinking of people in that market" (Mejri and Umemoto 2010, 5). Similar to institutional knowledge, cultural knowledge is associated with reducing uncertainties in factors that make it hard to understand foreign environments, a concept that in the literature is commonly referred to as psychic distance (Johanson and Vahlne 1977). Also, Johanson and Vahlne (2009) point to the importance of knowledge concerning how to coordinate relationships. Thus,

researchers focusing on different types of knowledge indicate the complexity of knowledge in the internationalization process.

A central element in the Uppsala model (Johanson & Vahlne 1977) is that the internationalization process is driven by direct experience and learning about operations in foreign markets. This kind of learning is termed experiential learning and is the cornerstone in reducing uncertainty associated with foreign market commitments (Johanson & Vahlne 2003, 89). Building such knowledge takes time, leading to an incremental increase in commitments in foreign markets. However, the Uppsala model has been cornered by a lot of criticism, as some researchers claim that the incremental view of internationalization is no longer as valid (Bell 1995), while others claim that the experiential view upon learning is too narrow (Forsgren 2002). Also, many studies have focused on the increasing importance of networks in the internationalization process of firms (Coviello & Munro 1997).

In a recent article by Johanson & Vahlne (2009), they present a revised version of the Uppsala model, acknowledging the limitations of their original work in not emphasizing the importance of network when explaining knowledge creation. While retaining experiential learning as a critical part of the model, they conclude that this is not the only way of developing knowledge. However, their main proposal is that knowledge is created and accessed through networks. We have previously discussed how firms outside networks suffer from the liability of outsidership. If firms are not enrolled in networks, they will not have access to the information existing within. Johanson and Vahlne (2009, 1416) describe how the lack of business market knowledge, which is related to the firm's business environment and actors they are doing, or trying to do, business with, constitutes the liability of outsidership. Or, in other words, how being enrolled in networks and gaining access to its knowledge help overcome this liability. Further, by having access to network knowledge, it will make it easier for firms to discover and exploit opportunities, as discussed earlier. Moreover, networks do not limit firms to knowledge access. According to the revised Uppsala model (Johanson & Vahlne 2009, 1416), the interaction between actors and their knowledge base may also lead to new knowledge, partially explaining the success of innovations developed between firms.

In his critical review of the original Uppsala model (2002, 271), Forsgren propose that firms invest in foreign markets without own experiential knowledge. He claims that firms will lower perceived risk in entering foreign markets by taking shortcuts by imitating successful firms. Forsgren does not take the networking perspective into consideration, but networks can give access to successful formulas and best practices when investing abroad, according to the revised Uppsala model. Also, Aitken et al.'s (1997) thorough investigation of spillover effects show that locating near other multinational firms increases the probability of exporting. Although the increase in probability is related to access to the same distribution channels, the spillover effects are also related to learning as potential exporters avoid costs and reduce risk by observing already successful exporters. Aitken et al. (1997, 128) provide statistical evidence supporting that exporting firms function as catalysts for domestic exporters, however the positive correlations are only present when established within the proximity of multinational firms.

The dissemination of knowledge between actors in a network is not exempt from complications. Lord and Ranft (2000) examine barriers of local market knowledge dissemination. They find that a high degree of tacitness is negatively associated with transfer. Tacit knowledge is largely accumulated through personal experience and cannot easily be separated from those possessing it (Lord & Ranft 2000, 577). Local market knowledge and the other types of knowledge mentioned at the beginning of this chapter are often tacit in nature. The knowledge may concern differences in culture and language, specific information about markets and/or information about institutions and bureaucracy. This is knowledge that is preferably acquired through first-hand experience, thereby making it more difficult to disseminate. This points to the importance of direct experience, and proves support for importance of experiential learning. In their research of experiential knowledge and cost in the internationalization process, Eriksson et al. (1997) find that sporadic interaction with market actors procures little experience. They stress the importance of direct experience and durable and repetitive interactions abroad. Since knowledge dissemination in networks often is assumed to be accumulated through a firm's direct experience with a market and then transferred to the other firm, the argument of the need for direct experience

challenges the contribution of knowledge dissemination in networks. According to Cubillo-Pinilla (2008, 107 & 119), firms with closer and more productive ties will have a better flow of information between them. In such relationships, the quality of the channels of communication will be better since the interdependencies between the firms will be greater, thereby improving information exchange.

2.4 Lock-in in piggybacking relationships

We will in this chapter look at how the piggybacking relationships affect the independence of the SMEs. One of the main disadvantages of a piggybacking relationship is that the SME can become locked-in, or in other words, dependent on the MNE.

Echeverri-Carroll et al. (1998, 724) believe lock-in is a relevant problem when the difference in size of the firms involved in the network or the relationship is large. This again will determine how the benefits are shared between the two parties. We will present two hypotheses that differ in terms of whether they believe lock-in is a relevant problem or not. The Management of Territory Hypothesis (MTH) states that the existence of a network generates asymmetric arrangements. The asymmetry depends on the unequal division of power among firms, where the relative power is correlated with the size of the firms. The Increased Independence Hypothesis (IIH) states the opposite, that relationships between a small firm and large firm present opportunities for the small firm in terms of access to knowledge. Furthermore, the small firm does not risk becoming dependent on the large, because the relationship provides mutual benefits (Echeverri-Carroll et al. 1998, 725-726).

According to the MTH (Echeverri-Carroll et al. 1998, 725-726) piggybacking relationships are expensive to create. The SME must organize production and plan how they are going to deliver the products to the MNE. This is a process that is time consuming and needs a lot of planning. It is also time consuming to cancel this relationship at a later stage; therefore SMEs become locked-in. The piggybacking relationship makes the SME less flexible. By increasing control, the larger firm can assure that they get high quality products on time. This reduces the power of the SME, and the firm gets less control over its strategic decisions. Since

the SME has limited production capacity, the relationship will also prevent the firm from developing new relationships and business deals as it is busy producing products for the MNE. This is also supported by Coviello and Munro (1997), who claim that network relationships speed up the internationalization process, however this process is a constraint to all other opportunities for the firm.

However, Echeverri-Carroll et al.'s (1998) research finds support for the IHH claiming that the asymmetric relationship does not lock-in the SMEs. In the study, it is shown that small high-tech firms gain, for instance, experience from establishing a relationship with an MNE. The relationship consists of mutual exchange of information, and the relationship helps small firms to export by making them more competitive. This can be interpreted as if the asymmetric relationship helps the small firm export in an indirect way, making them more competitive. A relationship with foreign firms has a direct effect on a high-tech firm's exports, independent of whether the small firm has or does not have a network with a larger local firm (Echeverri-Carroll et al. 1998, 730). The study also indicates that the small firms benefit from the relationship since they get access to information and that the asymmetric relationship increases their flexibility. Bradley et al. (2006, 661) stress that it is important to prevent opportunistic behaviour; it is necessary for the smaller firm to ensure that the benefits of supplier-customer relationships are reciprocal to ensure that asymmetrical dependence upon the relationship is avoided.

2.5 Entrepreneurship

Entrepreneurship is a multidimensional phenomenon and an activity that consists of several elements. When searching for this concept in the literature, we find no exact definition stated. We will in the following paragraph explain the meaning and our interpretation of entrepreneurship, and we will also emphasize the characteristics of the entrepreneurial individual to explain why this can be beneficial for a rider.

Gartner (1985), as cited in Becherer et al. (1999, 29), developed a model that explains the most important dimensions of entrepreneurship. The author claims that interaction between the individual and the environment surrounding the

venture can facilitate business opportunities. The main findings here propose that entrepreneurial behaviour is governed by experimentation and learning, and they emphasize that entrepreneurial behaviour is strongly influenced by random events (Becherer et al. 1999). Chell (2007) claims that opportunity recognition is an important entrepreneurial attribute. She states that individuals are good at recognizing and pursuing opportunities that create value for the organization, and that they are primarily driven by challenges. Another study by Morris et al. (2002) finds that entrepreneurs are focused on value creation, proactive identification and exploitation of opportunities. Entrepreneurs are also known as networkers (Birley 1985), and they use their social and personal networks to find and exploit mentioned opportunities.

Another important characteristic of an entrepreneur is proactive behaviour, defined as the extent to which people take action to influence their environments (Bateman and Crant 1993, 103, as cited in Becherer et al. 1999, 30). Bateman and Crant (1993, 105), as cited in Becherer et al. (1999, 30), describe proactive individuals as: "They scan for opportunities, show initiative, take action, and persevere until they reach closure by bringing about change". The authors believe that proactivity and entrepreneurship are directly related, being supported by Becherer's study (Becherer et al. 1990, 33). Inherent from definitions, proactive behaviour is important if the entrepreneur wants to experiment and learn from his/her environment. The learning process is influenced by the way the individual interprets the environment.

A key assumption is that entrepreneurs are likely to have a greater propensity to take chances and thrive to situations related with high risks (Busenitz 1999), and a lot of the literature has characterized entrepreneurs as risk-takers (Palich & Bagby, 1995). However, research has found little evidence supporting this claim. Brockhaus (1980) found that the risk propensity of entrepreneurs do not differ significantly from the rest of the general population. However, according to Palich & Bagby (1995, 428), entrepreneurs are notably more optimistic in their assessments of business situations. The entrepreneurs tend to evaluate situations more favourably and see opportunities rather than threats and potential for future performance improvement rather than deterioration.

2.6 Type of planning

As discussed above, proactive behaviour is an important aspect in the internationalization process as it explains how entrepreneurs discover and exploit opportunities, thereby creating value for the rider. Opportunities can occur in the entrepreneurs' personal networks and relationships, and it will be harder to recognize opportunities when the firm is rigid in planning business behaviour.

As riders often are SMEs, the decision maker has more power than in larger companies since the organization is significantly smaller. The smaller firms also have less experience, knowledge and are likely to have fewer strategic objectives because of the limitation of experience and knowledge. This means that there is less chance for planned behaviour as the firm is in an early phase of internationalization. Therefore, to achieve higher international involvement, management needs to compensate for lack of sufficient planning by showing more desire and enthusiasm towards overseas expansion and be more flexible in seizing occurring opportunities (Cavusgil, 1984, cited in Crick et al. 2005, 170).

Serendipity concerns the seizing of opportunities that arise and that the entrepreneur is ready to take advantage of them (Crick et al. 2005, 171). Such behaviour would benefit the rider in the pre-entry stage, since the firm is dependent to have decision makers that take initiative. Crick et al. (2005, 172) found that international entrepreneurial decisions are not as rational and planned as much of the literature suggests. Johanson and Vahlne (2009) support Crick et al. (2005), claiming that both internationalization and entrepreneurial processes take place under genuine uncertainty and are in most cases unplanned. According to Solberg (2006, 21-22), Johanson and Vahlne (1977) offer two explanations for why smaller firms often do not plan their actions. First, they are newcomers to foreign markets, and therefore, lack resources and experience to carry out market research. Secondly, they lack the necessary insight into foreign marketing issues, and therefore it will be difficult to define the needs. Solberg et al. (2003) explain that business opportunities arise coincidentally, rather than through market planning. The authors also emphasize that small firms with low preparedness for internationalization, and which operate in a global industry, will have difficulties in business planning because of lack of information and ability to plan.

However, in the later stages, the firm would benefit from increasing the strategic and planned behaviour, since the firm now has more experience and knowledge than in the earlier pre-entry stage. Still, it is important to emphasize that also in this stage too much rigidity in business planning will hinder the firm in exploiting occurring opportunities.

2.7 Type of product

The potential for global success differs among products. We will now take a closer look at firms in high-tech industries and how differences in characteristics of products will help or hinder in achieving global sale.

Chapman et al. (2004) investigate the development of the Aberdeen oil cluster. What they find is that firms diversify their operations in various directions. Some firms favour geographical diversifications into overseas oil-markets, whereas others choose sectoral diversifications, where the latter means bringing oil-related expertise into non-oil markets (Chapman et al. 2004, 386). The explanation for choosing either seems to stem from characteristics of the products that they offer. Those firms that choose sectoral diversification are mainly engaged in the more generic downstream activities. Oppositely, highly specialized firms in the upstream end are more suited for and likely to involve in geographical diversification. These are firms that offer niche products for their customers. Niche products are associated with expertise and skills and firms are thereby considered as having a specialist reputation as experts in the field in which they are engaged in. Being perceived as experts and experienced is considered a principal asset for a firm that helps facilitate entry into overseas markets.

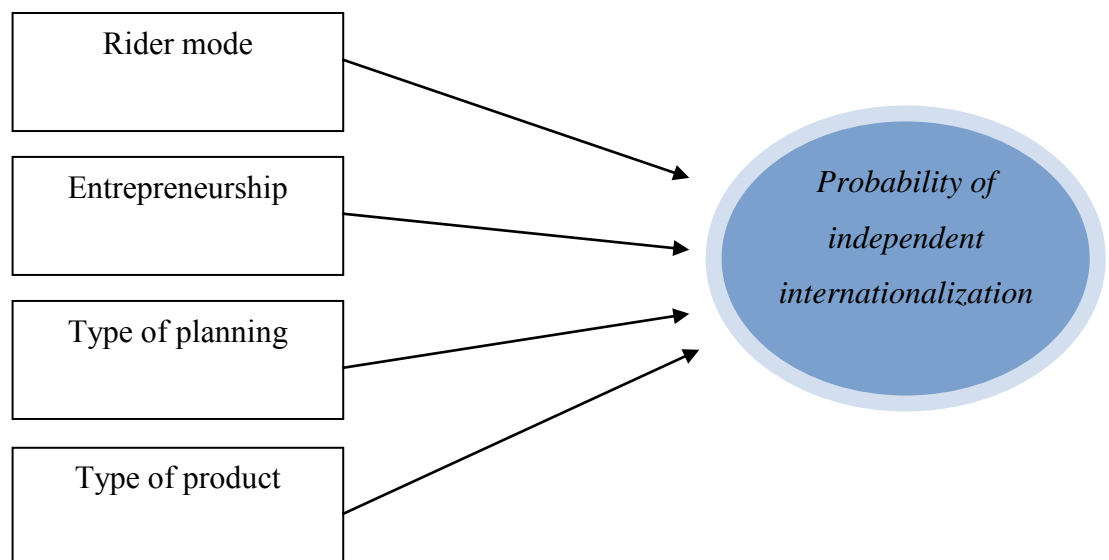
Hills and Sarin's (2003) characterization of high technology industries helps provide an explanation for why expertise and experience is critical in these industries. What they present is an industry that scores high on uncertainty both in technology and market and where the competitive situation is highly volatile. Uncertainty arises due to doubts about the functionality of the technology, whether it suits market needs and whether the market accepts the technology as a standard. Also, the rate of change in the market is high as the competitor basis is constantly changing. High-tech industries are, in other words, characterized by a

high degree of perceived risk by the participants. In these situations, expertise and experience becomes the most important competitive advantage in geographical diversification as it helps reduce the inherent risk for the firm's customer. Thus, highly specialized firms offering niche products, signal via their products offering expertise and skills, thereby making it easier to enter foreign markets.

3. Discussion and proposition development

In the following, we will discuss the main findings from the theory and present our research propositions. We have developed a conceptual model that assumes that there are four main factors influencing a rider's probability of independent internationalization success (Figure 1). Emphasis is on which rider modes are most likely to exploit the benefits that arise from being embedded in a network, thereby having a higher probability of independent internationalization. Further, the level of entrepreneurship, the firm's rigidity in following a planned business route and the type of product they offer will also affect the firm's ability to succeed without the aid of the carrier.

Figure 1



3.1 Rider Mode

Following the revised Uppsala model, a firm's mere presence in a network will increase its exposure to market opportunities. We believe that higher resource commitment and direct experience in a foreign market increases the probability of network access and thus the discovery of market opportunities. By committing more resources in their international operations, the rider moves to a higher-risk strategy requiring more active involvement from the management. The incentives to succeed internationally will be greater as the costs of losing will increase. As

riders usually are small firms lacking knowledge of markets and operations, relevant knowledge could be accessed through the carrier and its network.

According to Johanson and Vahlne (2009), the interaction between the partners in the network is of importance, meaning that maintaining a passive role will provide less effect. Active partners will thus be more firmly established in the network, benefiting more from the opportunities being presented. This is also in line with Ojala's (2009) claim that opportunity discovery is related to active firms.

Johanson and Vahlne (2009) also emphasize that commitment to the network facilitates trust. Accordingly, it is reasonable to expect that active members have better developed social relationships than passive members, thereby increasing the probabilities of discovering market opportunities through their informal contacts (Ellis 2000).

Foreign experience will also contribute to the rider gaining more access within the network. As the rider is not only limited to its domestic headquarter, it increases its presence in the market, having more contact points to the network and its members. This makes it easier for the rider to interact with other members and also increase its visibility within the network. More direct experience with the foreign market will also increase the risks and uncertainty, as it is exposed to a new market where it has less knowledge compared to the domestic headquarter. Thus, the rider will have incentives to take on a more active role.

Therefore, there are reasons to believe that Foreign-established riders (FR) will have the highest probability of discovering market opportunities as they commit the most resources and at the same time have the highest degree of direct experience in the foreign market. Although both Involved (IR) and Exporting (ER) riders commit low levels of resources to international operations, we believe that the IR will have higher probability of discovering market opportunities as they have more direct experience with foreign markets. Thus:

P1: FRs have the highest probability of discovering market opportunities, whereas IRs have a higher probability than ERs.

According to Johanson and Vahlne (2009), knowledge exists in and needs to be accessed through the network. It is therefore reasonable to assume that firms which are firmly embedded in networks have a higher probability of accessing

network knowledge than those who have a looser connection. Following P1, FRs will have easier access than other firms. We do, however, believe that the level of direct contact with foreign market will have effect in ways that are not fully captured by the arguments used in the discussion leading to the first proposition. Knowledge related to the internationalization process is characterized by a high degree of tacitness. However, the tacit form of knowledge impedes knowledge dissemination (Lord & Ranft 2000, 576). Following the earlier presented arguments of Eriksson et al. (1997), direct contact with foreign markets is important in overcoming the barriers of knowledge dissemination, as direct experience facilitates experiential learning. This means that tacit knowledge that is difficult to disseminate is gained through own experience. Also, firms with more direct contact with foreign markets will be more exposed to the carriers' international operations. This makes it easier for the rider to observe and learn the carriers' practices, thereby increasing the chances of gaining access to best practices.

Therefore, firms with more direct experience with the foreign market will have advantages in gaining knowledge both because they (according to P1) are more embedded in the relevant networks and because they gain more knowledge than those with less direct experience. Thus:

P2: FRs have the highest probability of gaining network knowledge, whereas IRs have a higher probability than ERs.

It has been established that a rider will, to a certain degree, be dependent on a carrier, mainly because of the relative importance of the carrier's purchase on the rider's turnover. This is the ground for the relational asymmetry put forward in the Management of Territory Hypothesis (MTH). From the discussions leading up to P1 and P2 it is clear that opportunities for businesses arise from the discovery of market opportunities within the network. The question, then, is how the rider should organize its operations to ensure maximum probability of discovering opportunities.

By escalating from an ER to an IR or FR mode, the rider immediately increases its knowledge and learning outcome from international operations. This should be viewed as one of the benefits a rider would receive from the relationship, in

accordance with the Increased Independence Hypothesis (IIH). In addition to discovering how to more effectively run international operations, riders will also have direct access to the other members of the network. When making connections with these other firms, the probability of opportunity discovery increases. Opportunity can arise both through formal business initiatives and through personal connections.

The main difference between the IR and FR mode in this effect is the consistency of the international activity. Of course, by being present in an international location (FR), not only is the international operations learning constant, but the rider is also more ready to capitalize on opportunities that may arise in that location. By contrast, IRs are more dependent on the carrier. They are therefore susceptible to the carrier's opportunistic behaviour. The carrier could possibly attempt to limit the interaction with other network members in fear of dissemination of crucial knowledge and thereby loss of competitive advantage. It is on the basis of these reflections we propose that:

P3: FRs have a lesser probability of experiencing lock-in, whereas IRs have a lesser probability than ERs.

3.2 Entrepreneurship

Entrepreneurial attitude affect the rider in a piggybacking relationship both directly and indirectly. Directly, through the vision and drive to move up through the rider mode hierarchy and indirectly, through the notion of seizing opportunities that materialize in the daily running of the company. According to Palich & Bagby (1995), it will positively affect the independent internationalization that the entrepreneurs are more optimistic in their assessments of business opportunities, and that they are willing to take more risks, as they emphasize opportunities rather than threats. Chell (2007) claims that opportunity recognition is an important entrepreneurial attribute and entrepreneurial individuals are creating value for organizations due to the thrift for recognizing opportunities. Chell's statement fit well with Becherer's (1999) argument; that entrepreneurs scan for opportunities and show initiative. Entrepreneurs are also known to be good networkers and to utilize opportunities that arise through the occasional contact with other network members (Birley 1985). We believe that

mentioned attitudes would be advantageous for the rider in their process of independent internationalization.

P4: High entrepreneurial attitude increases the probability of independent internationalization for all piggybacking modes.

3.3 Type of planning

According to Crick et al. (2005) and Johanson and Vahlne (2009), internationalization and entrepreneurial processes take place under genuine uncertainty and are seldom caused by planned strategies. Johanson and Vahlne (1977) also claim that small firms lack the knowledge and experience that one must have to utilize planned strategies. According to Hills & Sarin (2003), SMEs operating in high tech industries, with high uncertainty, have challenges in planning strategies due to the continuous shifts in the industry. This increases firms' rigidity in their business behaviour. If a firm gets locked-in to the strategies, it will be more difficult to adapt to rapid changes in the industry and discover new opportunities. Also, to plan successfully, firms will need sufficient market relevant information, however, lack of information is a recurring problem and often a reason for why a rider involves in a piggybacking relationship.

When the rider matures internationally, they gain experience and knowledge about the market, thus planning will prove more successful. Still, too much rigidity decreases the firm's ability to discover occurring market opportunities. As Solberg et al. (2003) point out; firms in global industries, lacking information about the internationalization process, will have difficulties in successfully utilizing planned strategies.

P5: A high level of rigidity in a rider's business planning reduces the probability of independent internationalization.

3.4 Type of product

Returning to the discussion regarding types of product and the potential for internationalization, whether a rider provides the market with a highly specialized or generic product will affect its potential to succeed independently. A rider that produces a high tech, specialized product will have a better starting point than

other firms, *ceteris paribus*. They will more easily be associated with expertise and experience, traits that are important for potential customers in reducing risks and uncertainties. Obviously, firms producing niche products will also have fewer direct competitors providing similar products. Hence, they will be more attractive because of shortage of alternatives.

P6: Riders producing specialized niche products have a higher probability of independent internationalization relative to riders producing generic products.

4. Method

The subsequent chapter will present the choice of method and the work that has been done to assure sufficient methodological quality. We have conducted a multiple-case analysis with an emphasis on in-depth interviews. The method being qualitative in nature opens up for the general criticism regarding lack of objectivity in the analysis of data and lack of structure in research design and procedure. To overcome potential criticism, it is critical to give a thorough description of the research conducted so that reviewers can follow the logic all the way from the initial research question and through to the final conclusion. A central aspect in that respect will be to identify the potential sources of errors and the steps we have taken to minimize their effect.

The chapter will begin with a discussion of the methodological effects of the research question and propositions. We will then describe the unit of analysis where issues concerning the cases will be discussed. Further, the section on data collection focuses on the development of instrument and process while the section on analysis explains the analytical method and defines critical concepts. We will in conclusion give a general assessment regarding validity and reliability.

4.1 Research Question and Propositions

The research question is the foundation of the study as a whole and is decisive in choice of method. Our research question: *Under which circumstances do piggybacking increase the probability of a rider evolving into an independent international actor* is explorative in nature and is based on the review of the literature on piggybacking. As the concept of piggybacking in business literature is quite recent, and there is not a lot of literature on the concept, we wanted an open research question because of the literature's insufficient guiding. However, to narrow the scope of the study, we developed six propositions based on a thorough literature review. The reason for this is to give a more concrete direction to the study. Criticism might be raised that concrete propositions may limit the explorative purpose of the research question and be more suitable for descriptive research. Yin (2003) points out that propositions are not necessarily needed when dealing with cases of an explorative nature. However, even if the propositions suggest an expected direction, they are developed in such a way that they open up

for a discussion and are thus suitable for exploration using case analysis.

Propositions also help in giving structure when we later analyze the data.

4.2 Unit of Analysis

Choosing the cases is a critical step of the research and contains many pitfalls.

The choice must be guided by the research question and propositions which leads us to choose SMEs being involved as riders in piggybacking relationships. As this research paper is part of a greater research project concerning the NCE Subsea cluster in Bergen, we are required to use firms belonging to this cluster as cases. This brings both positive and negative effects. The cases will belong to the same industry and thus be easier to compare as there are fewer industry specific differences that we will be needed to take into consideration. However, our research question is not industry specific. In one way the findings are more applicable, as they can be linked to industry, but it is difficult to say something about the findings' application to other industries. Being part of a research project, you are a part of a network that is connected to the cluster and its firms. We experienced that it made it easier to get firms to approve to participate as cases, meaning that the quality of the cases is higher than they would have been without the project network. Still, many firms did not have time to participate and the most optimal cases were not always available.

To be able to answer the propositions, we needed cases that consisted of riders belonging to each of the three rider modes. This was achieved. However, we found that no firm depend solely on piggybacking in their international activity, a point that is contrary to what theory assumes. This disparity between theory and reality puts constraints on the analysis. We are not able to, as easily as expected, separate the effects of piggybacking from other international activities. For example, the increase in knowledge we expect to find related to the first proposition may be a result of other international activities than piggybacking. This is an aspect we need to take into consideration when we analyze the findings.

Doing a multiple-case analysis we need to consider the number of cases included. Yin (2003) argues that every case should serve a specific purpose and that there is no exact formula for choosing the correct number. The choice must be made

regarding the researcher's judgement of the desired certainty that is wanted for the results. For our research, we believe it is important to have two or more cases pertaining to each of the rider modes. We initially wanted three cases for each rider mode, but were not able to find three cases fitting the IR mode. Therefore, we have three cases for the ER and FR mode and two cases belonging to the IR mode.

We have chosen to keep the cases anonymous. This is not optimal. Yin (2003) reports that the most desirable option is to disclose the cases. He gives two reasons for this. First, the reader can recall previous information about the cases and second, the cases can be reviewed more easily. Half of the cases we studied wanted to maintain anonymous and we had to make a choice whether we wanted to keep all cases anonymous or disclose those who gave approval for disclosure. The latter alternative was assessed to be a compromise that would not add any value, but rather make the report look messy and unstructured. Thus, we decided not to disclose the cases but have labelled them Firm A, Firm B etc. Firm A to C belong to the ER mode, Firm D and E are IRs while Firm F to H are firms belonging to the FR mode.

Choosing the optimal cases is rarely possible and we will end this paragraph by focusing on weaknesses in the cases. We have already touched upon the fact that no firms are sole piggybackers. Also, there is a disparity between the firms regarding how long they have served the international market and how long they have been riders in a piggybacking relationship. The propositions require comparison of the cases and differences in the length of time firms have been riders will naturally constrain comparison. The potential differences that may be found in the ability to discover market opportunities may not only be related to rider modes if one firm has been a rider longer than the other. Another potential problem is related to firms moving between rider modes, a problem which is relevant for the IRs and, specifically, FRs. Both rider modes have previously belonged to another rider mode. FRs were prior to their foreign establishment ERs or IRs. We want to examine the separate effects of each rider mode, but need to take into consideration that the effects may also be a result of the riders previously belonging to a different rider mode.

These problems we have listed here are a result of compromises needed to be taken because of optimal cases not being available. However, it is also a recognition that literature and reality does not match completely. Therefore, it can be seen not only as a disadvantage, but also help in aligning theory to that of reality. As researchers, we need to acknowledge these facts and take them into account when analyzing the data.

4.3 Data Collection

We will now elaborate further on the choice of data collection methods and the structure of the interview guide and data collection process.

4.3.1 Instrument

In-depth interviews are the most obvious choice for the case analysis. According to Burgess (1982, quoted in Easterby-Smith et al. 2008, 144) in-depth interviews give us the opportunity to probe deeply to discover new clues and ideas, open up new aspects of a problem and to secure vivid, accurate and inclusive accounts that are based on personal experience. Thus, in-depth interviews are useful when your aim is to get a deeper understanding and fits well with the exploratory research question. A common argument by researchers, also proposed by Yin (2003), is to use multiple sources of evidence: triangulation. The rationale is clear, findings from a study will be more accurate and convincing if they are based on more than one source of information. The main emphasis in our case analysis is the in-depth interview. However, we have also relied on secondary information from internet home pages and informational brochures of the different firms. This has served different purposes. First, it has helped us in enhancing our knowledge about the firm prior to the interview. Entering an interview with little knowledge about the firm may be considered disrespectful by the interviewee. Secondary information also helps in developing the interview guide. As the managers of the firms have limited time to spend on the interviews, we are able to rule out some questions that may be found using secondary information. Finally, secondary information can be used to verify some of the information we receive during interviews. Thus, secondary information and data triangulation helps in ensuring the methodological quality.

4.3.2 Interview guide

We will now give a description of how we designed and developed the guide. The interview guide is included in its original language in the appendices (Appendix 1).

Yin (2003) states that questions in a case study interview will be fluid rather than rigid and that the interview should be of an open-ended nature. This does, however, not mean that you should not develop pre-determined questions. We are required to balance the need for exploration and to receive data that can answer the propositions. For these reasons we have developed a semi-structured interview guide that opens up for both conversation and structure. A semi-structured interview guide fits well with Jones (1985), as quoted in Easterby-Smith et al. (2008, 142) who argues that many researchers start making early assumptions prior to the study, however many of these assumptions and early understandings do often change under the progress of the research due to new and interesting topics appearing. A semi-structured interview guide will give us an opportunity to modify the question during the data collection, and assess which questions which need to be explored further.

The structure of the interview guide follows the propositions. The first part of the guide is meant to establish which rider mode the firm belongs to, whereas the six following parts are meant to explore each of the propositions respectively. As such, it is easier for us to obtain the necessary information on each part before we consider it appropriate to continue to the next. The interview is supposed to gain understanding of the piggybacking concept and how it may lead to independent internationalization. That means that it is necessary to explore and encourage the respondent to give detailed descriptions and answers to the propositions. This calls out for open-ended questions, which elicit more than just one sentence answers. In the interview guide, the first questions pertaining to each proposition are open-ended as we encourage the respondent to *describe* their thoughts on different subjects.

Although open-ended questions are mostly preferred, they are not always the best way of obtaining the information needed (Easterby-Smith et al. 2008, 147). Open-ended questions may lead the respondent straying away from topic, and in such

situations closed questions may force him or her to focus. Also, occasionally, we want a concrete answer to a question. In our interview guide, asking whether the respondent's firm is established in a foreign market is best asked with a closed question. Additionally, to get more out of a respondent's answer, we as interviewers should employ a technique called laddering (Easterby-Smith et al. 2008, 146-7). Here, we follow up on the respondents' answers by asking them to reveal more, simply by asking *why-type* of questions. Using our interview guide, the respondent may initially not describe all he knows about how his products are sold to the international markets. Then, we may follow up with *could you give an example of how the products are sold? Or why do you sell to these markets?* Open-ended questions will encourage respondents to be detailed, but this does not assure that all relevant information is exchanged without following up questions. As it is difficult to know where respondents may need follow-up questions, and how these may be formulated, they are not included in the interview guide, but are dependent on us as interviewers being knowledgeable of the literature.

Regarding wording and concepts, we have deliberately excluded words we believe are mostly used in research and not in practice. For example, even though we use the term *lock-in* in this report, we have refrained from using it in the interview guide as we believe *dependence* and *power balance* will be more clearly understood by the respondents. Also, with regard to wording and question phrasing, we have attempted to avoid leading questions, as they make it easier for respondents to give answers that the researchers want (Easterby-Smith et al. 2008, 228). Open-ended questions, asking the respondent to *describe*, has a neutral basis, and the respondent can answer freely without feeling restricted to please the researchers in a particular way.

A final word related to the interview guide concerns the language used. The managers of the firms we have interviewed are Norwegian and the interview guide is written in Norwegian. This presents some challenges. As research literature is written in English, relevant words and terms needed to be translated into Norwegian. This is a potential source of error as the Norwegian words may not necessarily hold the same meaning as the English. Also, the translated Norwegian word may also hold more than one meaning which may lead to interpretational problems for the interviewee. The same problem relates to the

translation of data from Norwegian back to English. Optimally, we would have had translators or other experts doing this job for us. Because of lack of time and resources, this has not been possible.

4.3.3 Procedure

Following is a description of how the interviews were performed and how we have stored the data.

We have already described how the firms were approached when asking for participation in the research. This means that us as researchers did not have any contact with the firms before the time of the interview, and the firms did not receive any information regarding the interview beforehand, except from the information the managers had received when they were approached the first time. There is always a question of how to balance between a well prepared case respondent and a case respondent that has pre-developed answers because he has received too much information about the interview in advance. We came to the conclusion that the case respondents, being either CEOs of the firms or marketing managers had sufficient information about the firms' internationalization, meaning information in advance was not required. This does, however, mean that some questions may not be fully answered as the respondents are not fully prepared. Because we had not met before, we needed to spend some minutes describing the research and its purpose and answer questions the respondent may have. This was necessary to establish trust and credibility. Students do not have the same credibility as full-time researchers, and if the respondent does not perceive the interviewer to be professional he may lose interest and not reveal all the necessary information.

An obvious weakness in the research is the lack of pretesting and training before the interviews. The interviews had to be conducted early in the research process and we did not have time for pretesting. This practically means that the first interview(s) served as a pre-test and that the interviews differ in quality. There were negative experiences in the first interview that lead to a different structure in the preceding interviews. We tried to more rigidly follow the interview guide in the first interview, but experienced that it compromised the flow of the

conversation. Thus, we made changes related to that experience. With a pre-test and training, this would have been avoided and we would have achieved a higher quality throughout the interviews.

The interviews were performed using a tape recorder. We did not experience that it lead to scepticism from or discomfort for the respondents. Tape recording assures that we do not miss out on any data. A priority for us was to keep a conversational flow. That meant that we needed to stay constantly focused. As the interviews lasted from one and a half to two hours, interviewing was mentally exhausting and in itself a threat to the conversation. In addition, we are not experienced in conducting interviews. Thus, we decided to avoid as many elements as possible that could threaten the flow of the conversation. This resulted in the choice of not making case notes. A weakness is that we lack assessments made then and there and that we can only rely on the verbal data from the tape recordings. However, we were able to focus on the conversation itself, meaning that it was easier to probe the respondents answers and hopefully get them to reveal more information.

Data was collected using the tape recorders and then directly transcribed into Microsoft Word documents. The transcriptions of the interviews are thus the main source of data in the research and analysis and are available for reviewers. The full transcriptions of the data are not included in this paper. Instead we have chosen to include the most relevant data from the interviews that highlight the findings from each of the interviews. However, the full transcriptions are available for reviewers upon request.

4.4 Analysis

The analysis of the case study will focus on whether the data fits the predetermined propositions. The selected method of analysis is pattern matching. According to Yin (2003) pattern matching compares an empirically based pattern with a predicted one. In our case, the propositions are the expected pattern while the data are the observed patterns. The job, then, is to assess whether they match or not. However, a relevant question is how we should analyze the patterns? To be better able to analyze the propositions we need to clearly define how to measure

the critical concepts of the propositions. For example, how should we measure market opportunities in P1? To be able to compare across the different firms we have developed a common template for each of the critical concepts. These are developed based on the reviews of theory.

4.4.1 Concepts

We have identified seven concepts that are critical in the measurements and comparison of cases, and which need to be further defined. These are rider modes, market opportunities, network knowledge, lock-in, entrepreneurship, rigidity in business planning and high-tech products. The first concept, rider mode, will establish which type of rider the firm belongs to while the six latter are linked to each of the six propositions.

1. Rider Mode
 - a. Does the firm export indirectly?
 - b. Is the firm established abroad?
 - c. Does the firm have foreign experience?
 - d. Does the firm have a close relationship to their carrier?
2. Market opportunities
 - a. Has the relationship with carrier lead to market opportunities?
 - b. What type of opportunities?
 - c. Has the relationship with carrier extended the international network?
 - d. Is the firm actively seeking opportunities in the network?
3. Network knowledge
 - a. Has the relationship with carrier lead to network knowledge?
 - b. What type of knowledge is accessed?
 - c. Is knowledge accessed through own experience or carrier's network?
4. Lock-in
 - a. Does the firm perform international activities independently from carrier?
 - b. Does the relationship constrain independent activities?
 - c. Does the relationship contribute to independent activities?

- d. Has the rider invested high amount of time and resources in the relationship to the carrier?
5. Entrepreneurship
 - a. Degree of international ambitions?
 - b. Degree of risk aversion?
 - c. Degree of active involvement in network?
 - d. Degree of active opportunity seeking?
 6. Rigidity in business planning
 - a. Does the firm carefully plan international activity?
 - b. Are the international activities a result of detailed planning?
 - c. How is the ability to adapt to market changes?
 - d. How is the ability to develop international business plans?
 7. High-tech product
 - a. Is the firm considered experts in their field?
 - b. Does the firm deliver customized products?
 - c. Does the product development require specific knowledge?

We will give a description of the findings and data related to these questions for each of the eight cases. These descriptions will be included in the appendices. Apart from making the measurement and comparison between the cases easier, this is a good way of presenting the most relevant data from the case interviews.

4.5 Validity

The reader may have noticed that there has not been much discussion regarding validity. As we will see, with regard to a qualitative design, validity becomes problematic.

Validity is concerned with finding the truth and establishing if we are measuring what we want to measure. Cook and Campbell (1979) divide validity into four groups; statistical, internal, construct and external, where we will focus on the two latter. What Cook and Campbell describe, is validity in the context of experimental design, thus they are concerned with causality. This is the main goal of internal validity that seeks to find out, when it is established that variables covary, if there exists a causal relationship between them (Cook & Campbell

1979, 50). Causality can, however, not be found using an explorative design, nor is it the aim. External validity is concerned with generalizability, which also does not correlate with explorative and qualitative designs, as we are concerned with creating understanding and not testing hypotheses that can be generalized to the population. Generalizable results also require randomized sampling (Cook & Campbell 1979, 75), a requirement that is not satisfied in this research.

Guba and Lincoln (1985) have presented alternative criteria as alternatives for both internal and external validity, in addition to reliability and objectivity. They recommend that, instead of internal and external validity, one should focus on credibility and transferability. Internal validity, in principle, is concerned with exact reality. Fitting better with explorative research questions, credibility is more about producing results that make sense and are believable, more than describing the true reality. When we analyze the data through pattern matching, we are not able to determine with certainty that the findings match reality. We can only assess whether the observed pattern match the expected and conclude whether it makes sense or not. To achieve credibility, triangulation of data is recommended to satisfy the requirements. This is an element which could be considered a slight weakness in our study. Even though we rely on secondary information as well as in-depth interviews, the emphasis is the interviews. Thus, a well developed method of data triangulation is lacking. Regarding transferability, it concerns whether the results can be transferred to other contexts. Here, the researcher is expected to, as thoroughly as possible, describe the research assumptions and setting, so that others that want to transfer the results can judge themselves how transferable the results are. This is among the main arguments for a thorough description of literature, method and analysis in a research paper. Developing a thorough and detailed description, other researchers can assess whether this situations/context is sufficiently similar to the situation they themselves are investigating.

Closely connected to validity is the concept of reliability. Reliability deals with instability of the measure and whether we will obtain the same results every time we measure. According to Golafshani (2003, 601), there are differences in purposes of evaluating quality of quantitative and qualitative studies. In quantitative studies, the quality is related to the *purpose of explaining*, whereas in

qualitative it has to do with *generating understanding*, meaning the reliability concept is irrelevant in qualitative studies. Golafshani (2003, 601) cites Stenbacka (2001), who goes as far as to assert that qualitative studies discussing reliability signal that the study is not good. Guba and Lincoln (1985) replace reliability with dependability. In qualitative research, one needs to account for changes. To satisfy the criteria of dependability, we need to describe the changes and how these affect and might affect the study and how we have adjusted to the changes. As with transferability, our description of method and the process of the study are important to account for dependability.

5. Case presentation

We will in the following present a brief description of each of the eight cases and the industry and milieu they belong to. As discussed in the previous chapter, a presentation of corresponding data is included in the appendices.

5.1 NCE Subsea

The basis of the study is the NCE Subsea cluster located in and around the Bergen area. Containing approximately 100 companies and organizations, this cluster is among the world's leading in products and services related to operation, maintenance, monitoring and upgrading of subsea installations (Econ-note 2009, 9). The cluster has been growing rapidly, and as the oil and gas fields in the North Sea is becoming more and more developed, the domestic market is decreasing. As a consequence, the subsea cluster is internationally oriented and a large part of the companies' sales crosses the Norwegian border.

As the cluster is centred among major international companies, it contains a wide variety of SMEs that function as subcontractors for the bigger companies. Even though varying, many of the SMEs have a relatively large export share. However, much of this is indirect export through the earlier mentioned international companies or through total suppliers, where the products are a part of the supplier's bigger package. As it is the total supplier that is responsible for contracts and customer relations, SMEs' are mainly in contact with the supplier as long as installation, training or maintenance is not required (Pettersen et al. 2008). Thus, a large proportion of SMEs belonging to the cluster can, according to our categorization of riders, be categorized as ERs or IRs. Still, SMEs in the cluster have followed different paths with regard to internationalization and some firms have climbed more steps on the internationalization ladder than others. With a lot of subsea activity being centred in Houston and Brazil, some firms have established subsidiaries in these markets, often as a consequence of following a customer abroad. These firms have evolved to the third category of rider modes, becoming FRs.

5.2 Firm A

Founded in 1991, Firm A is mechanical machining workshop delivering both standardized and custom designed stainless hydraulic components to the subsea and offshore sector. The firm is located in Bergen and has no subsidiaries in other countries. International sales are mostly indirect export through domestically located wholesalers within hydraulic components, with a few exceptions of occasional direct export to international customers. Also, Firm A does not focus heavily on international marketing. Thus, both their resource commitment and foreign experience is low. Firm A is categorized as an ER.

A presentation of data is included in the appendices (Appendix 2).

5.3 Firm B

Firm B is a valve manufacturer for the oil and gas industry, specializing in custom made valves of high quality. They were founded in 1987 and located in Bergen with no international subsidiaries. Similar to Firm A, international sales are mainly achieved through indirect export, with occasional orders directly from international customers. In contrast to Firm A, Firm B has foreign distributors in the US and Canada. Firm B focuses only on production and sales, and does not go abroad for specific transactions. Similar to Firm A, the international marketing budget is low. Thus, both resource commitment and foreign experience is low. Firm B is categorized as an ER.

A presentation of data is included in the appendices (Appendix 3).

5.4 Firm C

Firm C is a supplier of pipes based in Bergen and founded in 2004. They supply pipes, fittings, flanges and special items to the oil and gas industry, shipyards and land-based industry. The firm mainly exports indirectly to foreign customers from their HQ in Norway and through their agents in addition to cooperating with big operators on foreign oil projects. However, they own a sales subsidiary in Uruguay, but this subsidiary is less than a year old and functions more as a pilot project, thus no significant strategic role at this moment. Hence, firm C is

categorized as an ER because of low international resource commitment and low degree of experience in the foreign markets.

A presentation of data is included in the appendices (Appendix 4).

5.5 Firm D

Firm D supplies a full range of services to the offshore energy industry ensuring safe and efficient management and execution of operations. Their HQ is located in Bergen, and they deliver project management to both Norwegian and foreign operators. Firm D provides technology knowledge and consultancy services, and the carrier invites the firm into the exports markets for specific transactions. Firm D has no branches or subsidiaries in the foreign markets. Thus, Firm D categorized as an IR.

A presentation of data is included in the appendices (Appendix 5).

5.6 Firm E

Firm E develops products related to detecting subsea oil and gas leakages and the monitoring of subsea equipments. The firm, founded in 1999 is located in Bergen with no additional subsidiaries. Similar to the ERs, Firm E sells internationally via total suppliers. However, as their products require installation and maintenance, Firm E has an aspect of international operation that ERs lack, resulting in a higher level of foreign experience than ERs. Thus, resource commitment is considered low whereas foreign experience is medium. Firm E is categorized as an IR.

A presentation of data is included in the appendices (Appendix 6).

5.7 Firm F

Firm F is operating primarily in the offshore industry, and serves customers with seismic and subsea related products and services. The products are mostly sold directly to the operators in the industry. The firm was founded in 1974, and the HQ is located in Bergen. The company have branches in Kongsberg, Aberdeen and in Houston. The different branches give them the opportunity to stay close to

their markets and customers which is important for service and maintenance of their products. Firm F is a good example of a rider that follows the carrier into their foreign market by establishing their own subsidiary close to the carrier. The degree of experience in the foreign market and the resource commitment are also higher than both ERs and IRs. Thus, Firm F is categorized as an FR.

A presentation of data is included in the appendices (Appendix 7).

5.8 Firm G

Firm G is a spinoff from an international oil company and was founded in 2005. The firm have branches in Oslo, Stavanger and Houston. They are producing electro-hydraulic control systems within the oil and gas industry. Most of the products are sold directly to the operators, however the firm sometimes operates as a subcontractor. Firm G is very similar to Firm F, as they also have followed an important customer abroad to the market in Houston. Therefore, Firm G has a higher degree of experience in the foreign market and has committed more resource compared to both ERs and IRs. Thus, Firm G is categorized as an FR.

A presentation of data is included in the appendices (Appendix 8).

5.9 Firm H

Firm H presents a challenge in the categorization of firms. Founded in 1979, Firm H delivers a wide range of products including aviation fuelling systems, diving systems, engineering, surveillance, lifting and handling and subsea tooling. The firm sells internationally through different channels. A lot of the sale is indirect export where they function as subcontractors. They do, however, also export directly to international customers via agents in different parts of the world, with an emphasis in Asia. Firm H has also established offices in Aberdeen and Houston. Whereas the Aberdeen subsidiary is a sales subsidiary, the two year old subsidiary in Houston has up until present date only performed marketing activities, making the brand name known. From a piggybacking perspective, Firm H is an IR. It sells internationally through total suppliers and follows them abroad for specific transactions with regard to installation and maintenance. The

subsidiaries in Aberdeen and Houston are not a result of following customers, rather a strategic choice founded on the potential of the market. However, even though Firm H's foreign subsidiaries are not a result of following customers, because of the size and importance of these international investments, we cannot disregard the foreign experience and resource commitment these subsidiaries has brought forth. Thus, both resource commitment and foreign experience is high. Firm H is categorized as an FR.

A presentation of data is included in the appendices (Appendix 9).

6. Analysis

We will in this chapter analyse the case studies. Each proposition will be dealt with separately and presented with a conclusion. The main findings are summarized in Table 2 on page 61. Chapter seven will give a summarized conclusion.

To make it easier for the reader, we will first repeat the description of the different rider modes:

1. Exporting Rider (ER)

A domestically established rider sells internationally by selling through a carrier. The carrier moves the products to the international market either by resale or by bringing the products to the carrier's foreign subsidiary. The rider exports indirectly and receives no foreign experience.

2. Involved Rider (IR)

The involved rider resembles the exporting rider as their international sale is based on indirect export through a carrier. However, the carrier invites the rider into the export markets for specific transaction. Reasons may be training of personnel or product instalments.

3. Foreign-established Rider (FR)

Here the rider follows the carrier into their foreign market by establishing their own subsidiary close to the carrier. The rider is invited to co-establish with the carrier for reason of cooperation.

6.1 Rider mode

P1: FRs have the highest probability of discovering market opportunities, whereas IRs have a higher probability than ERs.

We will in the analysis of proposition one first look at the three different rider modes separately before we compare them and conclude.

Exporting Riders

With regard to the three ERs, we find that they differ somewhat in their experiences of discovering market opportunities. Firm A seems to have benefited the least from their role as an exporting rider. Their perception is that they are too

far down the chain to gain much positive effects. Firm C, on the other hand, are more optimistic, claiming that indirect export yield positive effects with regard to reference value and new customers. We find that, even though the perceptions vary, certain similarities can be found across the ERs. The market opportunities can be placed in two categories; reference value and opportunities arising in the direct relationship between the rider and the carrier, with the size of the carrier having a moderating effect.

Reference value is emphasized by both Firm B and C. Selling internationally through a carrier, the rider proves that it has the qualifications and capabilities of serving an international market. Equally important is the value of referring to an international project the firm has served when marketing to international customers. However, for these effects to occur, it requires that the firm's contribution to the final international sale is visible. According to Firm A, the role they are playing in the final delivery is too small to have any effect; the sale does not result in any reference value. An important aspect is the size and reputation of the carrier. Being a rider to a major player is a great market advantage. First, there is heavy competition among all suppliers to deliver to the biggest companies. Winning a contract is a quality assurance, an element which is particularly important in the subsea industry. All three firms emphasize the value of serving an important market player, but only Firm B and C believe that it has lead to interest from other potential customers. Second, referring to these projects in marketing purposes is more powerful. However, the problem experienced by Firm A is then more relevant. Bigger companies often have bigger projects, and the rider may find itself in a position where their contribution is not sufficiently significant.

The initial argument was that opportunities arose with regard to the carrier's network members. However, the cases suggest that opportunities are directly linked to the carrier. In their start-up years, Firm A was close to establish a foreign subsidiary in Brazil together with their carrier. The carrier was planning to expand their business, and being satisfied with Firm A's delivery, wanted to co-locate and cooperate. For strategic reasons, this opportunity was not followed. Firm C also emphasizes the relationship with the carrier as the most important. Successful rider-carrier relationships have seen Firm C being introduced by their carrier to potential international customers, amongst them in Thailand and Korea.

We have assumed that riders will incrementally follow the three rider modes. An interesting finding from Firm B shows a different strategy. The firm emphasizes the reference value of indirect export, but even more, the importance of indirect export as a method of market testing. Indirect export has given them assurance that their products have a market potential, but instead of pursuing a more independent international strategy, they have entered into distributional agreements overseas. The reason for this is a lack of required resources. However, the overall vision is to eventually become more independent. What this finding shows us is that market opportunities linked to internationalization does not necessarily mean a more independent strategy.

Involved Riders

The two IRs' experiences with regard to discovering market opportunities differ quite a lot. While Firm D certainly has benefited from foreign experience, Firm E's market opportunity discovery resembles that of the ERs. We believe that the main reason for the difference is the firms' degree of end customer interaction. Firm D has a much bigger service component as part of their product package, amongst them consultancy services. This means that the carrier more frequently presents the firm to the international end customer. According to Firm D's manager, this has been of great significance in the development of their international business. Like the ERs, they have benefited from reference value, but moreover, they have developed personal relations with the end customer. Through personal relations, they have been introduced to other potential international customers and they have been invited to establish abroad together with the customer. After having delivered a project and being introduced to the international customer, Firm D was invited to co-establish in the Middle East. The personal relations have given Firm D the opportunity of direct international sale and foreign establishment.

The situation is quite different with Firm E. Foreign experience is related to maintenance and support of their products and they have limited interaction with the international end customer. They emphasize the reference value of indirect export, but report of less market advantages of their international travels. Opportunities are reported to arise in the relationship to the carrier. Firm E also

pinpoints the carrier's size and importance. They set the standard and thus, the reference value of delivering via them is high. Firm E does not seem to be more exposed to market opportunities, even with a higher level of foreign experience.

Foreign-established Riders

All three FRs have subsidiaries established in Houston, the international centre of the subsea industry. The evidence clearly suggests a higher degree of opportunity discovery than the other rider modes, with the exception of Firm H that did not follow a customer abroad. Firm F and G report of direct sales related to the Houston subsidiaries as a direct consequence of establishing close to their carrier. By entering new territory as a part of a network, they are given immediate access to the market. Firm G emphasizes that the projects the carrier invites them to get them in contact with new market players and a new milieu, leading to direct sales. Firm F also stresses the importance of being closer to potential customers. This has made it easier for them to engage in product development with potential customers which leads to sales.

Equally important is the tightening of the relationship with the carrier. By co-establishing in a new market, the rider assures both commitment and the necessary qualifications. Thus, the probability of the carrier inviting the rider to co-establish in other regions increases. Firm F reports of such an experience. By the time of the interview, Firm F assessed the probability of establishing in Brazil and Singapore together with their initial carrier. This underscores the finding of opportunities arising in the direct relationship between the rider and carrier. Even though the firm is presented to a wider network, the importance of the carrier relationship may actually strengthen.

Firm H presents an appropriate contrast. It entered the foreign market without a carrier and could not report on the same discovery of opportunities. The apparent reason for this is the absence of a market network. In contrast to Firm F and G, Firm H had to start on scratch and build up both awareness and network, a job that is highly resource and time consuming. This lack of carrier advantage has seen Firm H struggling with breaking the barriers of market entry, and they were after two years, still in a position of building awareness and lacking customers.

Conclusion

The evidence clearly suggests that FRs have a higher probability of discovering market opportunities than ERs and IRs. By establishing themselves abroad together with their carrier, they are more directly exposed to the carrier's foreign network, which makes it easier to exploit. Also, by co-establishing abroad with the carrier, the rider proves its capabilities, which can lead to further international piggybacking. Most opportunities seem to be discovered as a result of these elements that are only relevant with the FRs. With regard to the difference between the ERs and IRs, it is not as prominent as with FRs. The two latter rider modes emphasize the reference value and the value of establishing a good relationship with a significant carrier. The great difference is found between ERs and IRs with high interaction with the international end customer. Our findings suggest that IRs that lack the element of interaction in their foreign activity do not have a higher probability of discovering market opportunities than ERs. Thus, our findings mainly support the initial proposition, however, the difference between ERs and IRs must be further explored.

P2: FRs have the highest probability of gaining network knowledge, whereas IRs have a higher probability than ERs.

Exporting Riders

In general, ERs score lower on network knowledge compared to the other rider modes. However, as with P1, there are differences within the ERs' ability to gain network knowledge. This relates both to the amount of knowledge they have access to and type of knowledge. Firm A again reports the lowest score, which seems natural considering their perception of being too far down the supplier chain. Firm C, on the other hand is more optimistic and claims it gains knowledge relevant for future internationalization. Our analysis suggests that the main reason for the difference is the degree of closeness in the relationship between rider and carrier.

In that context it is useful to compare Firm A and C. Firm A does not have a close relationship to their carrier and does not report high scores on knowledge. Firm C on the other hand, has more interaction with their partner. Their manager is more proactive and preoccupied with being updated on market and market changes. As

a consequence, he is in regular contact with his carrier and receives relevant information. Because of a better developed personal relationship, he also reports of a carrier which unsolicited feeds him relevant knowledge. When asked about what is the most important variable in gaining knowledge from their partner, Firm C emphasizes personal relationship. A proactive attitude and well developed personal relationship with the carrier is lacking with Firm A, and the manager points to insufficient resources as the main reason. Thus, the necessary linkage for knowledge transfer is absent for Firm A.

Similar to Firm C, Firm B is frequently interacting with their carrier. However, the type of interaction differs, which has an effect on what type of knowledge is transferred. With Firm C, interaction is taking place on management level and contains exchange of market information. The manager of Firm C describes that he receives information regarding customers and their needs, market changes and international business practices as well as cultural learning. This is learning highly relevant for developing their international strategies. Firm B's interaction with their carrier is focused on lower levels than management. For instance, they have a collaboration practice involving exchange of personnel as well as cooperating on product development. This leads to meaningful learning effect, but is focused mainly on product learning. Still, Firm B claims the learning is significant, also within an international perspective. They receive information about international standards and product needs in the international market. But all over, Firm C, with personal contact between people on management level, is more able to access a broader range of international information.

Again we experience, contrary to our initial assumption that knowledge is gained in the direct relationship to the carrier. All of the ERs report on knowledge coming mainly from the carrier and not from the carrier's network partners. Thus, more than taking advantage of the carrier's network is the importance of mending and developing the relationship with the carrier.

Involved Riders

As discussed in P1, the two IRs involvement in international activity differs a lot, and this also implicate their probability of gaining network knowledge. Firm D is much more proactive as it offers consultancy services, which get them more

embedded into their markets, rather than just doing product maintenance similar to Firm E. This means that the carrier and the clients work closer with Firm D compared to Firm E, hence they are more involved and have more market intelligence. This increases their probability of acquiring network knowledge. According to Firm D's manager, their approach is also more oriented towards learning because of their proactive approach and their ability to always evaluate their learning process and trying to implement it into the organization. As already discussed, personal relations have a significant value for creating marketing opportunities, and is also an important factor for process of gaining knowledge. Firm D claims that it tries to focus on interpreting cultural issues and to take advantage of the value of good communication with their clients, which again increases the ability to learn. Thus, personal relations and face-to-face relationships are important factors for the process of gaining knowledge.

As seen in P1, the situation for Firm E is not the same due to lower involvement with their carrier and clients. Their learning process is mostly focused towards R&D, and the contact with the market happens through product maintenance. Firm E's attitude is not as proactive as Firm D's, therefore Firm E is less exposed to gaining network knowledge. Even with their higher level of foreign experience compared to ERs, we do not find that Firm D gains more network knowledge.

Foreign-established Riders

All the FRs have subsidiaries established in Houston. However, not all of them have the same probability of gaining network knowledge. Firm F and Firm G have the advantage that they entered a new network when they started their operations in Houston, giving them the opportunity to accumulate new market information and product knowledge. Firm F's manager states that this information was very valuable for the firm, and it helped them to work closer with their customers in addition to create a forum where they could directly discuss and receive feedback about their ideas and products. Both firms also reported that they acquired information about the market needs and trends in the market, which lead to better cultural understanding. According to Firm F, they also get the chance to cooperate and develop products together with the customers in addition to be able to have an efficient and flexible distribution out to the customers. Firm G also mentions product development and product customization together with their carrier after

they got access to the network in Houston. The manager of Firm G again emphasizes that the foreign subsidiary gave them the opportunity to get a better cultural understanding and made it easier to socialize with clients. Again, Firm G has much of the same resources as Firm F, however they also reported the gaining of network knowledge in the form of market needs and international trade laws. They feel that they have developed a better understanding of the foreign market and it is now easier for them to predict and understand the market. All of these factors make it easier to get information and to gain network knowledge that is useable for them in the market. These findings suggest that getting entry to a network eases the process of gaining network knowledge.

Firm H has experienced a different process due to the fact that they entered the foreign market without a carrier. Thus, we see that they lack the same ability to gain knowledge as Firm F and Firm G. Compared to Firm F and Firm G, Firm H's most valuable experience and knowledge is accumulated by trying and failing in the US market. Since the firm started from scratch without a carrier, it has learned most through trying and failing in foreign markets, and the manager believes that they have learned most about communication and foreign business cultures. Nevertheless, Firm H is not as able as Firm F and Firm G to gain network knowledge.

Conclusion

The evidence again clearly suggests that FRs have a higher probability of gaining network knowledge compared to IRs and ERs. Establishing abroad together with a network and being in regular contact with it, the FRs are directly exposed to the network knowledge attached to it. Firm H lacks the network, but gets valuable knowledge through trying and failing. However, it is questionable whether the knowledge gets transferred back to the HQ, as the firm does not employ expatriates, but has rather hired an American. The difference between ERs and IRs is similar to that found in P1. Interaction with the carrier and type of international experience is of importance. Firm D, with high interaction is considered to gain more knowledge, but the difference between Firm E and the ERs with high degree of carrier interaction is unclear. Thus, our findings mainly support the initial proposition, however, the difference between ERs and IRs must be further explored.

P3: FRs have a lesser probability of experiencing lock-in, whereas IRs have a lesser probability than ERs.

In this section, we find it appropriate to distinguish the rider modes with regard to foreign establishment. Thus, there will be an overlap in the analysis between the ERs and IRs before we focus on the FRs.

Exporting Riders and Involved Riders

Contrary to our initial assumption, neither the ERs nor IRs seem to be in a lock-in relationship with their carrier. Both rider modes, the ERs in particular, do not have as close relationships to their carriers as the FRs. One reason for this is less international ambitions. Firm A states clearly that the main priority is the home market and that international sales are secondary. Thus, resources are focused on domestic sales and they lack incentives to build a strong relationship to the carrier. Another reason is simply that the rider has not found a suitable carrier to co-establish with abroad. This is emphasized both by Firm A and C. While Firm A states the importance of being connected to a substantial market player, Firm C puts it differently by criticizing Norwegian companies' willingness to include smaller companies in international operations.

However, the main argument is connected to our findings in proposition one. We found that opportunity discovery is directly linked to the carrier. Thus, when following a customer abroad, the relationship between the two partners is strengthened, and the rider's dependence on the carrier increases. However, when the relation to the carrier is only based on indirect export, the dependence is not as strong. Firm D exemplifies the increased dependence that foreign establishment will have on the relationship with the carrier. They have been invited to establish in the Middle East with a partner, an area they consider as having high potential. Establishing will require high resource investment and commitment, and entering together with a more powerful partner will increase the dependence of Firm D on the carrier.

Foreign-established Riders

The main difference between the FRs and the others riders modes is that they have a stronger relationship with their carrier. Still, not all of them have the same probability of getting locked-in with their carrier. Both, Firm F and Firm G have

reported that they felt the local carriers were demanding and dominating when they were establishing their subunit in Houston. Firm F believed they did so because they wanted to minimize the risks of the operation and develop guidelines that would be beneficial for both parties. Another reason is that the FRs are economically attached to their foreign investment, and the manager in Firm G explains that they have invested a lot of money and resources into the foreign subsidiary. He also felt that their relationship with the carrier was based on trust, and that the trust is very important for maintaining a healthy relationship. Furthermore, Firm G explains that it would be very costly and create distrust if the relationship was ruined. It would also weaken their reputation in Europe.

According to Firm F and Firm G, they also have an opportunity to cooperate and develop products together with the carrier and customers. However, this procedure has both advantages and disadvantages. The riders get access to new resources and knowledge, and they can share ideas with the other firms they are cooperating with. But, some of the products are designed to fit the carrier's needs and requirements, which mean that the products are primarily intended for this specific market. The manager of Firm G reports that they always try to standardize the products. Nevertheless, in some cases this may be problematic. The tendencies indicate that the more foreign experience and investments in a local market, the higher the probability of getting locked-in to the particular relationship.

We have chosen not to involve Firm H in the analysis of rider lock-in. The reason for this is that their establishment in Houston is not based on following a carrier abroad. Firm H established in Houston with no prior network and thus, they are not relevant in this discussion.

Conclusion

Our analysis shows the opposite of what we initially expected. Firms delivering mainly from their home market have not yet established a strong relationship to their carrier. The reasons for this may differ from lack of international ambitions to not having found the right carrier to bring them abroad. However, when establish abroad with a carrier, the relationship between the two strengthens. When the international commitment increases, we will experience the asymmetric

relationship between the two. The rider will be introduced to a market where it has no prior experience, and it will be more dependent on the carrier than it would have been on the home market. Thus, we do not find support for our initial proposition, rather the evidence supports the opposite; higher foreign experience increases probability of lock-in.

It is appropriate to point to some discrepancies in theory and our findings. First, the theory of piggybacking assumes a more formalized relationship between the actors, with the rider having no other alternative network for international sales. Research often signifies that piggybacking is the sole option for going international. This is not consistent with our cases. No firms rely singularly on piggybacking; they also depend on other methods of international sales. In a research perspective, it is beneficial to examine piggybacking in separation, however, that may reduce its practical utility. Secondly, the literature lacks in incorporating industry differences. The subsea industry is highly professional and quality control and assurance is of the highest importance. Thus, product quality has precedence, and with the professional milieu being small, the managers we have interviewed state the reliance upon word of mouth. This means that if a rider delivers a high quality product, this information will be spread. Because high quality product has the highest priority, a rider will have a high probability of getting connected to other potential customers. Thus, the highly professional industries are, relative to other industries, less likely to experience issues of lock-in.

6.2 Entrepreneurship

P4: High entrepreneurial attitude increases the probability of independent internationalization for all piggybacking modes.

Exporting Riders

Firm B and Firm C share some similar characteristics. Both report that they have international ambitions and we categorize them as proactive and optimistic firms. We do have limited information regarding the degree of risk-taking, but we consider Firm B to score moderately on entrepreneurship. Firm B have found alternative routes to internationalization other than selling through their carrier,

and these are results of following up on the information from the market that their products were attractive. However, because of the ERs recurrent challenge of lack of resources, they are not able to independently follow up on the international markets and have therefore chosen distributional agreements. Thus, Firm B shows that riders pertaining to the ER mode can find other routes to internationalization than following their carrier. The manager in Firm C reported that he has a continuous dialogue with the major end customers in the industry, investigating potential business opportunities. The manager in Firm C also has a good network, which he proactively uses. Overall, it is clear that the manager has a strong entrepreneurial attitude. Firm C has a major actor in the oil industry as a carrier, and Firm C operates both in Asia and in Iran due to their proactive behaviour. The opportunity the firm got in Iran was an example of an independent internationalization process that came from the firm's own network connections, while the Asian market came as a result of working proactively towards their carrier. Our observations, in this specific case, indicate that entrepreneurial attitude increases probability of independent internationalization.

Firm A presents a contrast because they have a low score on entrepreneurship. Compared to all the ERs, Firm A has the lowest international ambitions as their focus is primarily on the home market. Necessarily, and as a consequence, they are risk averse with regard to international expansion and do not scan for international opportunities. It should also be mentioned that their manager regards the opportunities to expand internationally as low and thus has a negative international attitude. It is obvious that their low ambitions have led Firm A to avoid opportunities to internationalize independently, mainly because they do not consider themselves to have sufficient resources and capabilities. During their start-up years, Firm A was invited to co-establish in the Brazilian market, but did not choose to follow up on the invitation. The potential partner did establish and have eventually succeeded after some years of struggling. The manager acknowledging this, still means the firm took the right choice, stating that an international expansion could risk the home market. Thus, we see that Firm A prioritizes the home market and does not seize opportunities that can compromise this priority.

Involved Riders

Firm D stands out as it delivers consultancy services and is dependent on a valuable network. The manager states that the Norwegian market is too narrow for Firm D's services, which means that the focus is mainly on the international market. Thus, the international ambitions are high. They have developed a network in the Middle East, and Firm D plans to create and seize business opportunities in that area within a few years. This opportunity arises from their network and can be interpreted as an independent internationalization process as they do not establish with the carrier. Furthermore, the manager states that they seek new foreign inquiries, and he emphasizes that it will always be risky to establish new business partners, especially foreign partners since you do not know so much about them and the environment compared to Norwegian business partners. However, with efficient planning, you will reduce much of the mentioned risk. Firm D is also an example of a firm with a high degree of entrepreneurial attitude. Still, it is difficult to state whether the entrepreneurial attitude just affects independent internationalization because in this case, it also affects dependent internationalization because of the networking that has been done directly through the carrier. Compared to Firm D, Firm E has the same level of entrepreneurial attitude. Their products are developed for the international market and they proactively market themselves towards the major international oil companies. They also assess and follow up on changes in the international market to be able to develop products with future international potential. Thus, Firm E's priority is the international market. Firm E is not risk averse and focuses on seizing arising opportunities. Initially resisting acquisition, they let an external firm acquire the firm because they had an international network they considered valuable. Still, Firm E's international sales rely mainly on their carrier and have not developed more independent alternatives.

Foreign-established Riders

Firm F focuses on new business opportunities both in existing and new geographical locations. The manager emphasizes that the firm's network was an important part in their internationalization process, and they now receive new inquiries both from their subunits in the US and Norway. According to the manager they evaluate every opportunity they get, which has ended in potential establishments in Singapore and Brazil. Firm F's degree of entrepreneurial

attitude is categorized as high because of their eager and optimism for new opportunities and their ability to discover and exploit them. Again, the same tendency is occurring here, a high degree of entrepreneurial attitude increases probability of internationalization, however with an emphasis on dependent internationalization through their carrier.

Firm G has successfully followed a carrier to the US. The manager states that it has been a constructive journey, however the start up consisted of high risk and they have experienced some challenges, but it was a risk they could afford. After the establishment of the US subunit, the firm has also broadened its existing network and received other inquiries from foreign firms. More specific, they have got an offer from a Brazilian firm they met through the carrier. Meanwhile, Firm G has expanded their business in Norway with an acquisition of a Norwegian electro firm. This opportunity occurred independently of their activity in the US. Thus, Firm G will be categorized as a firm with a high degree of entrepreneurial attitude. This case indicates that a firm could increase the probability of independent internationalization because of their entrepreneurial attitude. However, they have also experienced higher levels of internationalization through their existing cooperation with the carrier.

We consider Firm H to have a high degree of international entrepreneurship. They acknowledge the international aspect of their product stating that the domestic market is too small. Moreover, they are risk taking, which the entry into Houston, a market where they had no former network indicates. However, their choices often seem to be results of coincidental factors rather than pursuing opportunities, an aspect that is clearly linked to the next proposition dealing with planning. Still, Firm H has a high degree of independent internationalization, with a network of agents in Asia and the Houston subsidiary. However, Firm H differs from the others since piggybacking has not played a leading part in their internationalization.

Conclusion

The firms we have studied score generally high on entrepreneurship. We find that Firm A is the only firm that scores low, and the lack of international entrepreneurship has prevented further international development. This is of

course only natural considering low international ambitions and their priority of the domestic market. Thus, this case indicates that low entrepreneurship prevents internationalization. However, the findings are conflicting as to whether entrepreneurship increases independent internationalization. As some of the case examples illustrates, firms that score high on entrepreneurship have chosen internationalization routes that cannot be considered independent. Both Firm F and G have a high entrepreneurial attitude, but have chosen different internationalization routes after the establishment in Houston. While Firm G plans to enter the Brazilian market independently from their carrier, Firm F has chosen to maintain internationalization together with their carrier. Having entered into the final category of piggybacking, we see that they consider further following the carrier into new markets, as Firm F investigates the possibilities of entering the Brazilian and Singapore market together with their carrier. We believe that the reason for this finding can be found in two of the variables used to characterize entrepreneurship, namely opportunity recognition and networking. The firm's ability to actively use its network and recognize opportunities are factors determining its degree of international entrepreneurship. The most relevant network for a rider to exploit will necessarily be the carrier's network. As also found in P1, opportunities often arise in the direct relationship with the carrier. Thus, the seizing of opportunities will often be connected directly to the carrier and not its corresponding network, meaning that entrepreneurship also increases probability of dependent internationalization. This finding is most prominent with regard to FRs that have established a closer relationship to the carrier compared to ERs and IRs. For example, Firm B has not developed as close a relationship to their carrier and has chosen an internationalization route more independent from their carrier. As the rider and carrier are not as well connected, there is a lesser degree of opportunity discovery, consistent with our findings in P1. High international entrepreneurship may then lead the firm to find alternatives to their carrier, as with Firm B and their use of distribution agreements. This is also found with Firm C. Being the most entrepreneurial ER, they actively seek strategies independent from their carrier.

Our initial proposition assumed a unidimensional effect of high entrepreneurship, namely an increased possibility of independent internationalization. This seems to be only partly the case. Firms choose the optimal international strategy and do not

distinguish between independent and dependent strategies. Depending on the situation, we find a tendency that entrepreneurial firms that have a closer and more developed relationship with their carrier will have a higher probability of following a dependent internationalization route. Still this needs to be explored further and a revision of our initial proposition is called for, as our proposition puts too much emphasis on independent internationalization.

6.3 Type of planning

P5: A high level of rigidity in a rider's business planning reduces the probability of independent internationalization.

Exporting Riders and Involved Riders

We find that the riders differ with regard to business planning and planning rigidity. Of the five cases studied, only two can be considered having a well developed international business plan, whereas the other three have a more ad hoc approach. We also find that there are differences between the firms that focus on planning. Firm D develops three-year plans and are very committed to not deviating from these once they are implemented. Firm B develops five-year plans, but emphasizes the importance of evaluating and adapting these on a yearly basis. Firm B tries to standardize their concept and strategy as much as possible but acknowledge the international market differences and the necessity of adapting to the individual markets. This takes time and requires adjustments of plans. Obviously, Firm D also makes necessary adjustments to their plan, but they allocate more resources to the planning process and their philosophy is to plan as well as possible to prevent necessary adjustments. Thus, they are less willing to adjust and more rigid in their business planning. Firm A, C and E have a more ad hoc approach in their international business. With Firm A, this is a consequence of their focus on the domestic market. Firm C has plans regarding international business, but these are more general in their characteristics and not concrete, and mostly revolve around which markets to be involved in. The manager reports on occurring changes in the market that requires adjustment and the need to be flexible. Firm E is primarily product-focused which comes at the expense of low international planning. Firm E admits little focus on international marketing and report that they "have planted some seeds". Most decisions are taken ad hoc. For

example, their initial position was not to sell the firm to an external part, but they decided to sell when they were approached by a firm that had an international network Firm E hoped to exploit.

The findings suggest that it is favourable for a small firm with limited knowledge and resources to stay flexible with regard to business opportunities. Firm C points to the advantage of a short decision-making process when being confronted with occurring changes in the market. The firm would not have been as able to respond to changes if it had not had the chance to adjust the original plan. The firm has an administrative office in Uruguay that came as a result of an employee from Uruguay having to return to his country. Also, the philosophy behind the manager's proactive behaviour towards their carrier is to stay flexible and be able to respond to the opportunities that may arise. There are similarities in the way Firm B and C approach the international market, but the starting point is different. Firm B reports that the changes in the subsea industry are not as rapid, thus it is easier to plan ahead. Still, they acknowledge the necessity to evaluate and adjust their plans on a yearly basis to cope with changes both in the industry and within the firm. Still, the firm is concerned with having a vision they do not depart from, and as a result of their strategy and planning, they have been able to build a network of distributors independently from their carrier.

The great contrast is Firm D who has a different approach. The firm has not suddenly jumped onto opportunities, but spend time evaluating the opportunities' profitability and risk before they eventually plan how to proceed. The firm believes that to sufficiently respond to changes in the industry, you need to plan ahead as precisely as possible. If you are able to predict the future and plan accordingly, you will have adequate responses to the surprising changes. This is an interesting aspect as it is the opposite of the theory we have based the proposition on. However, Firm D has some advantages compared to the other ERs and IRs related to a significantly higher degree of foreign experience. To plan efficiently, you need sufficient relevant information. Firm D has a better established network than the ERs and also Firm E, which foreign experience is related to maintenance. Thus, they have access to sources of information through their network. An apparent consequence of foreign experience is higher knowledge of the international business context and development. An important

argument in developing this proposition was that small firms would not benefit from rigid planning because of limited knowledge and resources. We find that for the other cases in the analysis, they need to stay flexible to be able to exploit opportunities. However, as Firm D has a wider international network to lean on and greater knowledge about the international context through foreign experience, the firm is more able to efficiently plan the international business.

Foreign-established Riders

All the FRs have a low degree of international planning, and we recognize that it can be considered unfortunate as we are presented with a single perspective. However, the cases give valuable insights into how serendipitous opportunities can lead to further internationalization. Firm G reports of an organizational mindset of developing business through trial and error. For both Firm F and G, their establishment in Houston came as a result of the carrier presenting them with an opportunity they had to accept or decline rather than a thorough and careful planned decision. The carrier wanted them to establish for reasons of market after sales and support, and the establishment was seen as a necessity. Firm H is a different story, mainly because it has not followed a carrier abroad. The establishment in Houston did not come as a result of careful planning but rather as a realization that the American market was attractive. Firm H is honest about the lack of international planning, but also emphasizes the advantages it has had for the business. The manager reports on being able to better cope with changing environments as the decision making process is quicker and the firm more flexible to adapt. Firm H has developed a network of agent, with emphasis on Asia, a network which is independent from the domestic carrier.

All the three FRs consistently rely little on international planning. The question is then whether such behaviour leads to independent internationalization. As mentioned earlier, opportunities often arise in the direct relationship to the carrier. The argument against planning is the increased ability to seize arising opportunities. Thus, a rider in a piggybacking relationship with an ad hoc approach to international business will often end up internationalizing through their carrier. This is exemplified through Firm F and G. However, Firm H is not bound to the carrier in the same extent as Firm F and G and has been able develop independent strategies for internationalization.

Conclusion

For firms with limited experience on the international arena, such as the ERs, it is difficult to rigidly follow an international plan. An advantage small firms have is few decision makers and a short decision-making process. It is therefore easier to stay flexible and change rapidly. We find these characteristics in the ER firms, with emphasis on Firm B and C. Firm D is able to plan efficiently because it has the necessary experience and knowledge of the international market combined with a well developed network that provides the necessary information, conditions that need to be present for efficient planning.

As with entrepreneurship, less rigid planning will not necessarily lead to increased independent internationalization. As the firms move from ERs towards becoming FRs, they strengthen their relationship to their carrier. As opportunities often arise directly to the carrier, Firm F and G have further strengthened their relationship to their carrier by following them abroad. This is the opposite of independent internationalization and is a result of seizing unplanned opportunities. The cases support the argument that less rigidity in business planning increases the probability of internationalization, but we see tendencies that as the relationship between the carrier and rider strengthens, there is an increase in the probability of dependent internationalization.

6.4 Type of product

P6: Riders producing specialized niche products have a higher probability of independent internationalization relative to riders producing generic products.

Unfortunately, we believe that we have insufficient information to answer this proposition. The main reason for this is the characteristics of the industry and the lack of variation in our cases. We will in the following paragraph give a more thorough explanation.

All our cases are firms delivering products or services to the subsea industry, with a major component of the total sales going the North Sea basin. The subsea industry is very complex and requires high quality products. Subsea refers to products and equipments used underwater, products that are meant to be

permanently installed on the seabed and be exposed to rougher conditions such as high underwater pressure. Also, an enhanced focus on environmental issues the last decade in addition to scandals in the oil industry such as the BP oil spill, have placed high demands on the manufacturers to produce equipment of high quality. The standards and quality requirements vary to a certain degree from market to market, but the North Sea basin are among the markets with the strictest standards. Thus, suppliers delivering to the North Sea must deliver according to high quality standards. These are the main reason for the lack of variation in our cases. The industry characteristics and the market being the North Sea basin omit suppliers delivering lower quality products. As the manager of Firm B explains, the focus of the major oil companies is primarily whether the products meet the standards, not the cost.

All the firms we have studied produce high technology products. The exception is Firm D who delivers consultancy services. However, as the theory mainly emphasizes products, it is not relevant to classify consultancy services as high-tech or generic products. Because we do not have sufficient variation in our cases, we are not able to analyze this last proposition. Nor is it relevant for the industry cluster as the suppliers mainly deliver high quality products that meet industry standards. Still, we believe that differences in type of product will have an effect on probability of independent internationalization, but we need to find relevant parameters.

Table 2 – Summary of findings

	Observations	Main Findings	Conclusion
P1	<p>ER: They have a lower probability of discovering market opportunities compared to FRs because of a less developed rider-carrier relationship. ERs in general emphasize reference value and further business with their carrier as important advantages. The size of the carrier is an important moderator.</p> <p>IR: Degree and type of end customer interaction increase the probability of discovering opportunities. Riders with a low degree of end customer interaction resemble the ERs.</p> <p>FR: Our studies show a high degree of opportunity discovery for the FRs. This is because they have stronger relationships with their carrier, which leads to access to new networks.</p>	<p>Our observations indicate that FRs have higher probability of discovering market opportunities compared to the other rider modes. The reason for this is a more developed relationship to their carrier compared to the IRs and ERs.</p>	Supported
P2	<p>ER: In general, ERs score lower on learning compared to the other rider modes. The firms mention that personal relationships are important for gaining knowledge. However, we have also seen that type of interaction with carrier affects the gaining of knowledge.</p> <p>IR: These firms are more embedded into the market, which increases the probability for gaining knowledge. They have stronger relationships with their carrier compared to the ERs.</p> <p>FR: Our observations indicate that they have higher probability to gain network knowledge because they have a much closer interaction with their carrier.</p>	<p>The higher degree of closeness in the relationship between the rider and carrier, the higher the probability of gaining network knowledge, therefore FRs have a higher probability than IRs and ERs.</p>	Supported
P3	<p>Both the ERs' and IRs' relationship to the carrier is mainly based on indirect export, and they appear more independent compared to FRs. The FRs have a closer relationship and are more economically attached to the carrier than the other rider modes.</p>	<p>When the rider establish with the carrier in a foreign country, it commits more resources into the relationship and gets more dependent on the carrier. We experience the power asymmetry in the relationship.</p>	Not Supported
P4	<p>In general, the ERs and IRs have a lower degree of entrepreneurial attitude compared to the FRs. A tendency according to our observations is that firms with high levels of entrepreneurship experience both independent and dependent internationalization, and not just independent as our proposition assumed. International ambitions and exploiting market opportunities are the most common traits that firms with high levels of entrepreneurial attitude hold.</p>	<p>Low levels of entrepreneurial attitude inhibit internationalization, and high levels of entrepreneurial attitude increase probability of both independent and dependent internationalization.</p>	Partially Supported
P5	<p>The findings indicate that it is difficult for firms with low experience in international markets to plan sufficiently. However, the advantage for these firms is that they can stay more flexible and adapt quicker to changes in the market. The observations also indicate that firms with an ad hoc approach will often end up internationalizing through their carrier, meaning strengthening their piggybacking relationship.</p>	<p>Our observations support the proposition that less rigidity in business planning increases the probability of internationalization, but we see tendencies that as the relationship between the carrier and rider strengthens, there is an increase in the probability of dependent internationalization.</p>	Partially Supported
P6	<p>We are not able to answer this proposition because of insufficient variation in our cases.</p>		I/A

7. Summary and Conclusions

The case analysis has given us deeper insights into the concept of piggybacking and the benefits and drawbacks associated with it. Many of the findings corresponded with assumptions and theory, however only two out of six propositions were fully supported. Taking a look at the rider modes, the findings support the initial propositions that FRs have an advantage in discovering opportunities and gaining network knowledge. Being established abroad, the riders' benefits of entering a carrier's network cannot be gained in the same extent by domestically established firms. We expect that market opportunities and network knowledge are variables that are valuable in developing independent strategies, and in that context the findings support that the FRs are advantageous. The next proposition gives a different picture. Contrary to what we proposed and expected, firms that are established abroad are more likely to experience lock-in as opposed to domestically established riders. The higher investment in the relationship from both the rider and the carrier gives foundation for the carrier to take more control, and we experience the asymmetry in power between the actors. With regard to internationalization, lock-in is assumed to decrease the probability of independent internationalization, meaning that the FRs are disadvantageous. While the three first propositions either support or reject, the next two are more indistinct. What seems to be clear is that both entrepreneurship and staying flexible to prior planning are factors that are positively linked to internationalization. However, this does not necessarily mean independent internationalization. The FRs foreign establishment are results of seizing occurring opportunities that are not part of a clearly developed plan. This is internationalization dependent on carrier. With regard to further internationalization, Firm F and G are stating interest for establishing in Brazil, where one seems to follow its carrier whereas the other have found other potential partners.

What does this mean for a rider's independent internationalization? The analysis of the propositions initially gives no exact answer. The findings from P1 and P2 suggest that FRs should have a higher probability than the other rider modes, whereas the other propositions are not that clear cut. Returning to the findings, neither Firm F nor Firm G have developed independent international strategies and both firms must be said to be dependent on their carrier in international

operations. However, what we find is that both Firm F and Firm G are newcomers on the international arena. They have in a business perspective not been established in the Houston market for a long period of time. Firm F established the subsidiary in 2001 and Firm G in 2004. Adapting to a new market and business culture takes time, and both firms can be expected to still be in the process of acclimatizing. As the establishment is quite recent, the main focus of the firm will be to develop the relationship they have invested a lot of resources in. In such a process, an SME could not necessarily be expected to concurrently develop independent strategies. This may explain why we find that FRs have a greater probability of discovering market opportunities and gaining network knowledge, but have not been able to exploit these advantages for independent strategies. As the firms grow and become more stable players in the foreign markets, we might expect the firms to utilize the knowledge, network and opportunities for more independent internationalization. In the next paragraph, we will point to the most interesting findings and show the practical implications.

7.1 Practical Implications

7.1.1 Entrepreneurship and closeness to carrier

Of the most important findings is the importance of developing a close relationship to the carrier. In this paper, we have emphasized access to the carrier's network and underrated the positive effects that are results of riders' direct relations to carriers. As shown in the analysis, most opportunities are results of the carrier seeing the value of extending the relationship with the rider and inviting them into new projects. The theory assumes an asymmetric power relation and thus lacks focus on what the rider can do to strengthen its internal position. However, proactive riders are well in a position where they can affect the relationship. In the ER and IR modes, where a lot of the focus is on indirect export, the relationship is initially loose. A carrier often has a vast amount of suppliers and the rider cannot automatically expect the carrier to want to strengthen the relationship. The competition is too hard. In such situations, the active and proactive behaviour of the rider will be important for development of the piggybacking relationship. A good example is the attitudinal and behavioural difference between Firm A and Firm C. Firm A complains about the lack of

interaction with carrier, but does not actively seek to develop it, arguing that they are too far down the supplier chain. Firm C being in much of the same piggybacking relationship as Firm A has been able to deepen the relationship with their carrier by actively keeping in contact with the carrier and its management. As a result, they report on a greater developed network and more knowledge. There is asymmetry in the relationship between the rider and carrier, and often the carrier has a lot of suppliers whereas the rider has only one, or a small number of carriers. To overcome this barrier, the rider needs to excel, and active engagement towards the carrier is required. We have earlier shown that high entrepreneurship may not necessarily lead to independent internationalization. By definition, a closer relationship to the carrier and exploiting opportunities together with the carrier is a strengthening of the dependent piggybacking relationship. However, entrepreneurship develops and improves the knowledge and network that is a necessity to successfully go independent. Thus, entrepreneurship is not a direct route to independent internationalization, but an important step as it strengthens the relationship to the carrier and increases the probability of gaining the relevant knowledge, network and market opportunities.

7.1.2 Type of foreign experience

Beside from foreign establishment, type of foreign experience plays a role. Crossing domestic borders and getting a taste of business in other countries give valuable knowledge and opportunities to expand the network. However, not all types of foreign experience give the necessary interaction with the carrier or end customer. We see this difference clearly between the two IRs. Firm D has a greater interaction with both the carrier and the end customer when operating abroad, and the firm is interacting on management level. Thus, they are able to engage in face-to-face interaction and develop personal relations which are important in gaining knowledge, opportunities and network. Firm E lacks this type of interaction when going abroad. Their excess part of international activity is related to maintenance and instalments. This process does not require management interaction and Firm E loses out on the opportunity to develop personal relations in the same degree as Firm D. We do not find clear evidence that Firm E is able to gain more knowledge and discover more opportunities than ERs that lacks the regular foreign experience. ERs are able to develop personal

relations by proactively staying in contact with their carrier, such as Firm C, and the positive gains that come as a result may prove to be just as valuable as the foreign experience firms get through product maintenance and instalments.

7.1.3 Nature of the product

Our analysis is based on high quality products. As all firms deliver products of high quality, we did not find that we have sufficient variation in our cases. However, products characteristics should be expected to have an effect on how products are sold internationally. For the carrier to invite a rider to co-establish abroad, the carrier must assess the rider's product to have characteristics that cannot be fully exploited by indirect export. Relating this to the previous paragraph; the nature of the product have an effect on what type of foreign experience the firm will get. Looking at the ERs, they produce less complex products than both the IRs and FRs. As the focus of the ERs products are hydraulic components, valves and piping, these products consist of fewer elements than more technical and complex products such as ROVs and leakage detection systems. One should not confuse this with generic versus customized products. ERs offer customization, but as the product types are less complex, the customization is easier to codify. Thus, as producers, they can receive the technical orders for production domestically and rely on export. For these reasons, the carrier may not see the potential in extending the relationship by co-establishing abroad. More technical products such as ROVs and leakage detection systems also have a greater potential for further product development and market specific development, while also being more prone to needing maintenance. For these reasons, it can be seen as useful for the carrier to have the rider close to the market, as both maintenance and product development is related to the foreign market. Thus, producers of complex and technical products may be more attractive for carriers to invite abroad. We can also briefly point to the difference in services and products. For Firm D, which delivers consultancy services, the characteristics of what they are offering require foreign experience and frequent involvement with their customers. As opposed to products, firms delivering international services will automatically gain international experience.

7.1.4 Is ending the piggybacking relationship necessary?

One can ask the question of whether ending a piggybacking relationship is necessary. Following theory, we initially assumed that piggybacking is the sole form of international activity and that the piggybacking relationship has a finite life. Both of these assumptions are not found to hold true. All the cases we have analyzed perform international activities unrelated to piggybacking. Even Firm A being the firm that best fits the ER mode, has some direct sales to the international market. Also, developing independent strategies does not necessarily mean an end to the relationship with a carrier. Firm H still performs indirect sales through their exporter even though they have a well established agent network in Asia as well as having offices established both in Aberdeen and Houston. There is no evidence suggesting that Firm G will terminate their relationship with their carrier in Houston if they enter the Brazilian market without their carrier. The point is that firms operate in different markets, and which strategies are optimal varies from market to market. The Houston market is characterized as a different market arena where networking and personal relations are a necessity. Entering the market without a partner may prove to be a greater liability than first expected, a problem encountered by Firm H. Being established with a partner reduces the entry barriers, but the network and reputational advantages by staying close to a bigger market player does not automatically diminish after the entry stage is over. Thus, going independent will not necessarily mean an end to the piggybacking relationship.

7.2 Theoretical Implications

In many ways, this paper is most interesting in a theoretical perspective as some of the biggest findings do not correspond with previous literature. We will now point to the aspects where we believe the piggybacking literature could be extended and improved.

Theory states that riders enter a piggybacking relationship to compensate for the lack of resources and competencies needed to perform international strategies of its own and assumes that the carrier is the rider's sole international alternative. However, we have found that the relationship between the rider and carrier is not as unidimensional as expected. We will not go any deeper into the reasons as this

has been thoroughly covered previously. It can, however, have implications for further studies. As firms deal with different international strategies in different markets, the piggybacking relationship will not be as critical as it would have been if it was the sole option. For further studies, it would be interesting to identify the decisive arguments for choosing piggybacking when the SME have other potentially successful options. Also, theory should include the assumption that ending the piggybacking relationship is not necessarily desired by the firm. As such, research would then not implicitly assume that the relationship has a finite life. For later studies it would be interesting to investigate the rider's assessments when evaluating the relationship and uncover the decisive arguments for ending or continuing with piggybacking.

We have not registered studies focusing on industrial differences in the piggybacking literature. In our study, we find this to be relevant with regard to the issue of lock-in. The subsea industry is highly professional and quality control and assurance is of the highest importance. Thus, product quality has precedence, and with the professional milieu being small, the managers we have interviewed state the reliance upon word of mouth. This means that if a rider delivers a high quality product, that information will be spread. Because high quality products have the highest priority, a rider may have a high probability of getting connected to other potential customers. Thus, the highly professional industries seem, relative to other industries, less likely to experience issues of lock-in. We believe similar differences can be found with regard to other industrial differences as well. It would be beneficial for the literature to incorporate industrial differences and how they affect the rider-carrier relationship.

We initially assumed that the relevant knowledge and discovery of opportunities were found in the carrier's corresponding network, an assumption which we later found to be exaggerated. The direct relationship to the carrier is more important than expected and later studies should explore more thoroughly the gains and benefits the rider receives in the direct relationship to the carrier.

7.3 Limitations

We have previously touched upon limitations concerning the rider modes. Differences in how long firms have sold to the international market challenge the work of analyzing the data. Also, the fact that the FRs' establishment in Houston is quite recent means that we may not be able to observe the positive gains we initially assumed. These are constraints to the quality of the study. We will conclude this paper by showing to other limitations and weaknesses.

We have found that piggybacking is seldom a sole option for international activity. This is an interesting finding and nuances the view on piggybacking found in the literature. However, it contributes to reduce the difference between the rider modes, specifically between the ER and IR mode. By definition, the two rider modes differ with regard to foreign experience related to the carrier inviting the rider abroad for specific transactions. When riders have alternative options for international sales, ERs may obtain foreign experience not related to the carrier, thereby extinguishing the difference between ERs and IRs. This may contribute to explain why we do not find much difference between ER and IRs with regard to market opportunities and network knowledge. Other parameters should be found to strengthen the distinction between the rider modes.

To be able to exploit the advantages of entrepreneurship, it is important to be flexible with regard to planning. An important aspect of entrepreneurship is to be able to discover and respond to occurring market opportunities. With a rigid plan, the positive advantages of entrepreneurship cannot be exploited. We see that the FRs international expansion in Houston is a result of the response of occurring market opportunities and not a part of a pre-developed plan. However, the connection between these two factors is not surprising. In the paper we decided to analyze entrepreneurship and planning in separation. However, the findings from their corresponding propositions are matching. The firms that perform activities that are considered unplanned can also be described as responding to occurring market opportunities. The distinction between entrepreneurship and unplanned behaviour is blurry, and we are not sure that there is enough difference between them to justify that they are divided into two different propositions.

Certain concepts would have benefitted from a stronger literature review. We believe this is most prominent with regard to lock-in. P3 dealing with this concept was the only proposition where findings indicated the opposite of what we assumed. This may not seem surprising. We have based our proposition on the writings of Echeverri-Carroll et al. (1998) and did not consider the transaction cost perspective. This is a weakness in the paper, as transaction theory would challenge the work of Echeverri-Carroll et al. When going from an ER or IR mode to an FR mode, the specific investments in the relationship increase, leading to higher switching costs of ending the relationship. From a transaction cost perspective, firms having invested more resources to the specific relationship, such as FRs, will be more locked-in than the other firms. There is always a dilemma when deciding how much literature and which literature to include. However, we based our proposition solely on one article, and then lose out on valuable criticism which would have strengthened the review on lock-in.

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Appendix 1: Interview Guide

Før selve intervjuet vil vi bruke noen minutter på å beskrive bakgrunn for og formålet med intervjuet/undersøkelsen.

- **Innledning**

- Informant: Navn, stilling, antall år i selskapet
- Bedrift: antall ansatte, alder på bedrift, produkter, bransje

- **Produkt**

- Hvordan vil du beskrive produktene dere selger?
(Spesialisering/kompleksitet/avansert)
- Kan du beskrive dine konkurrenter?
 - Tilbyr de nøyaktig samme produkt eller er det store forskjeller?
 - Hvor langt foran i teknologiutvikling ligger de i forhold til dere eller omvendt?
- Hvorfor kjøper kundene produktene deres fremfor å kjøpe hos konkurrentene?
 - Hva anser dere som deres konkurransefortrinn?
 - Hva anser dere som deres viktigste konkurransefortrinn i bedriftens internasjonalisering?

- **Rider mode**

- Kan du beskrive hvordan produktene deres selges til det internasjonale markedet? (Hvilke internasjonale markeder?)
- Kan du beskrive hvordan dere samarbeider med andre firma i salg til det internasjonale markedet? (Klyngebedrifter, Andre/Hvilke roller spiller de?)
 - Hvem anser dere for å være deres viktigste samarbeidspartnere/kunder i internasjonaliseringsprosessen?
- Hvor lenge har dere operert på det internasjonale markedet?

- Hvorfor går dere internasjonalt?
- Hvor stor andel av salget er internasjonalt?
 - Hvordan har utviklingen vært fra dere startet internasjonalt?
- Har dere direkte kontakt med kundene på det utenlandske markedet, eller opererer dere kun fra hovedkontoret (Hvorfor kontakt med market?) Kundepleie, vedlikehold, etablering. Forklar direkte kontakt.
- Har dere etablert egen avdeling i et annet land? Hvor/Hvor mange/Eksempel.
- Legger dere mye ressurser i den internasjonale avdelingen? Oppfattes internasjonalisering som risikofylt?

- **Nettverk**
 - Hvordan har internasjonalisering bidratt til å utvide nettverket deres?
 - Hvordan har deres internasjonale partnere hjulpet dere med å oppdage nye markedsmuligheter? (Kunder, Partnere, Produktutvikling)
 - Hvor viktig anser dere kundene deres for å være? Leverandørene?
 - Hva lærer dere av samarbeidet?
 - Markedskunnskap/Kulturell læring/Institusjonell/Hvordan drive internasjonale forretninger?
 - Kan du beskrive utfordringer med hensyn til å lære av andre firma?
 - Hva gjør dere internt for å ”holde på” det dere lærer?
 - Hvilken læring ser dere på som mest nyttig?
 - I deres tilfelle, lærer dere mest av deres kunder, eller gjennom egen erfaring? Hvorfor? I startfasen?
 - Er det noen forskjell på det dere lærer av kundene deres og det dere lærer gjennom egen erfaring?
 - I hvilken grad er dere avhengig av deres større kunder?
 - Hvordan er kundesammensetningen deres? Har dere færre store kunder eller flere små?

- Har dere noen kunder som står for en stor del av det totale salgsvolumet? Har dette forandret seg med tiden?

 - Har dere gjennomført internasjonale strategier uavhengig av partnere?
 - Hvis ja, hva var bakgrunnen?

 - **Entreprenørskap**
 - Hvordan vil du beskrive bedriftens vilje til å satse internasjonalt? Høy risikovillighet?
 - Hva er deres internasjonale visjoner og mål?
 - Er visjonene og målene reflektert i bedriften handlinger?
 - Hvordan er viljen til å lykkes internasjonalt?
 - Søker dere aktivt etter muligheter for å utvide internasjonalt?
 - Bruker dere nettverket i den forbindelse?

 - **Strategier (planned/unplanned)**
 - Hvordan blir avgjørelser/beslutninger tatt med hensyn til den internasjonale driften?
 - Hvordan vil du beskrive bedriftens evne til å respondere på endringer i oljeindustrien?
 - Vil du si at bedriftens internasjonalisering er et resultat av nøye planlegging?
 - Har bedriften en nøye utarbeidet plan for videre internasjonalisering?
 - Har bedriften utvidet internasjonalt på bakgrunn av ikke-planlagte strategier? Har det forekommet ofte? Har de vært forbundet med høy risiko? Har utfallet vært suksessfullt?

 - **Avslutning**
 - Hvilke utfordringer har dere hatt med å lansere produktet i utlandet?
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- Hva er de viktigste egenskapene for en bedrift for å selge internasjonalt i oljeindustrien? Ekspertise, høyt spesialisert produkt, service.
 - Hvor viktig er det å bli ansett som eksperter på sitt fagfelt?
- Kan du si noe om utfordringene dere møter når dere legger planer for den internasjonale driften? (mangel på erfaring/kunnskap/ressurser)
- Hva har dere lyktes best med? Viktige erfaringer? Råd dere kan gi til lignende bedrifter?

Appendix 2: Data Firm A
Rider Mode

Question	Findings	Data
Does the firm export indirectly?	Yes. Almost all international sales are taking place through carrier.	<i>“We do not stress on going international...but a lot of what we supply domestically are exported indirectly”</i>
Is the firm established abroad?	No.	
Does the firm have foreign experience?	Nothing except visiting trade fairs for marketing purposes.	<i>“We have been in Houston two times on trade fairs without seeing the great benefits.”</i>
Does the firm have a close relationship to their carrier?	No.	

Market Opportunities

Has the relationship with carrier lead to market opportunities?	Very little. The products are often part of a product package and marketed as the customers`. Thus, other firms are not aware of Firm A`s part of the delivery.	<i>“We do not get any free advertising by someone telling others it is a “Firm A” product...When the customer makes an order he often wants his logo on the final product.”</i>
What type of opportunities?	Some reference value by showing to prior deliveries through their carrier. They were also invited to co-establish in Brazil in their start-up years after having delivered satisfyingly, but chose to decline.	<i>“15 years ago we were invited to start a yard in Brazil... But we put the foot down.”</i>

Has the relationship with carrier extended the international network?	No. The relationship with the carrier is based on product delivery only, and the carrier has not introduced Firm A to members of their network.	
Is the firm actively seeking opportunities in the network?	No, they do not consider themselves to have the sufficient resources.	(Is it hard to enter the network?) <i>“Yes, it is hard. We are only on the second step of the ladder. We do not deliver directly to those we would like to go international with.”</i>

Network Knowledge

Has the relationship with carrier lead to network knowledge?	Very little.	
What type of knowledge is accessed?	Some international knowledge concerning international product standards.	<i>“We have gotten knowledge about how to ship products, documentation and also knowledge both the requirements concerning quality standards.”</i>
Is knowledge accessed through own experience or carrier’s network?	Not particularly relevant as the firm does not have contact with the carrier’s network.	

Lock-in

Does the firm perform international activities independently from carrier?	No.	
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Does the relationship constrain independent activities?	No. The relationship to the carrier is loose and does not put restraints on Firm A	
Does the relationship contribute to independent activities?	No. The firm does not have close enough contact with their carrier.	
Have the rider invested high amounts of time and resources in the relationship to the carrier?	No. The relation to the carrier is only based on product delivery.	

Entrepreneurship

Degree of international ambitions?	Low. Their focus is on the domestic market	<i>“As was said 15 years ago, we believe in the domestic market. You need to prove that you are capable.”</i>
Degree of risk aversion?	High. This is related to low international ambitions.	<i>“It is important not to risk your foundation. If you reach out too far, the branch will break.”</i>
Degree of active involvement in network?	Low. Related to low ambitions and low embeddedness in the carrier’s network.	
Degree of active opportunity seeking?	Low. Related to low international ambitions.	

Rigidity in business planning

Does the firm carefully plan international activity?	No. They have an ad hoc approach to international business.	(You do not have a clear international plan, but are checking out the possibilities?) “Yes. We are scratching the surface of possibilities that lies ahead of us.”
Are the international activities a result of detailed planning?	Indirect export cannot be considered as a planned international activity.	
How is the ability to adapt to market changes?	We do not have information on this matter.	
How is the ability to develop international business plans?	Low. They have limited knowledge of the international market.	

High-tech product

Is the firm considered experts in their field?	The firm is a small supplier in a market with heavy competition and is thus not considered experts in the field.	“We deliver components for the subsea industry. Those are customized for the customers and we are in competition with half of Norway, not to mention Europe.”
Does the firm deliver customized products?	They deliver both mass production and customized products. For products in the subsea industry, Firm A delivers customized products.	
Does the product development require specific knowledge?	Yes. The products require specialized knowledge and skills within CNC engineering.	

Appendix 3: Data Firm B
Rider Mode

Question	Findings	Data
Does the firm export indirectly?	Yes. The firm sells indirectly through carrier as well as employing distribution agreements.	<i>“We sell directly to USA and Canada. But we also sell to Norwegian customers which then sell to foreign customers.”</i>
Is the firm established abroad?	No.	
Does the firm have foreign experience?	The firm has foreign experience through contract negotiations with distributors and visits to trade fairs. But no experience related to maintenance or assembly.	<i>“This was a strategic choice as we believe it would be too costly to do assembly and maintenance.”</i>
Does the firm have a close relationship to their carrier?	There is a degree of cooperation with the carrier. The firm report on informal exchange of information and exchange of personnel and some cooperation on product development.	<i>“We do exchange experiences and information...We have also had our employees doing work for them, a sort of personnel exchange.”</i>

Market Opportunities

Has the relationship with carrier lead to market opportunities?	Yes, the firm reports of market opportunities.	<i>“Often we got service deals with the oil operators, and that is very good for us.”</i>
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What type of opportunities?	Firm B reports of the importance of reference value of serving an important market player, which leads to new potential customers. It also reports of the benefits of indirect export as a means for market testing. The firm is given assurance that their products have market potential, which has lead them to pursuing distribution agreements.	<i>“We were given clear messages that our products were attractive, more than vi initially understood...This gave us the assurance that we could export more directly abroad.”</i>
Has the relationship with carrier extended the international network?	The carrier has not introduced the firm to their network, however, the firm has extended their network by contracting with distributors, which is a result of market potential assurance.	
Is the firm actively seeking opportunities in the network?	They are not seeking opportunities in the direct network of their carrier, but instead pursue to develop an independent network.	<i>“We have some distribution agreements both in USA and Canada, and we also want to find some in Australia.”</i>

Network Knowledge

Has the relationship with carrier lead to network knowledge?	Yes, but the firm reports of most knowledge coming from their independent strategies with distributors.	<i>“The most valuable effect we get from the big operators is the reference value.”</i>
What type of knowledge is accessed?	Product knowledge and knowledge concerning international product standards.	<i>“We have blinders after having worked in the North Sea basin, since everyone is focused on Statoil specifications. But when we go abroad we are exposed to new perspectives and specifications.”</i>

Is knowledge accessed through own experience or carrier`s network?	Knowledge is primarily accessed through their own experience with dealing with their distributor network.	<i>“The reference value from NCE Subsea, and the fact that we are from Norway is very useful in the oil industry. However, most knowledge we get through our distributors.”</i>
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Lock-in

Does the firm perform international activities independently from carrier?	Yes, they have distributors in USA and Canada and have soon finalized an agreement with an Australian distributor.	<i>“We visited the trade fair in Perth to present our firm. The next year we had an agreement with a distributor down there which is soon finalized.”</i>
Does the relationship constrain independent activities?	No, the carrier has not put any restraints on the firm.	
Does the relationship contribute to independent activities?	Yes, the opportunity to sell to the international market has given the firm assurance that their products have international potential.	<i>“The most valuable effect we get from the big operators is the reference value.”</i>
Have the rider invested high amounts of time and resources in the relationship to the carrier?	No, apart from personnel exchange, the firm has not invested a lot of resources into the relationship. The focus is on production and sale.	

Entrepreneurship

Degree of international ambitions?	Their vision is to become the most renown and established producer within their market niche. This can only be accomplished through international sales.	<i>“We are a small firm, but the market is small as well. It forces us to go global.”</i>
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Degree of risk aversion?	We did not receive sufficient information regarding this point.	
Degree of active involvement in network?	Low. The focus is on production and sale, but there is some product cooperation and exchange of personnel. But this is limited to the carrier and not its corresponding network.	
Degree of active opportunity seeking?	High. The network of distributors is developed independently from the carrier.	<i>“Our tactic is to visit our distributors often, and to visit INTSOK and Innovation Norway workshops.”</i>

Rigidity in business planning

Does the firm carefully plan international activity?	Firm B develops five-year plans for their international operations, but emphasizes the importance of evaluating their plans and adapting to changes on a yearly basis.	<i>“We have five-year plans, but they are evaluated and changed every year. They are adjusted, but the vision is always the foundation.”</i>
Are the international activities a result of detailed planning?	When first going abroad, they followed an ad hoc approach. More recent internationalization is ,however, a result of planning.	<i>“Initially, we didn’t have many plans and sort of jumped into it, but that was a part of the phase where we got assurance that our products were attractive. When that phase was over, we started building a strategy for how we should approach the global market.”</i>

How is the ability to adapt to market changes?	Their focus on yearly adjustments of international plans and the flexibility of being a small firm help in adapting to market changes.	<i>“The industry is very conservative due to the safety standards, so we have no problems following the market trends. We are also very flexible since we are a small firm compared to others.”</i>
How is the ability to develop international business plans?	We did not receive sufficient information regarding this point.	

High-tech product

Is the firm considered experts in their field?	Yes, Firm B is a leading firm in their market niche.	<i>“Our vision is to be one of the most renown and established producers within our market niche. Today, we are a leading actor within that market segment.”</i>
Does the firm deliver customized products?	Yes, the firm specializes in production of customized products.	<i>“There are three reasons why customers come to us...The product they need is very special and differ from the standardized products.”</i>
Does the product development require specific knowledge?	Yes, the firm operates in the high-end market and requires both high-tech production equipment and knowledge and skills within CNC engineering.	

Appendix 4: Data Firm C
Rider mode

Question	Findings	Data
Does the firm export indirectly?	Yes, Firm C uses their carrier to distribute pipes to the international market.	<i>"We have an agreement with both CUSTOMER 1 and CUSTOMER 2."</i>
Is the firm established abroad?	They have recently established a sales office in Uruguay.	<i>"Uruguay is much cheaper compared to Brazil, and our man can work towards both of these markets from there."</i>
Does the firm have foreign experience?	Yes, because they are heavy involved in foreign markets, however they plan to increase their international operations.	<i>"60 % of our turnover is from export, but we want to expand."</i>
Does the firm have a close relationship to their carrier?	Yes, they work closely together with their carrier in the foreign markets.	<i>"We operate in a special market, and we need to look abroad together with our partners."</i>

Market opportunities

Has the relationship with the carrier lead to market opportunities?	Yes, through the carrier, Firm C has been introduced to Korea and Thailand.	<i>"We followed CUSTOMER into Thailand, and we have some direct inquiries from that yard now."</i>
What type of opportunities?	Mostly inquiries from other potential customers they meet on the projects.	<i>"After we have done a job we often get some new inquiries from other partners we meet during the stay."</i>
Has the relationship with the carrier extended the international network?	Yes, Firm C has more potential customers in the foreign market.	<i>"Our firm is often used as a subcontractor for the big operators, and we get in touch with different people."</i>
Is the firm actively seeking opportunities in the network?	Yes, the manager of Firm C is constantly seeking to expand their network.	<i>"I try to contact the oil operators as often as I can to get some new opportunities."</i>

Network knowledge

Has the relationship with the carrier lead to network knowledge?	Yes, they have gained knowledge that will ease their internationalization process.	
What type of knowledge is accessed?	Market information, customers needs and international business practices.	<i>“Our foreign operations have helped us to acquire general knowledge about markets, and increased our awareness.”</i>
Is knowledge accessed through own experience or carrier’s network?	Mostly through carrier’s network, and also through agents.	<i>“Our agents help us to get market information and to promote our pipes, however we work closer with the operators.”</i>

Lock-in

Does the firm perform international activities independently from carrier?	Yes, they have a small number of agents and their own sales office in Uruguay. However, the sales office is recently established.	<i>“We have some agents we met through a trade fair with INTSOK...and an office in Uruguay.”</i>
Does the relationship constrain independent activities?	No, rather the opposite as they meet new potential customers through their relationship with their carrier.	<i>“When we travelled with an operator to Thailand we got new customers which we now are dealing with without the main operator.”</i>
Does the relationship contribute to independent activities?	Yes, to a certain degree. However, Firm C is not close enough to the carrier to fully benefit from all the advantages of the relationship.	<i>“We work with several of the biggest operators from Norway, and we hope to come in contact with more big players.”</i>
Has the rider invested high amount of time and resources in the relationship to the carrier?	No, Firm C is not economically attached to their carrier, and the firm has not established overseas yet.	<i>“I think that Norwegian companies` willingness to include smaller companies in international operations is too low – this because their customers often have demanding requirements.”</i>

Entrepreneurship

Degree of international ambitions?	High. Firm C wants to establish in both Asia and South America.	<i>"We are currently working towards South America and Asia."</i>
Degree of risk aversion?	Low. Due to their proactive behaviour and international plans they can be categorized as risk takers.	<i>We always try to follow our customers if they get projects outside of Norway – it is important for us to grasp all opportunities."</i>
Degree of active involvement in the network?	High. The manager works proactively towards carrier.	
Degree of active opportunity seeking?	High. The manager has a continuous dialogue with major end customers in the industry, investigating potential business opportunities.	<i>"I try to contact the oil operators as often as I can to get some new opportunities. "</i>

Rigidity in business planning

Does the firm carefully plan international activity?	Their plans are mostly related to which markets they want to focus on, and they appear to be flexible in their planning process.	<i>"The advantages of being a small firm is that we are flexible and take decisions then and there."</i>
Are the international activities a result of detailed planning?	Yes, however the plans are more general in their characteristics and not concrete.	<i>"Our planning consist most of existing markets and we are very flexible."</i>
How is the ability to adapt to market changes?	Firm C has an ad hoc approach towards international planning, and they can adapt quickly to market changes.	<i>"We make plans, however, we also like to be flexible."</i>
How is the ability to develop international business plans?	The main problem is to get enough market information. Their plans are often revised due to rapid market changes.	<i>"One challenge is to find the right people with the correct competence."</i>

High-tech products

Is the firm considered experts in their field?	Yes, their pipes are highly advanced and there are very few Norwegian suppliers of this specific product.	<i>“Our products are not ordinary pipes, and we need to use a special welding technology to produce these pipes.”</i>
Does the firm deliver customized products?	They deliver pipes to the oil and gas markets. Some pipes are standardized and some are customized to a special client.	
Does the product development require specific knowledge?	Yes, they need to use a special technology and raw materials to manufacture the pipes.	<i>“Nobody in Norway can deliver raw materials to us, so we have suppliers in many countries which understand our needs.”</i>

Appendix 5: Data Firm D
Rider mode

Question	Findings	Data
Does the firm export indirectly?	No, Firm D delivers consultancy projects which means that they need to be engaged directly.	<i>"We need to be present in the environment we are working in..."</i>
Is the firm established abroad?	Not yet, however, they are considering an overseas expansion with a firm from the Middle East.	<i>"We have been invited to co-establish with a firm from the Middle East."</i>
Does the firm have foreign experience?	Yes, Firm D has operated internationally for five years and has gained valuable experience and networks connections.	<i>"The firm has operated in Germany, Denmark, Mexico and the Middle East."</i>
Does the firm have a close relationship to their carrier?	Yes. They are often invited to do consultancy projects for the oil operators.	<i>"Every time we are operating abroad – we talk with many partners and our main client, the one we do the project for."</i>

Market opportunities

Has the relationship with the carrier lead to market opportunities?	Yes, they accumulated new personal relations, which has lead to new opportunities.	<i>"We often get projects from our partners, which help us to expand our network."</i>
What type of opportunities?	These opportunities are mostly new international projects through their carrier network.	<i>"Most of our customer portfolio consists of foreign partners as we have a broad network overseas."</i>
Has the relationship with the carrier extended the international network?	Yes.	<i>"I often meet new clients when I'm working with a foreign project, because one project consists of many actors."</i>
Is the firm actively seeking opportunities in the network?	Yes. It is important for the firm to stay updated since they deliver consultancy services. Different projects require different competencies.	<i>"The most important issue for us is to further develop our special competency, which mean that we always need to increase our network."</i>

Network knowledge

Has the relationship with the carrier lead to network knowledge?	Yes.	
What type of knowledge is accessed?	General insight into the international market. The manager also report on the importance of cultural understanding and how to communicate.	<i>"The main thing is that we get insight into the international market...Cultural understanding and ability to communicate is important learning."</i>
Is knowledge accessed through own experience or carrier's network?	Both. Firm D reports that own experience gives the most valuable learning, but also emphasizes the value of learning through others.	<i>"We gain most learning from own experience...But we also learn at lot from other people."</i>

Lock-in

Does the firm perform international activities independently from carrier?	Yes, they do some activities on their own, both in Denmark and in Germany.	<i>"We have tried to do projects in many regions, for example Africa and Mexico. It is important for us to always strengthen our existing network."</i>
Does the relationship constrain independent activities?	They are considering co-establishing with a firm from the Middle East. However, the project demands a lot of resources.	<i>"We are currently considering to co-establish with a partner in the Middle East, but it is a long and demanding process, but we believe it will be in accordance to our plans."</i>
Does the relationship contribute to independent activities?	Yes, to some degree, many of the personal relations can be used later to create opportunities.	
Has the rider invested high amount of time and resources in the relationship to the carrier?	Not yet.	<i>"The market demands much resources if you want to do something, and it is important with economical resources."</i>

Entrepreneurship

Degree of international ambitions?	Firm D has high international ambitions since they find the Norwegian market too small.	<i>“The foreign markets has more demand for our services, and the Norwegian market is too small for us.”</i>
Degree of risk aversion?	Low, because of their proactive behaviour and broad international networking they can be categorized as risk takers.	<i>“It will always be risky to try out international opportunities, however, with good planning, you can reduce some of the risk.”</i>
Degree of active involvement in network?	High.	
Degree of active opportunity seeking?	High, the manager in Firm D is very active with regard to seizing opportunities.	<i>“We have tried to do projects in many regions, for example Africa and Mexico. It is important for us to always strengthen our existing network.”</i>

Rigidity in business planning

Does the firm carefully plan international activity?	Yes, due to their effective planning process combined with their foreign experience.	<i>“It is extremely important to plan the future, so you can adjust quickly to the market.”</i>
Are the international activities a result of detailed planning?	Yes, Firm D spends time evaluating the opportunities` profitability and risk before they eventually plan how to proceed.	<i>“We want to plan the whole process, and I think that has helped us a lot.”</i>
How is the ability to adapt to market changes?	Firm D tries to plan or predict the market situation, and they use many resources to manage this process.	<i>“Yes, we try to make three and ten years plans.”</i>
How is the ability to develop international business plans?	Firm D has the benefit of having access to market information from their network, which makes it easier to plan the future.	<i>“Planning is a demanding process, however, it is sometimes difficult to predict all the shifts in the industry.”</i>

High-tech products

Is the firm considered experts in their field?	Yes, the management team is made up of people with diverse experience in the oil and gas industry.	<i>“Our management team consists of people with various experience from Norway, Romania, England and the Netherlands, so we are an international company.”</i>
Does the firm deliver customized products?	No, they deliver services (project management).	
Does the product development require specific knowledge?	No, they deliver services (project management).	

Appendix 6: Data Firm E
Rider Mode

Question	Findings	Data
Does the firm export indirectly?	Yes, most international sales happen through indirect export.	It is Norwegian customers that have brought your products abroad? <i>"Yes, that is true."</i>
Is the firm established abroad?	No.	
Does the firm have foreign experience?	Yes, the firm gains international experience through installation and maintenance of their products. They also perform marketing activities.	<i>"Our product is a system that is installed on the seabed, and the customers need some following up on the products."</i>
Does the firm have a close relationship to their carrier?	The focus of the relationship is on sale, but there is also some cooperation concerning R&D.	<i>"Our carrier saw the need to use surveillance on their oil drills, and we have this special knowledge."</i>

Market Opportunities

Has the relationship with carrier lead to market opportunities?	Yes, the firm reports of market opportunities.	
What type of opportunities?	They emphasize the reference value of selling through a carrier that is a major international actor. They also emphasize the reference value gained from delivering to an end customer of a significant size.	<i>"It has improved, and for that we need to thank CUSTOMER. Firms around the world look to CUSTOMER and how they do things."</i>

Has the relationship with carrier extended the international network?	It is difficult to give a definite answer to that question. But the potential customer base is increased because of the reference value of serving their carrier.	
Is the firm actively seeking opportunities in the network?	Active involvement is related to cooperation within R&D.	<i>“We are working with The Navy and other partners to further develop our products.”</i>

Network Knowledge

Has the relationship with carrier lead to network knowledge?	Knowledge is gained through R&D, but we do not find that their foreign experience have lead to specific network knowledge.	
What type of knowledge is accessed?	Knowledge concerning international product standards. The firm states, however, that because of the niche market they are working in, no other firms have sufficient knowledge and expertise	<i>“It is obvious that there are no other firms that have the same knowledge about what we do in the subsea industry. So there are actually not that many firms that can help us.”</i>
Is knowledge accessed through own experience or carrier`s network?	Knowledge is mostly accessed through own experience in production of the products. They are cooperating on R&D with other firms, however, they are not necessarily part of the carrier`s network.	<i>“Firm E is very research based and we are cooperating with many partners on R&D.”</i>

Lock-in

Does the firm perform international activities independently from carrier?	No, all international sales happen through indirect export.	
Does the relationship constrain independent activities?	There is no evidence that the relationship constrain independent activities.	

Does the relationship contribute to independent activities?	The relationship with the carrier contributes to potential independent activities through reference value.	
Have the rider invested high amounts of time and resources in the relationship to the carrier?	No, apart from some cooperation regarding R&D, the relationship is commercial with low amount of invested resources.	

Entrepreneurship

Degree of international ambitions?	The firm acknowledges the international characteristics of the niche market and have an international market perspective. Still, they emphasize the importance of not compromising the domestic market.	<i>“We have done a good deal of international marketing...But I still think that the home market has potential, so we do not forget to focus on that as well.”</i>
Degree of risk aversion?	We did not get any clear answer to this question. However, the fact that the founders jumped into a market niche where they had to persuade customers of their products utility seems to indicate that the founders are not risk averse.	<i>“The equipment we have, you will not find that in a catalogue. Those who start or work with a project for seabed installation does not know that they need a system to monitor leakages, products that we produce.”</i>
Degree of active involvement in network?	Active involvement is related to marketing activities and R&D cooperation.	<i>“The technology is developed together with the big oil suppliers.”</i>

Degree of active opportunity seeking?	The firm initially resisted acquisition, but let themselves be acquired because they wanted to exploit the international network the acquirers brought with them.	<i>“The plan was that ACQUIRER had a very good international network that we thought we could take advantage of.”</i>
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Rigidity in business planning

Does the firm carefully plan international activity?	No, they do not plan carefully as the example of the acquisition indicates. The firm is product-focused which comes at the expense of little international planning.	
Are the international activities a result of detailed planning?	No. Indirect export is not a result of detailed planning.	
How is the ability to adapt to market changes?	The firm reports that they are in a monopoly situation and thus must create the market need.	<i>“It is hard to sell because no one has used it before, and when it is not used before you need to create the market...A monopoly is a cool situation to be in, but when you introduce a new product, you need to simultaneously create the market while developing the product.”</i>
How is the ability to develop international business plans?	They have a lot of product knowledge, but insufficient information about the international market. This inhibits the ability to develop international plans.	<i>“Since R&D is an important part of the company – we are not using so much resources on marketing and planning.”</i>

High-tech product

Is the firm considered experts in their field?	Yes, they are in a monopoly situation in their market niche.	<i>“Our employees have either a PhD or a Master`s degree, and they are experts in their field.”</i>
Does the firm deliver customized products?	Yes.	
Does the product development require specific knowledge?	Yes. The products are heavily based on R&D and the technology is developed over many years. As previously mentioned, Firm E are pioneers and the single firm with extensive knowledge on the subject.	<i>“All of the products Firm E offers consist of advanced technology.”</i>

Appendix 7: Data Firm F
Rider mode

Question	Findings	Data
Does the firm export indirectly?	Yes, but they also own branches in Norway, Scotland and US.	
Is the firm established abroad?	Yes, Firm F is established in Houston and Aberdeen.	<i>"We operate in Norway, Aberdeen and in Houston."</i>
Does the firm have foreign experience?	Yes, they have invested a lot in foreign operations.	<i>"Our investment in Houston is high, and we provide the market with seismic products and pipes. Today we are around 20 people over there."</i>
Does the firm have a close relationship to their carrier?	Yes, Firm F has been in Aberdeen since 1999 and Houston since 2001.	

Market opportunities

Has the relationship with the carrier lead to market opportunities?	Yes, by getting in touch with a new network, the relationship has lead to new opportunities.	<i>"Our network in Houston has expanded a lot after we established a subunit over there."</i>
What type of opportunities?	The same as Firm G, Firm F gets in contact with new market players, which often ends up in direct sale.	<i>"It is much easier for us now to update ourselves on the market, and we get in touch with both producers and customers."</i>
Has the relationship with the carrier extended the international network?	Yes, the carrier has introduced Firm F to many new clients and they often do product development together with the clients, which results in new connections.	<i>"That is something we are evaluating, can we support our CARRIER in Brazil."</i>
Is the firm actively seeking opportunities in the network?	Yes.	<i>"From the US network, we want to try to get new partners which can help us with establishing in Brazil, Venezuela and Mexico."</i>

Network knowledge

Has the relationship with the carrier lead to network knowledge?	Yes, since they have been invited to a new network, Firm F has accumulated both market and product information.	<i>"We now have the possibility to create a forum, where we can discuss and receive feedback directly from our end customers. That is very valuable for us."</i>
What type of knowledge is accessed?	The most valuable knowledge accessed is the feedback they get on their products in addition to more easily discover market needs and trends.	<i>"Our Houston unit helps us to reduce production cost and we now have a chance to work together with our customers, which is very important for us."</i>
Is knowledge accessed through own experience or carrier's network?	Both, however, the carrier have been the key to this new knowledge.	<i>"The Houston office was primarily established to serve the seismic market in the US."</i>

Lock-in

Does the firm perform international activities independently from carrier?	They seek to. Firm F is now trying to assess the potential in Mexico and Venezuela.	<i>"Yes, we have some scouts out to look at what's happening in Venezuela and Mexico."</i>
Does the relationship constrain independent activities?	To a certain. Some of the product development they do is specially designed for the US market. Also, the carrier has invested a lot of resources in the relationship and put demands on the firm.	<i>"The Houston office demanded a lot of us in the beginning."</i>
Does the relationship contribute to independent activities?	Yes, the new network can be used to enter new markets.	<i>"Our international network has increased enormously the last couple of years."</i>
Has the rider invested high amounts of time and resources in the relationship to the carrier?	Yes, the carrier was very dominating when they established the subunit and they have invested much time and effort in the relationship.	<i>"The Houston office was established primarily to serve the CARRIER, so they were very dominating when the office was built."</i>

Entrepreneurship

Degree of international ambitions?	Firm F has high international ambitions. They plan to expand their business in Asia and South America.	<i>“The next two markets we want to be in are Asia (Singapore and Malaysia) and Brazil.”</i>
Degree of risk aversion?	They seize and exploit the opportunities they believe match their ambitions, both in existing and new geographical locations.	<i>“Many of our products are made towards the international market, so we strive to get customers both in Norway and abroad.”</i>
Degree of active involvement in the network?	Firm F is very active and eager in their network.	
Degree of active opportunity seeking?	Firm F is good at evaluating every opportunity they get.	<i>“One reason of our success is that we evaluate every opportunity we get, and that has lead us into markets as Brazil and Singapore.”</i>

Rigidity in business planning

Does the firm carefully plan international activity?	No.	<i>“The firm is very flexible, which helps us to plan and react to customers` need quicker.”</i>
Are the international activities a result of detailed planning?	No, Firm F has a flexible planning process and evaluates opportunities continuously.	<i>“We want to follow our customers into other projects, but we need also to be aware that different markets need different strategies.”</i>
How is the ability to adapt to market changes?	The firm has an ad hoc approach to planning. They conduct business through trial and error.	
How is the ability to develop international business plans?	Compared to other rider modes, Firm F has access to market information and foreign experience that makes the planning more accurate.	<i>“If you want to establish in a new country – the process is very time consuming and personal relations are important.”</i>

High-tech products

Is the firm considered experts in their field?	Yes, the firm introduced ROV into the offshore industry and they now produce complex sealings/jumpers.	<i>“Our core competency is ROV (remotely operated vehicle) and different systems of sealing/jumpers.”</i>
Does the firm deliver customized products?	Yes, they deliver specialized ROV systems to the US market.	<i>“Some of the product development we do in Houston is customized directly for a customer. This can also be an advantage for us since it may improve our product.”</i>
Does the product development require specific knowledge?	Yes. The knowledge has been in the company for around 35 years. They have developed specific knowledge and experience.	<i>“We are around 130 employees in the firm now, so we have a wide range of product competency.”</i>

Appendix 8: Data Firm G
Rider mode

Question	Findings	Data
Does the firm export indirectly?	Yes, but a lot of activity comes from their subsidiaries in Houston.	
Is the firm established abroad?	Yes, they are established in Houston.	<i>"Our subunit in Houston was established in 2004."</i>
Does the firm have foreign experience?	Yes, mostly through their establishment in Houston.	<i>"Our subunit in Houston was established in 2004."</i>
Does the firm have a close relationship to their carrier?	Yes, they have invested a lot together with their carrier.	<i>"The company has invested a lot in the US market, and we now hope that we can get some revenue."</i>

Market opportunities

Has the relationship with the carrier lead to market opportunities?	Yes, they have broadened their network, which has lead to new opportunities.	<i>"As we are a spin-off from a big Norwegian company, that itself has created a lot of opportunities in addition to the ones we accumulated together with our carrier."</i>
What type of opportunities?	Firm G gets in contact with new market players, which often end up as direct sale.	<i>"Our Houston unit eases our foreign process, because we now can work closer together with our customers."</i>
Has the relationship with the carrier extended the international network?	Yes, the carrier has introduced Firm G to many new partners in the US.	<i>"We meet many new clients in the cluster environment in Houston."</i>
Is the firm actively seeking opportunities in the network?	Yes.	<i>"One of our employees are currently living in Brazil in order to seek and discuss a cooperation with a Brazilian partner. He is married with a Brazilian lawyer."</i>

Network knowledge

Has the relationship with the carrier lead to network knowledge?	Yes.	<i>“The biggest advantage of being present in the US, is that we can develop and produce more specific products since we have a closer dialogue with our customers.”</i>
What type of knowledge is accessed?	Firm G gained both market information and product information. They also report of the importance of cultural learning and R&D cooperation.	<i>“We are just now doing a loop project with our carrier, and we try to develop a new measurement tool.”</i>
Is knowledge accessed through own experience or carrier’s network?	Both, as own experience is related to the carrier’s network.	<i>“We knew our carrier from the Norwegian market, but we are still working a lot together.”</i>

Lock-in

Does the firm perform international activities independently from carrier?	Yes, Firm G is now trying to establish in Brazil. However, they met the contact in Houston, independently from their carrier.	<i>“We are currently negotiating with a Brazilian contact, and we hope that it will be a success.”</i>
Does the relationship constrain independent activities?	Both yes and no, however Firm G has invested a lot in the subunit in the US.	<i>“The firm has used money borrowed from other projects to finance the US subunit, however, now, we hope to see some positive results.”</i>
Does the relationship contribute to independent activities?	Yes, the new network can be used to enter new markets.	<i>“Our next aim is to establish in Brazil. We are currently negating with a partner over there.”</i>
Has the rider invested high amount of time and resources in the relationship to the carrier?	Yes, the carrier was very dominating when they established the subunit and they have invested much time and resources in this relationship.	<i>“We had some problems in the beginning in Houston, and we believe the reason was that we promised too much and moved a bit too fast.”</i>

Entrepreneurship

Degree of international ambitions?	Firm G has high international ambitions. They are already established in the US and plan to expand their business.	<i>“Domestically, we want to establish a branch in Hammerfest and internationally, it’s Brazil.”</i>
Degree of risk aversion?	Low. They seized the US opportunity and that was a high-risk opportunity.	<i>“It is easier to evaluate after you have tried something, and when we started up in the US – we met some practical problems. They could have been better solved if we had done some more research prior to the establishment.”</i>
Degree of active involvement in the network?	Firm G has now a very broad network and they use it efficiently.	<i>Our first goal now is to establish in Brazil, but we are also considering other areas.”</i>
Degree of active opportunity seeking?	Firm G is preoccupied with seeking opportunities.	<i>“If we see an opportunity which has some sort of economical value for us, we want to try it out.”</i>

Rigidity in business planning

Does the firm carefully plan international activity?	No, due to their ad hoc planning process and learning by doing approach ; they do not spend a high amount of resources on planning.	<i>“You learn very fast when you are developing business through trial and error...”</i>
Are the international activities a result of detailed planning?	No, Firm G has an ad hoc internationalizing process and adjusts with changes in the market.	<i>“We in Firm G like to build the business before we build the organization.”</i>
How is the ability to adapt to market changes?	The firm has an ad hoc approach to planning. They evaluate business through trial and error.	<i>“Most of our employees have a technical background, and we never planned to use people with a pure business background. So me and my technician have very much administrative work to do.”</i>

How is the ability to develop international business plans?	As they have a foreign subunit, they now have more access to market information and customer needs; information that is valuable in planning efficiently.	
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High-tech products

Is the firm considered experts in their field?	The firm is a spin-off from a major oil operator and former employees with many years of experience left the oil operator in favour of Firm G.	
Does the firm deliver customized products?	Yes, they deliver specialized, customized control systems.	
Does the product development require specific knowledge?	Yes. The control systems requires specific knowledge within electro and hydraulic engineering.	<i>“A part of our strategy is to deliver both products and service, which again requires a specific set of knowledge.”</i>

Appendix 9: Data Firm H
Rider Mode

Question	Findings	Data
Does the firm export indirectly?	Yes, the firm sells partly through a domestic carrier, but this constitutes only a small part of the firm's international sales.	<i>"Most of the sales go through the agents we have in Aberdeen and Houston."</i>
Is the firm established abroad?	Yes, the firm has sales offices in Houston and Aberdeen.	<i>"We have been in Aberdeen since 2005 and Houston since 2009."</i>
Does the firm have foreign experience?	Yes, the firm has extensive foreign experience both through their sales offices and through visits related to their network of agents in Asia.	<i>"The products that we have are very international and are often used as parts in bigger deliveries."</i>
Does the firm have a close relationship to their carrier?	Their relationship to the domestic carrier is commercial, focusing on sales.	

Market Opportunities

Has the relationship with carrier lead to market opportunities?	The firm does not report on market opportunities arising from the relationship with the carrier. However, opportunities are arising outside the carrier relationship with regard to sales office in Houston and Aberdeen.	<i>"We only have one employee in Houston, but now we want to employ more people over there – it needs to be done."</i>
What type of opportunities?	The firm is building awareness and recognition in Houston. However, they are struggling because they lack an established American network.	<i>"The firm has currently only one man in Houston, and that is not enough, so we need to expand."</i>

Has the relationship with carrier extended the international network?	The firm has a well developed agent network in Asia and is building a network in Houston. However, it is developed independently from the carrier.	<i>“We had success with our network of agents, and we want to develop that idea further.”</i>
Is the firm actively seeking opportunities in the network?	No. The firm is actively seeking opportunities outside the carrier network.	<i>“We want to exploit the opportunities in our existing markets before we go to new ones.”</i>

Network Knowledge

Has the relationship with carrier lead to network knowledge?	Similar to the case with market opportunities, most knowledge is gained outside the direct relationship to the carrier. The firm reports on most knowledge being gained in the Houston subsidiary.	<i>“Our man in Houston has done a great job creating awareness about our firm, so we know the market much better now”.</i>
What type of knowledge is accessed?	Knowledge concerning communication and foreign business cultures/characteristics.	<i>“The way you communicate with business partners can vary a lot among different markets, and we have learned a lot here”.</i>
Is knowledge accessed through own experience or carrier’s network?	Knowledge is gained through own experience and through their agents.	<i>“We learn a lot from our agents – they have knowledge about local markets and know how to operate.”</i>

Lock-in

Does the firm perform international activities independently from carrier?	Yes, most international activities are gained independently from carrier.	
Does the relationship constrain independent activities?	No.	
Does the relationship contribute to independent activities?	The firm does not report of market opportunities or knowledge being gained from the relationship with the carrier, thus it is appropriate to assume that the carrier relationship does not contribute to independent activities.	
Has the rider invested high amounts of time and resources in the relationship to the carrier?	No, the relationship is commercial.	

Entrepreneurship

Degree of international ambitions?	High. They acknowledge that the domestic market is too small and that they need to compete on the international arena.	<i>“The firm wants to go into the Gulf of Mexico, Singapore and Australia”.</i>
Degree of risk aversion?	Low. The firm entered into the Houston market without having the backup from an established network.	<i>“We saw enormous potential in the US market, and we decided, without any big plans, to try to establish there due to the high potential”.</i>
Degree of active involvement in network?	This point is not relevant as their main focus is not on the carrier network.	
Degree of active opportunity seeking?	The firm does not actively seek opportunities, but easily jump on arising opportunities, as with the Houston subunit.	

Rigidity in business planning

Does the firm carefully plan international activity?	No, the firm does not have detailed international plans. They have “ <i>some thoughts</i> ” on how to proceed, but argue for the advantages of staying flexible.	<i>“We do not follow an international plan because we are very small compared to others, and our planning is more ad hoc”.</i>
Are the international activities a result of detailed planning?	No, the international operations are not a result of careful planning.	<i>“We do not follow an international plan since we are very small compared to others, and our planning is more ad hoc”.</i>
How is the ability to adapt to market changes?	High. The firm reports on the size of the company and the ownership structure as the most important factors. The CEO is the sole owner of the company, which makes the firm able to be flexible to market changes.	<i>”There are both pros and cons related to that (ad hoc planning). Sometimes you do things that are not well enough thought through. But sometimes, you avoid long discussions that are not necessary. You make a decision and implement it.”</i>
How is the ability to develop international business plans?	The firm’s perception is that they lack the sufficient resources. They do not have enough employees for marketing and analysis operations.	<i>“It is the unknown factors that impedes our planning process, that and the fact that we are too small”.</i>

High-tech product

Is the firm considered experts in their field?	The firm has a broad range of products developed for the subsea sector.	<i>“We deliver advanced lighting, cameras, aviation fuelling systems and diving equipments.”</i>
Does the firm deliver customized products?	Yes, some of the products are customized, while others are standardized.	<i>Our product range consists of many standardized products, but we also deliver some specially integrated systems.”</i>
Does the product development require specific knowledge?	Yes, their engineer team has thirty years of experience in developing and manufacturing these kinds of products.	

BI Norwegian Business School

Preliminary Thesis Report

Piggybacking Your Way to Independent Internationalization

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Piggybacking your way to independent internationalization

1. Introduction

Piggybacking has been called “a quick road to internationalization”, but what happens when the piggybacking relationship ends? In this paper we will examine factors that give piggyback riders a higher probability of becoming independent international firms. We begin with a review of the current piggybacking literature, drawing on network theory generally and the Uppsala theory specifically. On the basis of the review we end up in a hierarchical classification of rider modes. We then examine the deeper intricacies of network membership and the learning/knowledge exchange that happens in business networks. Our theoretical considerations are then followed with an explanation of the lock-in effect and the implications of entrepreneurial attitudes, before we conclude with a description of the differences between planned and unplanned strategies and the significance of specialized products in high technology firms.

In our discussion we develop a conceptual model that contributes to the understanding of how riders in a piggybacking relationship can become independent. Our claims are that higher involvement in networks, along with a keen entrepreneurial spirit, are the most important factors that influence the independency after the piggybacking relationship. Also, firms that are less rigid in their business planning and those providing the market with highly specialized products will have a higher probability of independent success. Finally, we conclude the preliminary thesis by outlining the road forward for the project.

2. Defining piggybacking

In the most basic sense, a piggybacking relationship is a form of marketing collaboration where firms seek to achieve a goal by allying with partners that complement their strengths and weaknesses (Terpstra and Yu 1990, 52). However, different from collaboration practices such as joint ventures or mergers, piggybacking is a non-equity relationship where the partners maintain their independence. This means that for such a relationship to hold, both partners need to perceive themselves better off by the agreement than the alternative; ending the relationship (Telser, 1980 as cited in Terpstra & Yu 1990, 53).

According to Terpstra and Yu (1990), piggybacking consists of both a carrier and a rider, where the carrier markets the rider's products. Such a loose description of the term does not put heavy limitations on the practice, meaning that piggybacking can occur in different forms. Depending on the characteristics of the rider and its products, it may use the carrier to establish in a new market or simply use the carrier to distribute a new product. Although piggybacking can be used to serve domestic purposes, our focus will be on piggybacking as a mean to overcome barriers with entering the foreign market. However, this does not necessarily require foreign establishment. Piggybacking for international purposes can be performed through exporting from the domestic headquarter, or indirect exporting through a domestically established carrier (Terpstra & Yu 1990, 56).

Piggybacking connotes someone riding on someone else's back, implying that there are differences in strengths and size between the allies. For a carrier to take on the marketing activities of the rider's products, the carrier must be in possession of some characteristics that the rider is lacking. Chapman et al. (2004, 392) finds an increasing recognition among the SMEs in the Aberdeen oil cluster that networking with larger firms brings advantages such as new market opportunities and increased learning. This is supported by Echeverri-Carroll et al. (1998, 723) who find that firms in high technology sectors are vertically disintegrating, leading to the larger firms specializing in their core functions and subcontracting other functions to the smaller firms. Such networks are characterized by asymmetry, meaning unequal power relations and dependence between the partners. The rider will in most cases be more dependent on the carrier than the opposite, often because a bigger proportion of their total sales are dependent on the success of the piggybacking relative to the carrier. Terpstra and Yu (1990, 58) points to the fact that the input needed by the carrier is a specific product that can be marketed through an already existing marketing system. If the relationship is ended, the carrier's loss is limited to the loss of the rider's product. The loss of the rider is however greater, as he loses out on the whole marketing system the carrier is providing.

Although piggybacking has several advantages, such arrangements are seen as a transitional strategy with a finite life (Terpstra and Yu 1990, 57). The rider enters

such relationships to compromise for lack of resources and competencies within its own firm. However, as the firm gains experience through such relationships, the benefits will decrease to a point where another mode of operation will be preferred. This is supported by Chapman (2004, 392) who claims that piggybacking will subsequently lead to independent expansion when the piggybacking relationship has made the SME (rider) able to retain strategic control over their operations.

Piggybacking comes in different forms. We have chosen to arrange the term in three different groups based on Raines et al. (2001, 970-971) findings in their study of the linkages of localized multinationals and the globalization of local business networks in the oil-gas and electronics industry. What they found was that the rider will in different degrees commit to the relationship in terms of resources and investments in and experience with the foreign market. We believe that these differences in the riders' choice will have effect upon how able the different riders will be at internationally expanding independently. Therefore, we will classify the different piggybacking relationships as following:

1. Exporting Rider (ER)

A domestically established rider supports a carrier's non-domestic subsidiary by direct exports.

2. Involved Rider (IR)

The carrier translates their existing domestically established rider into the exports markets for specific transactions. Reasons may be training of personnel or product installments.

3. Foreign-established Rider (FR)

Here the rider follows the carrier into their foreign market by establishing their own subsidiary close to the carrier.

The degree of experience in the foreign market will increase progressively when moving from 1 – 3. Also, both ER and IR will be low in resource commitment compared to FR. These findings are summarized in table 1. An important assumption that we will use in our further discussion is that the rider modes are organized in a hierarchy where FR has the highest probability of evolving into an independent international firm.

Table 1

	ER	IR	FR
Resource Commitment	Low	Low	High
Foreign Experience	Low	Medium	High

3. Membership in networks

As SMEs are piggybacking on the marketing systems of MNEs, they are tapping into the networks of the larger firms. We will now look more closely into how the mere presence in a bigger network can help facilitate the internationalization of SMEs. According to Johanson and Vahlne (2003, 2009) there is nothing outside the relationship. They argue that markets are made up by webs of complex relationships between firms and their suppliers and customers. Hence, being established inside a network is a necessary condition for successful business development, and firms trying to enter a foreign market where it is not enrolled in a network will suffer from the liability of outsidership (Johanson & Vahlne 2009, 1415). An important point in their argument is the development of knowledge, trust and opportunities in the network. We will return to the discussion about knowledge in the next chapter. For now the assumption is that since knowledge is created between partners in the network, outsiders will not have access to the knowledge. Opportunities are then identified and exploited based on the network knowledge and the interaction between partners that commit to the relationship because of trust having been developed (Johanson & Vahlne 2009, 1419-20). A similar view is presented by Coviello and Munro (1997, 376) in their case study of four New Zealand-based software firms. They find that SMEs are presented with market opportunities and potential partners through their international networks, thereby being shaped in their international process, suggesting that enrolment in a network is a necessary precondition in the maturing of SMEs internationalization process.

There are however studies presenting challenging findings. Ojala (2009, 58) finds that knowledge-intensive SMEs entering distant markets are not influenced by their networks, but rather for strategic reasons. He states that following their

networks, SMEs might actually lose out on market opportunities and end up where market potential is low. This means that for opportunities to be discovered by SMEs, an active role must be taken.

Relationships formed through networks are not only of a formal character. Information disseminates through society via social clusters, and social network theorists claim that the social structure within a network creates opportunities for some people, but not for others (Ellis 2000, 447). According to Ellis (2000, 462), market opportunities are commonly acquired through an individual's social network and decisions made upon information from social ties are much more prominent than formal search activities based on objective data. These findings are consistent with Johanson and Vahlne's claim that establishing relationships are of the most important in the internationalization process. Arenius (2005) finds support for the positive effect of social ties, or what she describes as social capital, defined as the quality of the external relationships possessed by the firm. According to her, social capital can help in attaining foreign partners through valuable contacts in networks. Also, the higher the social capital, the more attractive firms are as partners. This can be related to issues concerning risks and uncertainty. Decision makers respond to costs related to risk by placing more reliance upon social networks. Thus, social capital becomes a mean to increase legitimacy and market power.

4. Knowledge in networks

Returning to the paper by Terpstra and Yu (1990), the rider and the carrier in a piggybacking relationship commit to relationships to overcome the barriers of lacking knowledge. Whereas the carrier buys the rider's products because the appropriate knowledge for production is perceived to be too costly to acquire, the rider will, in addition to managerial shortcomings, also lack knowledge of foreign markets. However, as these relationships mature over time, we assume that some of the knowledge will be transferred between the firms. We will in the following paragraphs discuss what types of knowledge is important in the internationalization process and knowledge dissemination between firms in network relationships.

When internationalizing, firms are dependent on different types of knowledge. Different researchers focus on different aspects concerning this matter. Eriksson et al. (1997) identifies three components of knowledge critical to internationalization; internationalization knowledge, foreign business knowledge and institutional knowledge. Internationalization knowledge concerns the knowledge of the firm's capabilities and resources in enrolling in international operations. This kind of knowledge is firm-specific and describes the firm's ability of organize and manage the internationalization efforts. Business knowledge is more external as it is concerned with knowledge about the customers, markets and competitors in the foreign markets. Institutional knowledge is defined as knowledge of government, political and institutional frameworks and the way in which the bureaucracy works in the foreign markets in which the firms are engaged in. Mejrri and Umemoto (2010), capture business and institutional knowledge into what they describe as market knowledge. They argue that the accumulation of this kind of knowledge is critical in the pre-internationalization phase to reduce the uncertainty and high risk of market entry. They also discuss the importance of cultural knowledge, which they refer to as "knowledge of values, manner and ways of thinking of people in that market". Similar to institutional knowledge, cultural knowledge is associated with reducing uncertainties in factors that make it hard to understand foreign environments, a concept that in the literature is commonly referred to as psychic distance (Johanson and Vahlne 1977). Also, Johanson and Vahlne (2009) points to the importance of knowledge concerning how to coordinate relationships. Thus, researchers focusing on different types of knowledge, indicates the complexity of knowledge in the internationalization process.

A central element in the Uppsala model (Johanson & Vahlne 1977) is that the internationalization process is driven by direct experience and learning about operations in foreign markets. This kind of learning is termed experiential learning and is the cornerstone in reducing uncertainty associated with foreign market commitments (Johanson & Vahlne 2003, 89). Building such knowledge takes time, leading to an incremental increase in commitments in foreign markets. However, the Uppsala model has been cornered by a lot of criticism, as some researchers claim that the incremental view of internationalization is no longer as valid (Bell 1995), while others claim that the experiential view upon learning is

too narrow (Forsgren 2002). Also, many studies have focused on the increasing importance of networks in the internationalization process of firms (Coviello & Munro 1997).

In a recent article by Johanson & Vahlne (2009), they present a revised version of the Uppsala model, acknowledging the limitations of their original work in not emphasizing the importance of network when explaining knowledge creation. While retaining experiential learning as a critical part of the model, they conclude this is not the only way of developing knowledge. However, their main proposal is that knowledge is created and accessed through networks. We have previously discussed how firms outside networks suffer from the liability of outsidership. If firms are not enrolled in networks, they will not have access to the information that exists within them. Johanson and Vahlne (2009, 1416) describe how the lack of business market knowledge, which is related to the firm's business environment and those they are doing, or trying to do, business with, constitutes the liability of outsidership. Or, in other words, how being enrolled in networks and gaining access to its knowledge help overcome this liability. Further, by having access to network knowledge, it will make it easier for the firms to discover and exploit opportunities, as discussed earlier. Moreover, networks do not limit firms to knowledge access. According to the revised Uppsala model (Johanson & Vahlne 2009, 1416), the interaction between the actors and their knowledge base may also lead to new knowledge, partially explaining the success of innovations developed between firms.

In his critical review of the original Uppsala model (2002, 271), Forsgren propose that firms invest in foreign markets without own experiential knowledge. He claims that firms will lower perceived risk in entering foreign markets by taking shortcuts by imitating successful firms. Forsgren does not take the networking perspective into consideration, but networks can give access to successful formulas and best practices when investing abroad, according to the revised Uppsala model Also, Aitken et al.'s (1997) thorough investigation of spillover effects show that locating near other multinational firms increases the probability of exporting. Although the increase in probability is related to access through the same distribution channels, the spillover effects are also related to learning as potential exporters avoid costs and reduce risk by observing already successful

exporters. Aitken et al. (1997, 128) provide statistical evidence supporting that exporting firms function as catalysts for domestic exporters, however the positive correlations are only present when established within the proximity of multinational firms.

The dissemination of knowledge between actors in a network is not exempt from complications. Lord and Ranft (2000) examine barriers of local market knowledge dissemination. They find that a high degree of tacitness is negatively associated with transfer. Tacit knowledge is largely accumulated through personal experience and cannot easily be separated from those possessing it (Lord & Ranft 2000, 577). Local market knowledge and the other types of knowledge mentioned at the beginning of this chapter are often tacit in nature. The knowledge may concern differences in culture and language, specific information about markets and/or information about institutions and bureaucracy. This is knowledge that is preferably acquired through first-hand experience, thereby making it more difficult to disseminate. This points to the importance of direct experience, and proves support for importance of experiential learning. In their research of experiential knowledge and cost in the internationalization process, Eriksson et al. (1997) find that sporadic interaction with market actors procures little experience. They stress the importance of direct experience and durable and repetitive interactions abroad. Since knowledge dissemination in networks often is assumed to be accumulated through a firm's direct experience with a market and then transferred to the other firm, the argument of the need for direct experience challenges the contribution of knowledge dissemination in networks. According to Cubillo-Pinilla (2008, 107 & 119), firms with closer and more productive ties will have a better flow of information between them. In such relationships, the quality of the channels of communication will be better since the interdependencies between the firms will be greater, thereby improving information exchange.

5. Lock-in in piggybacking relationships

We will in this chapter look at how the piggybacking relationships affect the independence of the SMEs. One of the main disadvantages of a piggybacking relationship is that the SME can become locked-in, or in other words, become dependent on the MNE.

Echeverri-Carroll et al. (1998, 724) believe lock-in is a relevant problem when the difference in size of the firms involved in the network or the relationship is large. This again will determine how the benefits are shared between the two parties. We will present two hypotheses that differ in terms of whether they believe lock-in is a relevant problem or not. The Management of Territory Hypothesis (MTH) states that the existence of a network generates asymmetric arrangements. The asymmetry depends on the unequal division of power among firms, where the relative power is correlated with the size of the firms. The Increased Independence Hypothesis (IIH) states the opposite, that relationships between a small firm and large firm present opportunities for the small firm in terms of access to knowledge. Furthermore, the small firm does not risk becoming dependent on the large, because the relationship provides mutual benefits (Echeverri-Carroll et. al. 1998, 725-726).

According to the MTH (Echeverri-Carroll et al. 1998, 725-726) piggybacking relationships are expensive to create. The SME must organize production and plan how they are going to deliver the products to the MNE. This is a process that is time consuming and needs a lot of planning. It is also time consuming to cancel this relationship at a later stage; therefore SMEs become locked-in. The piggybacking relationship makes the SME less flexible. By increasing control, the larger firm can assure that they get high quality products on time. This reduces the power of the SME, and the firm gets less control over its strategic decisions. Since the SME has limited production capacity, this relationship will also prevent the firm from acquiring new relationships and business deals as it is busy producing products for the MNE. This is also supported by Coviello (1997), which claims that network relationships speeds up the internationalization process, however this process is a constraint to all other opportunities for the firm.

However, Echeverri-Carroll et al.'s (1998) research finds support for the IIH claiming that this asymmetric relationship does not lock in the SME's. In the study, it is shown that small high-tech firms gain, for instance, experience from establishing a relationship with a MNE. The relationship consists of mutual exchange of information, and the relationship helps small firms to export by making them more competitive. This can be interpreted as if the asymmetric

relationship helps the small firm export in an indirect way, as mentioned, by making them more competitive. A relationship with foreign firms has a direct effect on a high-tech firm's exports, independent of whether the small firm has or does not have a network with a larger local firm (Echeverri-Carroll et. al. 1998, 730). The study also indicates that the small firms benefits from the relationship since they get access to information and that the asymmetric relationship increases their flexibility. Bradley et al. (2006, 661) stresses that it is important to prevent opportunistic behaviour; it is necessary for the smaller firm to ensure that the benefits of supplier-customer relationships are reciprocal to ensure that asymmetrical dependence upon the relationship is avoided.

6. Entrepreneurship

Entrepreneurship is a multidimensional phenomenon and an activity that consists of several elements. When searching for this concept in the literature, we find no exact definition stated. We will in the following paragraph explain the meaning and our interpretation of entrepreneurship, and we will also emphasize the characteristics of the entrepreneurial individual to explain why this can be beneficial for a rider.

Gartner (1985), as cited in Becherer et al. (1999, 29), developed a model that explains the most important dimensions of entrepreneurship. The author claims that interaction between the individual and the environment surrounding the venture can facilitate business opportunities. The main findings here are that the entrepreneurial behaviour is governed by experimentation and learning, and they emphasize that the entrepreneurial behaviour is strongly influenced by random events (Becherer et al. 1999). Chell (2007) claims that opportunity recognition is an important entrepreneurial attribute. She states that individuals are good at recognizing and pursuing opportunities that create value for the organization, and that they are primarily driven by challenges. Another study by Morris et al. (2002) finds that entrepreneurs are focused on value creation, proactive identification and exploitation of opportunities. Entrepreneurs are also known as networkers (Birley 1985), and they use their social and personal networks to find and exploit mentioned opportunities.

Another important characteristic of an entrepreneur is proactive behaviour, defined as the extent to which people take action to influence their environments (Bateman and Crant 1993, 103, as cited in Becherer et al. 1999, 30). Bateman and Crant (1993, 105), as cited in Becherer et al. (1999, 30), describe proactive individuals as: "They scan for opportunities, show initiative, take action, and persevere until they reach closure by bringing about change". The authors believe that proactivity and entrepreneurship are directly related, which is supported by Becherer's study (Becherer et al. 1990, 33). Inherent from definitions, proactive behaviour is important if the entrepreneur wants to experiment and learn from his/her environment. The learning process is influenced by the way the traits of the individual interpret the environment.

A key assumption is that entrepreneurs are likely to have a greater propensity to take chances and thrive to situations related with high risks (Busenitz 1999), and a lot of the literature has characterized entrepreneurs as risk-takers (Palich & Bagby, 1995). However, research has found little evidence supporting this claim. Brockhaus (1980) found that the risk propensity of entrepreneurs do not differ significantly from the rest of the general population. However, according to Palich & Bagby (1995, 428), entrepreneurs are notably more optimistic in their assessments of business situations. The entrepreneurs tend to evaluate situations more favourably and see opportunities rather than threats and potential for future performance improvement rather than deterioration.

7. Planned/unplanned strategies

As discussed above, proactive behaviour is an important aspect in the internationalization process as it explains how entrepreneurs discover and exploit opportunities, thereby creating value for the rider. Opportunities can occur in the entrepreneurs' personal networks and relationships, and it will be harder to recognize opportunities when the firm is rigid in planning business behaviour.

As riders often are SMEs, the decision maker has more power than in larger companies since the organization is significantly smaller. The smaller firms also have less experience, knowledge and are likely to have fewer strategic objectives due to the limitation of experience and knowledge. This means that there is less

chance for planned behaviour since the firm is in an early phase of internationalization. Therefore, to achieve higher international involvement, management needs to compensate for lack of sufficient planning by showing more desire and enthusiasm towards overseas expansion, and being more flexible in seizing occurring opportunities (Cavusgil, 1984, cited in Crick et al. 2005, 170).

Serendipity concerns the seizing of opportunities that arise and that the entrepreneur is ready to take advantage of them (Crick et al. 2005, 171). Such behaviour would benefit the rider in the pre-entry stage, since the firm is dependent to have decision makers that take initiative. Crick et al. (2005, 172) found that international entrepreneurial decisions are not as rational and planned as much of the literature suggests. Johanson and Vahlne (2009) support Crick et al. (2005); that both internationalization and entrepreneurial processes take place under genuine uncertainty, and are in most cases unplanned. According to Solberg (2006, 21-22), Johanson and Vahlne (1977) offer two explanations for why smaller firms often do not plan their actions. First, they are newcomers to foreign market, and therefore, lack resources and experience to carry out market research. Secondly, they lack the necessary insight into foreign marketing issues, and therefore it will be difficult to define the needs. Solberg et al. (2003) explain that business opportunities arise coincidentally, rather than through market planning. The authors also emphasize that small firms with low preparedness for internationalization, and which operate in a global industry, will have difficulties in business planning due to their lack of information and ability to plan.

However, in the later stages, the firm would benefit from increasing the strategic and planned behaviour, since the firm now has more experience and knowledge than in the earlier pre-entry stage. Still, it is important to emphasize that also in this stage too much rigidity in business planning will hinder the firm exploiting occurring opportunities.

8. Type of product

The potential for global success differs among products. We will now take a closer look at firms in high-tech industries and how differences in characteristics of products will help or hinder in achieving global sale.

Chapman et al. (2004) investigates the development of the Aberdeen oil cluster. What they find is that firms diversify their operations in various directions. Some firms favour geographical diversifications into overseas oil-markets, whereas others choose sectoral diversifications, where the latter means bringing oil-related expertise into non-oil markets (Chapman et al. 2004, 386). The explanation for choosing either seems to stem from characteristics of the products that they offer. Those firms that choose sectoral diversification are mainly engaged in the more generic downstream activities. Oppositely, highly specialized firms in the upstream end are more suited for and likely to involve in geographical diversification. These are firms that offer niche products for their customers. Niche products are associated with expertise and skills and firms are thereby considered as having a specialist reputation as experts in the field in which they are engaged in. Being perceived as experts and experienced is considered a principal asset for a firm that helps facilitate entry into overseas markets.

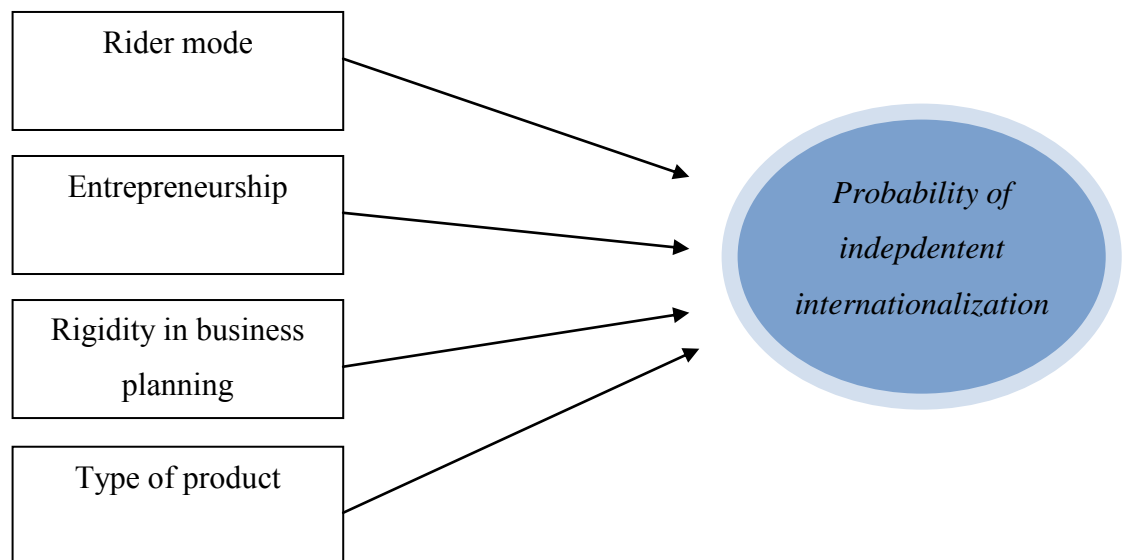
Hills and Sarin's (2003) characterization of high technology industries helps provide an explanation for why expertise and experience is critical in this industry. What they present is an industry that scores high on uncertainty both in technology and market and where the competitive situation is highly volatile. Uncertainty arises due to doubts about the functionality of the technology, whether it suits market needs and whether the market accepts the technology as a standard. Also, the rate of change in the market is high as the competitor basis is constantly changing. High-tech industries are, in other words, characterized by a high degree of risk perceived by the participants. In these situations, expertise and experience becomes the most important competitive advantage in geographical diversification as it helps reduce the inherent risk for the firm's customer. Thus, highly specialized firms offering niche products, signal via their products offering expertise and skills, thereby making it easier to enter foreign markets.

9. Discussion and proposition development

In the following, we will discuss the main findings from the theory and present our research propositions. We have developed a conceptual model that assumes that there are four main factors influencing a rider's probability of independent

internationalization success (Figure 1). Emphasis is on which rider modes are most likely to exploit the benefits that arise from being embedded in a network, thereby having a higher probability of further independent internationalization. Further, the level of entrepreneurship, the firm's rigidity in following a planned business route and the type of product they offer will also affect the firm's ability to succeed without the aid of the carrier.

Figure 1



Following the revised Uppsala model, a firm's mere presence in a network will increase its exposure to market opportunities. We believe that higher resource commitment and direct experience in a foreign market increases the probability of network access and thus the discovery of market opportunities. By committing more resources in their international operations, the rider moves to a higher-risk strategy requiring more active involvement from the management. The incentives to succeed internationally will be greater as the costs of losing will increase. As riders usually are small firms lacking knowledge of markets and operations, relevant knowledge could be accessed through the carrier and its network. According to Johanson and Vahlne (2009), the interaction between the partners in the network is of importance, meaning that maintaining a passive role will provide less effect. Active partners will thus be more firmly established in the network, benefiting more from the opportunities being presented. This is also in line with

Ojalas (2009) claim that opportunity discovery is related to active firms. Johanson and Vahlne (2009) also emphasize that commitment to the network facilitates trust. Accordingly, it is reasonable to expect that active members have better developed social relationships than passive members, thereby increasing the probabilities of discovering market opportunities through their informal contacts (Ellis 2000).

Foreign experience will also contribute to the rider gaining more access within the network. As the rider is not only limited to its domestic headquarter, it increases its presence in the market, having more contact points to the network and its members. This makes it easier for the rider to interact with other members and also increase its visibility within the network. More direct experience with the foreign market will also increase the risks and uncertainty, as it is exposed to a new market where it has less knowledge compared to the domestic headquarter. Thus, the rider will have incentives to take on a more active role.

Therefore, there are reasons to believe that foreign-established riders (FR) will have the highest probability of discovering market opportunities as they commit the most resources and at the same time have the highest degree of direct experience in the foreign market. Although both involved (IR) and exporting (ER) riders commit low levels of resources to international operations, we believe that the IR will have higher probability of discovering market opportunities as they have more direct experience with foreign markets. Thus:

P1: FR have the highest probability of discovering market opportunities compared to IR and ER, whereas IR have a higher probability than ER.

According to Johanson and Vahlne (2009), knowledge exists in and needs to be accessed through the network. It is therefore reasonable to assume that firms which are firmly embedded in networks have a higher probability of accessing network knowledge than those who have a looser connection. Following proposition 1, FR will have easier access than other firms. We do, however, believe that the level of direct contact with foreign market will have effect in ways that are not fully captured by the arguments used in the discussion leading to the first proposition. Knowledge related to the internationalization process is characterized by a high degree of tacitness. However, the tacit form of knowledge

impedes knowledge dissemination (Lord & Ranft 2000, 576). Following the earlier presented arguments of Eriksson et al. (1997), direct contact with foreign markets is important in overcoming the barriers of knowledge dissemination, as direct experience facilitates experiential learning. This means that tacit knowledge that is difficult to disseminate is gained through one's own experience. Also, firms with more direct contact with foreign market will be more exposed to the carriers' international operations. This makes it easier for the rider to observe and learn the carriers' practices, thereby increasing the chances of gaining access to best practices.

Therefore, firms with more direct experience with the foreign market will have advantages in gaining knowledge both because they (according to proposition 1) are more embedded in the relevant networks and because they gain more experiential learning than those with less direct experience. Thus:

P2: FR have a higher probability of gaining network knowledge than IR and ER, whereas IR have a higher probability than ER.

It has been established that a rider will, to a certain degree, be dependent on a carrier, mainly because of the relative importance of the carrier's purchase on the rider's turnover. This is the ground for the relational asymmetry put forward in the Management of Territory Hypothesis (MTH). From the discussions leading up to P1 and P2 it is clear that opportunities for businesses arise from the discovery of market opportunities within the network. The question, then, is how the rider should organize its operations to ensure maximum probability of discovering opportunities.

By escalating from an ER to an IR or FR mode, the rider immediately increases its knowledge and learning outcome from international operations. This should be viewed as one of the benefits a rider would receive from the relationship, in accordance with the Increased Independence Hypothesis (IIH). In addition to discovering how to more effectively run international operations, riders will also have direct access to the other members of the network. When making connections with these other firms, the probability of opportunity discovery increases. Opportunity can arise both through formal business initiatives and through personal connections.

The main difference between the IR and FR mode in this effect is the consistency of the international activity. Of course, by being present in an international location (FR), not only is the international operations learning constant, but the rider is also more ready to capitalize on opportunities that may arise in that location. By contrast, IR mode is more dependent on the carrier. It is therefore susceptible to the carrier's opportunistic behavior. The carrier could possibly attempt to limit the interaction with other network members in fear of dissemination of crucial knowledge and thereby loss of competitive advantage. It is on the basis of these reflections we propose that:

P3: Higher foreign experience decreases probability of lock-in.

Entrepreneurial attitude affect the rider in a piggybacking relationship both directly and indirectly. Directly, through the vision and drive to move up through the rider mode hierarchy and indirectly, through the notion of seizing opportunities that materialize in the daily running of the company. According to Palich & Bagby (1995), it will positively affect the independent internationalization that the entrepreneurs are more optimistic in their assessments of business opportunities, and that they are willing to take more risks, as they emphasis opportunities rather than threats. Chell (2007) claims that opportunity recognition is an important entrepreneurial attribute and entrepreneurial individuals are creating value for organizations due to the thrift for recognizing opportunities. Chell's statement fit well with Becherer's (1999) argument; that entrepreneurs scan for opportunities and show initiative. Entrepreneurs are also known to be good networkers and to utilize opportunities that arise through the occasional contact with other network members (Birley 1985). We believe that mentioned attitudes would be advantageous for the rider in their process of independent internationalization.

P4: High entrepreneurial attitude increases probability of independent internationalization for all piggybacking modes.

According to Crick et al. (2005) and Johanson and Vahlne (2009), internationalization and entrepreneurial processes take place under genuine uncertainty, and are seldom caused by planned strategies. Johanson and Vahlne (1977) also claim that small firms lack the knowledge and the experience that one

must have to utilize planned strategies. According to Hills & Sarin (2003), SMEs operating in high tech industries, with high uncertainty, have challenges in planning strategies due to the continuous shifts in the industry. This increases firm's rigidity in their business behaviour. If the firm gets locked-in to the strategies, it will be more difficult to adapt to rapid changes in the industry and discover new opportunities. Also, to plan successfully, firms will need sufficient market relevant information, however, lack of information is a recurring problem and often a reason for why a rider involves in a piggybacking relationship.

When the rider matures internationally, they gain experience and knowledge about the market, thus planning will prove more successful. Still, too much rigidity decreases the firms' ability to discover occurring market opportunities. As Solberg et al. (2003) point out; firms in global industries, lacking information about the internationalization process, will have difficulties in successfully utilizing planned strategies.

P5: A high level of rigidity in a rider's business planning reduces the probability of independent internationalization.

Returning to the discussion regarding types of product and the potential for internationalization, whether a rider provides the market with a highly specialized or generic product will affect its potential to succeed independently. A rider that produces a high tech, specialized product will have a better starting point than other firms, *ceteris paribus*. They will more easily be associated with expertise and experience, traits that are important for potential customers in reducing risks and uncertainties. Obviously, firms producing niche products will also have fewer direct competitors providing similar products. Hence, they will be more attractive due to the shortage of alternatives.

P6: Riders producing specialized niche products have a higher probability of independent internationalization relative to rider producing generic products.

10. Data Collection and Thesis Progression

The various proposals presented in this paper all share a highly explorative character. Our approach to find answers to these proposals has been to conduct in-

depth interviews with managers that have experience with being riders in piggybacking relationships. During the period of June and July 2011, we conducted seven interviews with managers of firms belonging to the NCE Subsea cluster in the Bergen area. In this cluster, many of the internationalizing SMEs have followed a piggybacking approach, riding on, and taking advantage of, bigger firms belonging to the same cluster. The firms we have interviewed have differed both in terms of rider modes and stages in their internationalizing process, thereby offering us a broader perspective of piggybacking.

These interviews have later been transcribed and the next stage in the process is to analyze the findings with the aim of improving the proposals into testable hypothesis that could be further tested in a quantitative research. A more detailed description of methodology will be given in the final thesis.

Our master thesis is an external project between the Institute for Research in Economics and Business Administration (SNF AS) and us as students, and is a part of a larger project, named “Local cluster going international: balancing local and non-local networking?”. This project is funded and controlled by the SNF AS, and our focus is the piggybacking process for SMEs as mentioned in the paper. With regard to the project, we are done with our theory discussion and data collection. The theory part was handed in to SNF AS in April 2011, the interview guide was developed the following May, and the data collection was conducted in the early summer of 2011. The next step is to analyze the in-depth interviews and our findings, and to submit the work to SNF AS. The deadline set by our employer is 1th March, and, subsequently, according to our own expectations, our master thesis should be finalized by June.

However, SNF AS is not requiring a methodology part as detailed as the requirements of BI, so we will start the work of implementing that part from March on. In addition to the methodology part, it is also necessary to revise some parts of the report to meet the BI Norwegian Business School master thesis requirements. To encapsulate the thesis progression, we have developed a simple table:

2012	<i>Analyzing</i>	<i>Methodology</i>	<i>Conclusion</i>	<i>Proofreading/editing</i>
<i>January</i>	X			
<i>February</i>	X			
<i>March</i>	X	X		
<i>April</i>		X	X	
<i>May</i>			X	X
<i>June</i>				X

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