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Master Thesis

Do personal networks affect the success of foreign venture performance?

– An empirical analysis of Nordic firms in Poland

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Author of paper: Erik Rehbinder
Supervisor: Phillip Christoffer Nell – Department of Strategic Management and Globalization

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Executive Summary

Theories regarding personal networks suggest that firms with activities in transition economies need to leverage their personal network in order to be successful. Other research has shown that the use of personal networks influence the success when firms internationalize for the first time. With this in mind, the intention of this paper is to inspect if Nordic firms that entered Poland, needed to rely on their personal network to increase their chance of success.

The hypotheses in this paper stated that the use of high quality personal contacts would lead to increased foreign venture performance, while relying too much on personal networks alone would reduce performance. Also, it was assumed that small and medium sized enterprises (SME's) were more reliant on having access to personal contacts of high quality in order to succeed, compared to large firms. The hypotheses were tested by using linear regression, with polish venture performance as the dependent variable. To conduct the analysis, 1020 Nordic firms active in Poland were contacted. 127 firms responded, but only 103 respondents were eligible for further analysis. The sample respondents were from Norway, Sweden, Finland and Denmark. Findings from the regression analysis did not find support for the established hypotheses. One can therefore not conclude that the use of personal networks has an impact on the success of Nordic ventures in Poland.

There are several limitations to this research and it is the authors' opinion that the findings cannot be generalized. This is mainly because the study covered a wide range of companies that were diverse, both in size, industry sector and experience in Poland. Further research may find support for the hypothesis if a more rigid approach is applied.

Table of Contents

1.0 Introduction

Despite the recent increase in interest on how networks influence the internationalization process of small firms (e.g. Musteen et al, 2010 and Ellis, 2011), there is still a lack of research that focuses on how firms from advanced economies can utilize an effective networking strategy when entering transition economies. This should be taken seriously as a "third wave of internationalization" is under way. This notion points to firms domiciled in mature Western markets that are establishing themselves on a large scale in the post-communist "CEE countries" of Central and Eastern Europe (Jansson, 2007). These new trends pave way for new interesting studies, in which the main subjects are western firms that have entered transition economies in CEE.

Transition economies are characterized by many researchers to be markets where building strong personal ties with the right stakeholders is of high importance. Therefore, western managers who wish to take advantage of the opportunities in the CEE countries need to know how they can execute their networking strategy most efficiently when entering these countries. Should they focus on building a strong personal network before entering? Is it enough to rely on their professional networks? Does the quality and scope of available personal contacts have any effect on the final success of the market entry? These are just some of many interesting questions that this study and future research should focus on.

The empirical setting in this thesis is based on firms from the advanced Nordic countries (Denmark, Finland, Norway, and Sweden). The firms in the population are distinguished by the fact that they have all entered the Polish market. Poland is an emerging, less advanced economy, and part of the transitioning, post-communist CEE block. With the help of networking theories, this thesis will conduct a quantitative analysis to investigate how the networking strategy of the Nordic firms relates to their performance in Poland.

The thesis explores a topic that is far from exhausted, and should be treated as the starting point for similar research in the future. The main goal is to test how an effective research model in the chosen topic can be developed, and what kind of population and sample is needed to measure it.

It does not provide resolute conclusions with managerial relevance, but provides interesting insights on how more productive research can be conducted in this field for the future.

The following parts in this chapter will present the main research questions in the thesis and a brief description of the overall structure.

1.1 Research Question

The focus in this paper lies on what impact personal networks have on the success of international ventures. The empirical settings are Nordic firms that have entered the Polish market. It is also critical that this research can provide directions on how future research endeavors within this topic can be successfully accomplished. With this in mind, the main research question in this thesis has been formulated as:

To what extent does the utilization and quality of personal networks lead to success in the case of Nordic firms that have ventured to Poland?

There are several sub-questions linked to this issue:

1. What is more influential on the success of market entry; general reliance on personal networks or the quality of those personal contacts?

2. Should firms entering Poland rely more on personal connections than professional connections?

3. Are and should SME's be more dependent on personal networks in order to achieve success compared to larger firms?

4. What characterizes quality of personal ties in the target country? Is it possible to create an effective construct that measures the quality of personal ties?

1.2 Thesis structure

The thesis consists of five main parts that are presented and elaborated in Table 1.1.

Table 1.1 Thesis structure

Main Parts	Key subjects	Summary
1.Theoretical background	• Internationalization • Role of networks and SMEs • Business environment in CEE	Covers the most relevant theories applicable for the current research context.
2. Research framework and hypotheses	• Hypothesis development • Research model • Definitions	Develops hypotheses based on research covered in the past chapter. Develops a visual research model and clarifies important definitions.
3. Methods	• Choice of method and design • Empirical basis and sample • Variables • Data collection • Sample tests	Elaborates the choice of method for the research and illustrates the variables that are included in the research model. Provides a detailed description of the data collection and sample tests.
4. Results and analysis	• Factor analysis • Correlations • Linear regression	Tests which variables are suitable to form constructs. Tests the established hypotheses through two linear regressions.
5. Discussion	• Key findings • Weaknesses in the research model • Future research	Discussion of main findings. Elaboration of weaknesses in the research model and suggestions for future research.

2.0 Theoretical background

In order to grasp the full theoretical scope in this paper, one has to focus on the intersection between internationalization and networking theories. First, theories on internationalization will be elaborated. Second, theories about networks and its impact internationalization are presented. Finally, theory about transition economies and the role of western investors in these countries will be discussed. The role of SME's will be emphasized through the whole theoretical review.

2.1 Internationalization

Internationalization is a broad term that can be defined in many ways. When accepting internationalization as a dynamic concept, the definition of internationalization offered by Beamish (1990) can be considered appropriate:

"… the process by which firms both increase their awareness of the direct and indirect influences of international transactions on their future and establish and conduct transactions with other countries"

According to Coviello & McAuley (1999) there are three main topics that should be included when covering internationalization theories. Those three topics lie under the Foreign Direct Investment (FDI)-theories, and point to *the theory of the multinational firm*, *stage theory*, and *network theory*. All those theories cover different topics, but can be perceived as complementary. It is very difficult to capture the internationalization concept using just one of the theories, or using only one of the concepts without involving the other two (Meyer & Skak, 2002). For example, *network theory* is becoming increasingly combined with *stage theory* and it helps understand and explain the increased occurrence of rapid internationalization of firms (Bell, 2003).

This theoretical review of internationalization will focus on *stage theory* and *network theory*. The stage approach defines internationalization as *incremental* and illustrates international market expansion as a series of "stages" that reflect the firms increasing market knowledge and commitment over time. This can also be described as a model of *incremental internationalization.* The second approach looks at the internationalization process as a set of

connected relationships that a firm develops through its "network". Both of these perspectives will now be explained in-depth.

2.1.1 Incremental Internationalization

The notion of firms expanding to international markets in an incremental, stepwise manner is a popular concept, with Johanson and Vahlne (1977) as the most cited conceptual and empirical base. In their research, Johanson and Vahlne show that a firm's internationalization happens through a series of "stages" during a time of increasing commitment and investment in foreign markets. They argue that internationalization typically occurs with a low risk appetite through targeting "psychically close" markets, i.e. markets with similar language, political systems, trade practices and overall culture. When ready, firms start targeting and expanding to more psychically distant markets when they have reached more experience. Entry mode is also influenced by experience, and exports are usually the initial way of entry with equity investment as more normal at a later point. To sum up, the Johanson and Vahlne model shows how managerial learning is an important driver of internationalization. In addition to the Johanson and Vahlne model, other research also reports an incremental approach to internationalization. (e.g. Cavusgil, 1984; Reid, 1981). As an example, Cavusgil (1984) empirically identifies five stages (Preinvolvement, Reactive/opportunistic, Experimental, Active and Committed Involvement), which reflect differences in the firm's management attitude and orientation to international market expansion. Different incremental models show a stepwise approach to internationalization in which the main point is the process of managerial learning throughout the internationalization process (Coviello & Munro, 1997).

Western firms entering transition economies usually take place in a stepwise manner (Jansson, 2007). Companies increase commitment through a gradual learning process. The learning process is incremental and takes place by doing. The learning process is essential since the company needs to adapt to an emerging and unfamiliar business context, such as the one that exists in the transition economies of the CEE countries (Meyer & Gelbuda, 2006).

2.1.1.1 Models for Incremental Internationalization and the Small Firm

Historically, multinational enterprises (MNE's) were developed from large, mature, domestic firms (Chandler, 1986). However, recent technological innovation and the presence of increasing numbers of people with international business experience has shifted the landscape of internationalization and created new foundations for MNEs (Oviatt, 2005). Smallness has for long been considered as a disadvantage in internationalization, as SMEs may lack the resources necessary to enter foreign markets (Jansson, 2007). But during the recent two decades, there has been an increasing ease of access to low-cost communication technology and transportation means. As a result, the advantage of business opportunities in multiple countries is not only enclosed by large, mature companies. New and small sized ventures with limited resources may now also compete successfully in the international arena (Oviatt, 2005). Another important factor is the increasing homogenization of many markets in distant countries, which has made it easier for anyone to venture abroad (Hedlund, 1985). With such conditions, markets now link countries more efficiently than before, and international success and competitive advantage is not only limited to large, established firms (Oviatt, 2005).

Existing research on SME internationalization shows varied support for stage models (Coviello & McAuley, 1999). Cavusgil's stage model is seen to be valid for SMEs by Gankema et al. (2000). In contrast, Bell (1995) and Oviatt and McDougall (2005) find less support for stage theories in their respective studies of SMEs. One of the main counter arguments to the stage model is the so-called "leap-frogging" of small, high technology firms that make them many times international from inception. They become so through a rapid, non-incremental internationalization process (Cavusgil et al 2002; Coviello and Mcauley, 1999). However, stage models are claimed to be invalid for "leap-frogging" companies. Therefore, the network approach is considered more suitable for those kinds of firms.

The rest the theoretical review will now focus on the networking theory and its implication on internationalization. Both in general, and on SME's.

2.2 Networks and internationalization

The role of networks during the internationalization process has been a popular topic in the recent literature on international entrepreneurship. The concept has been gradually developed since the end of the 1980s, and has developed to be what we know today as the "network theory of internationalization" (Johanson & Mattsson, 1988; Holmlund & Kock, 1998; Coviello & Munro, 1997). Scholars behind those theories suggest that firms engaged in networks with similar levels of trust, and the possiblity to share knowledge, can have a competitive advantage. They may therefore find going abroad easier, compared to firms that are not included in any social or business networks.

An easy and intuitive way to clarify the term network is to distinguish between two types of networks: business networks and social networks. Social networks represents all the relationships that an individual has with other people in a society (Burt, 1992), while business networks only include relationships between firms (Ellis, 2011). Since personal networks fall under the umbrella of social networks, this concept will be described further in the following segment.

2.2.1 Social Networks

Social networks are defined as a web of personal connections and relationships, which serve the purpose of securing favors in personal and/or organizational action (Granovetter 1985; Burt 1992). Some scholars argue that social networks should be considered as one of the most important factors during the process of internationalization (Andersson, 2000: Kiss & Danis, 2008). Social networks can influence the decision to go abroad and the process of finding new international partners. They may also provide the necessary information and contacts to internationalize (Holmlund & Kock, 2005;Welch, 2004). Social ties are thought to lower the transaction cost and uncertainty associated with foreign market entry, in addition to promoting crediblity and trust among exchange partners (Ellis, 2011). Access to credibility and trust falls under the concept of "social capital", and will be elaborated in the following segment.

2.2.1.1 Social Capital

Social capital is defined by Nahapiet and Ghoshal (1998, p 243), as:

.."the sum of the actual and potential resources embedded within, available through and derived from network relationships possessed by an individual or social unit".

Social capital can be conceptualized in different ways, but a well-known categorization consist of three dimensions: (1) relational, (2) cognitive, and (3) structural embeddedness (Nahapiet & Ghoshal, 1998). It has been argued that each dimension has an important impact on firms by influencing access, flow and quality of information being transmitted in the network (Musteen et al, 2010).

Relational embeddedness refers to the extent in which the relationships in the network are characterized by emotional closeness and inter-personal trust. It has been argued that relational embeddedness helps actors to share knowledge without having to worry about opportunistic behavior (Inkpen & Tsang, 2005). Ties that are characterized by close personal relationships can enhance the level of trust, which in turn can help a firm's ability to obtain fine-grained reliable information from foreign contacts (Musteen et al, 2010).

Cognitive embeddedness is about the extent to how much network actors share common systems of meaning like a shared language, codes, and narratives. This aspect can facilitate knowledge sharing and understanding through a shared system of meanings (Edelman, 2004). Language commonality can help enable better communication, facilitate mutual understanding, and increase the learning about foreign environments (Musteen et al, 2010).

Structural embeddedness describes the overall configuration and architecture of networks. The structural configuration of the network can increase the breadth of knowledge that is accessible within the network (Burt, 1997). A firm's structure of international networks, its geographical dispersion of ties can enhance a firm's ability to obtain information about different foreign markets and the existing opportunities in those markets (Musteen et al, 2010).

2.2.2 Networks and SME's

Small firms are by many perceived to rely more on network relationships in order to overcome obstacles related to entering new markets (Coviello, 2010; Musteen, 2010). Meyer (2002) argues that SME's ventures into Eastern Europe are often not based on strategic planning, rather as a result on reaction to opportunities that arise with old or new network partners. Only later are those network effects formed into a coherent strategy. Recent research suggests that small firms are more prone to rely on social networks and personal contacts during the internationalization compared to large companies, as they have limited financial and human resources (Musteen et al, 2010).

The theory behind internationalization, SME's and networks has now been examined. But it is equally important to understand the business context in transition economies and the importance of networks in those countries.

2.3 The business environment in the CEE-countries.

The business environment in CEE after 1990 can be characterized by rapid changes in institutions and the market environment. Formal institutional frameworks had to be more or less built from scratch when the coordination mechanism of the old, centrally planned regime, was abandoned. This led to a legal vacuum, which is gradually becoming filled with laws and regulations that can increasingly support a market economy (Meyer, 2001:1; Svejnar, 2002).

During state socialism, there was a major divergence between formal institutions and informal social norms. High dependence on personal networks, combined with bribery, was commonly utilized in order to militate against rigid laws and regulations to distribute goods or assets that were in short supply (Ledeneva, 1998). This has led to that network-based strategies have been proposed as one of the best ways to tackle the weak institutions that are still present in transition economies (Peng, 2003). As a consequence, the underlying attitudes and behaviors in social networks have been carried over into the post socialist transition, and may have created social barriers to the transformation process. This has led to the rise of a rather distinctive post-socialist capitalism (Stark, 1996); On the surface, it manifests the ideals of the Western foreign

institutions; yet social norms that were developed during the socialist period still persist underneath (Meyer & Gelbuda, 2006).

2.3.1 The role of western investors in CEE

When the transition of CEE countries started in the 90's, it presented major opportunities for Western businesses. Firms were attracted by the opportunity to establish strong market positions in essentially virgin territory. Also, the large difference in labor costs between Western and Eastern-Europe created opportunities for offshoring, either by locating outsourcing parts of the product chain or by moving entire production facilities (Meyer & Gelbuda, 2006).

Western firms entering transition economies such as Poland and other countries in Central and Eastern Europe, are faced with unique challenges such as weak institutional environments, frequent changes in the legal system and the presence of a significant grey economy (Smallborne & Welter, 2001). There are several barriers tied with entering transition economies. Those include unclear regulations, corruption and the overall lack of information (Meyer K. , 2001). In this kind of environment, firms may have to rely more on personal relationships to survive and to grow further (Batjargal, 2003).

Many SMEs in Western Europe saw the opening of CEE as an opportunity for international growth as Western markets were reaching saturation and tough competition. Firms would enter CEE markets with limited prior experience, typically targeting labor-intensive production such as textiles, furniture and electronics assembly (Meyer & Gelbuda, 2006).

For SMEs entering CEE markets, building a strong network is considered to be of great importance, as it may reduce the risk of entry (Meyer & Gelbuda, 2006; Meyer & Skak, 2002). Small firms may have to tap into networks in order to overcome resource constraints and capability limitations. Market entries happens either through intermediaries, such as agents or distributors, or through the firm's own representative in the targeted country, mainly through a subsidiary (Jansson & Sandberg, 2008).

This concludes the theoretical review. The next chapter will present the hypotheses developed from the theoretical review and provide the research model that will be used in this thesis.

3.0 Hypotheses and research model

This chapter presents the hypotheses that were developed based on the research question and theoretical review. Based on the established hypotheses, the final research model is presented.

3.1 Hypothesis Development

In light of the theoretical review, it is hard to argue that networks do not play an important role in internationalization. There is however little research that measures how personal networks affect the success of international ventures. The hypotheses developed in this chapter are therefore designed to fit that research gap, with Nordic firms entering the Polish market as the empirical setting.

As argued in the theory section, relational embeddedness can help actors share knowledge, enhance level of trust and obtain high quality information about foreign markets. Combined with the notion that social ties are heavily influential when doing business in transition economies, one should assume that a sensible utilization of personal ties during market entry should have a positive effect on foreign venture performance. But it should be the case that these personal contacts need to provide some degree of social capital before they can lead to enhanced performance. The social capital can for example be informal contacts with management of related firms in Poland, good connections to government officials or other influential stakeholders. With this in mind the following hypothesis can be developed:

H1: Firms with access to personal ties of high quality (in terms of social capital) before/during market entry, experience increased venture performance.

Research (Goerzen, 2007) implies that there are not only positive influences through personal networks. Close social ties can hamper internationalization by SMEs and hinder the desired international performance. Firms may prefer familiar ties because of their perceived reliability and trustworthiness. But there is a risk that these types of relationships can end up being a dead-end, which only lead to a false sense of security, and no real contribution to firm performance (March, 1991). This can involve that the quality of information that managers of firms obtain from personal ties may be inferior from more “distant”, professional ties. Another challenge is

that personal loyalty to close ties can be in conflict with the best interests of the firm (Adobor, 2006). Also, recent research has shown that firms that rely too much on personal ties during its first internationalization, experience reduced venture performance (Musteen et al, 2010). These arguments lead to the following hypotheses:

H2: High utilization of personal networks compared to professional networks during market entry, has a negative effect on venture performance.

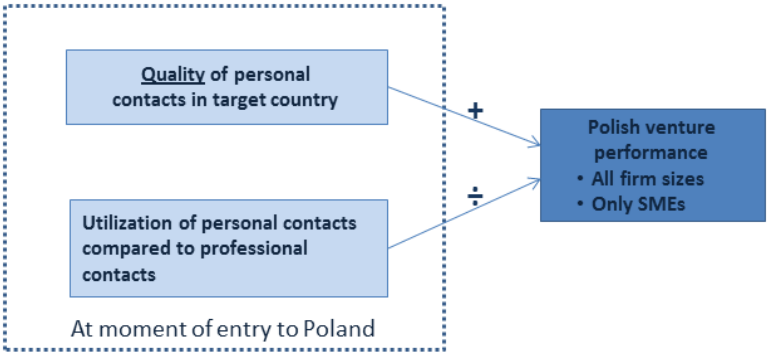
As described in the theoretical review, small and medium sized firms have fewer resources available when entering new markets and may need to rely more on their networks in order to reduce risk and establish new partners. It can therefore be argued that SMEs are more reliant on high-quality personal contacts and experience more benefits by utilizing high quality personal ties during internationalization, hence:

H3: High quality of personal ties has a stronger positive effect on the international venture performance of SME's, compared to larger firms.

3.2 Research model

In order to illustrate the hypotheses that have been developed and the final interactions among them, a visual presentation of the research question will be presented. The model below shows a graphical description of the main research model in this thesis.

Figure 3.1 Research model



3.3 Definitions

To avoid confusion, some of the key concepts in this paper are clearly defined in the following section.

3.3.1 Definition of Polish venture

The theoretical review has grasped the scope of internationalization rather broadly, but in order to make a clear definition for this research context, the term "polish venture" needs to be clearly defined. In this research, "polish venture" refers only to firms that have an official subsidiary in Poland with a 50 % or larger ownership stake. There are two main reasons for this definition. First, when a foreign firm has registered an entity in Poland, it is a clear, measurable milestone of foreign commitment. Second, a very important part of the definition is the convenience of finding and retrieving data about firms with registered subsidiaries in Poland. Finding every Nordic firm that has conducted business in the Polish market without a subsidiary would have been a very difficult task.

3.3.2 Definition of SME

According to EU guidelines, SME's can be defined by the criteria provided in Table 3.1. In order to simplify the assumptions and be able to include more firms in the research scope, this paper only classifies SMEs as companies with less than 250 employees.

Table 3.1 EU definition of SME's[1]

Enterprise category	Headcount	Turnover	or Balance sheet
medium-sized	< 250	≤ € 50 millio	≤ € 43 million
small	< 50	≤ € 10 millio	≤ € 10 million
micro	< 10	≤ € 2 million	≤ € 2 million

[1] Source: European Commision, http://ec.europa.eu/index_en.htm

4.0 Methods

This chapter will explain the research methods that were utilized and how the relevant data was identified, operationalized and collected. In the end of the chapter, the final sample will be presented and tested.

4.1 Choice of method

This paper utilizes a research approach that can be described as hypothetical deductive. Hypothetical deductive methods can be briefly described in four main steps. First, a research question with testable hypotheses is established. Second, predictions from the hypotheses are formulated. Third, in order to test the predictions, experiments or empirical analysis are employed. Fourth, if the experiments show that the predictions are correct, then the hypotheses are confirmed, if not then the hypotheses are disconfirmed (Gripsrud et al, 2007). It was decided that is was most suitable to use a quantitative research method. By utilizing a quantitative approach, the chosen hypotheses could be confirmed or disconfirmed through statistical analysis.

4.2 Research design

This study follows a non-experimental, correlational design. In short, this means that data is collected in order to interpret if certain things tend to co-occur and are related to each other. The advantage of this method is that it is easy to conduct and sufficient data can be gathered quickly, e.g. through a questionnaire.

The time dimension of the study is cross- sectional. Respondents were asked once about issues considering two important snapshots during their entry to Poland. (Cooper & Schindler, 2010). The first snapshot was the networking situation before/during the entry to Poland. The second snapshot considered the current situation of the Polish venture. The reason for this was to find causal relations between the first and second snapshot.

The method of data collection was performed through a self-administered, web-based questionnaire, which was sent to the relevant subjects by e-mail. There are many advantages with this method of data collection. Respondents can have the freedom to fill out the questionnaire

when they have the time to do so. The data collection process can be performed over a short time-span and respondents perceive this method as the most anonymous (Cooper & Schindler, 2010). There are however also many drawbacks with a self-administered questionnaire. Respondents who are unfamiliar with responding surveys on the internet may not be willing to participate. Another problem is that managers are usually flooded with e-mails and can decide to ignore the invitation. It may even happen that the invitation gets stuck in a spam-filter and never arrives to the appropriate respondent. It is also problematic that one cannot be sure that the respondent actually understands the questions in the survey and responds correctly (Cooper & Schindler, 2010). Because of this, the questionnaire was tested extensively through a pilot study. Also, all respondents received the same standardized questions. This was done to prevent that respondents would interpret the questions differently. Most of the data collected from the questionnaire was operationalized using scales. Perceptive questions were operationalized by using 7-point Likert scales. This made it possible to process the data quantitatively so that the developed hypotheses could be tested with the use of statistical tools.

4.3 Data

The data that was collected for research consists of both primary and secondary data. The secondary data consisted of detailed company information about the relevant firms for this research and was collected from the Orbis Database[2]. Orbis is a comprehensive database that has information about 74 million active companies worldwide. The database provided key financial information and relevant contact information to potential subjects for the collection of primary data.

The primary data was collected electronically from respondents who worked in the companies that were identified in the Orbis database. Answers were later exported directly SPSS and analyzed.

4.4 Empirical basis and sample

The research question presented in section 1.1 expresses the purpose of the research and the target group of this research. Consequently, the main subjects in the analysis are Nordic firms

[2] www.bvdep.com/ORBIS.html

that have entered the Polish market. The chosen population and sample for this analysis will be described in detail in the following section.

4.4.1 Population

In order to have a clear definition of the population for this research, it was chosen to define it as firms established in Denmark, Finland, Norway or Sweden that have a 50,01 % ownership stake in a Polish subsidiary. These subjects were identified in the Orbis database. There may however be firms with the mentioned characteristics that were not covered by Orbis. It was important to be able to sort the population by firm size in order to distinguish SMEs from larger firms. Therefore, only firms in Orbis with reported revenue and employee count were included in the population. This made it also easier to compare the sample with the population after the primary data was collected.

It was also decided to add a last exception to the population. Firms with revenue of more than 10 billion USD were excluded. The reason was that very large firms are usually multinational corporations that have a long tradition of foreign operations. Consequently, most of these firms had a longer presence in Poland then 20 years. This would make it almost impossible to find a respondent who would have first-hand experience about the firms' entry to Poland. Also, very large firms have a complex organizational structure, which makes it hard to identify a suitable respondent.

From a methodical point of view, the subjects in the population should have several specifications that are similar in order for them to be treated as equal (Frankfort-Nachmias & Nachmias, 1996). Considering this, one can say that the most distinct similarities of the subjects in the population are their similar geographical and cultural cluster (Nordic countries) and shared commitment to enter Poland. It would have been beneficial if the population had represented similar industry sectors, like only manufacturing or another industry sector. However, choosing only one or few industry sectors could be problematic, as the total population was confined and it was unclear how many would respond to the questionnaire. All industry sectors were therefore included in the population.

When the relevant population was decided, data from the Orbis Company Database was extracted. Orbis found 1020 firms that fulfilled the criteria mentioned above. These firms employed in total 1,949,125 people (globally). Key statistics about the firms in the population are presented in Table 4.1.

Table 4.1 Population: Key statistics

Total number of firms	**1020**
SMEs (%)	**489** (47,9 %)
Average revenue (th EUR)	**571,960**
Average employees	**1911**

Country of Origin	**% of grand total**
Denmark	27.5%
Finland	16.7%
Norway	9.2%
Sweden	46.6%

Top 10 industry sectors	**% of grand total**
Other services	37.65%
Manufacturing (furniture, machinery, etc.)	15.49%
Wholesale & retail trade	15.49%
Chemicals, rubber, plastics	6.37%
Metals & metal products	5.20%
Transport	3.53%
Food, beverages, tobacco	3.24%
Construction	2.45%
Financial services	2.06%
Wood, cork, paper	2.06%

One can see that the population was heavily represented by Swedish and Danish firms and the most popular industry sectors were manufacturing, wholesale & retail, and other service activities. Other types of industries represented only a small share of the grand total.

4.4.2 Sample

It was decided that the whole population was to receive a questionnaire, and the ones who responded would be part of the final sample. It is challenging to be sure that the final sample actually contains data that is representable for the whole population. One way of confirming or disconfirming if the sample is representative, is by utilizing statistical tests to inspect for sampling bias. Several tests for sampling bias and measurement error were utilized in part 4.8.

The following part will look at the statistical methods and measurements that were used to answer the developed hypotheses. It will first describe the chosen statistical methods, the variables that were used and then describe the data collection process.

4.5 Statistical analysis

This thesis utilizes mainly two statistical methods for data analysis - factor analysis and regression analysis. Factor analysis is used to ensure that the intended constructs can be justified, and to prevent that variables that do not represent what they were intended to measure are included in the final model. After the constructs have been developed, regression analysis is used to test the established hypotheses. These two statistical methods will be briefly described.

4.5.1 Factor analysis

Factor analysis attempts to identify underlying variables, or factors that explain the pattern of correlations within at set of observed variables. Factor analysis is also used in data reduction to identify a small number of factors that explain most of the variance that is observed in a much larger number of variables. The purpose of data reduction is to remove redundant (or highly correlated) variables from the data.

In this analysis, principal component analysis was used, which is similar, more reliable and conceptually less complex than "traditional" factor analysis. Principal component analysis is concerned with establishing what kind of linear components that exist in the data and how each variable might contribute to that component (Field, 2005). For simplicity, principal component analysis will just be called factor analysis as both methods are very similar.

4.5.2 Regression analysis

A regression describes and evaluates the relationships between a given dependent variable and one or more independent variables. Earlier research focusing on similar subjects has found significant results using regression analysis (e.g. Peng & Luo, 2000; Musteen et al, 2010). One can therefore assume that regression is an appropriate statistical method in order to confirm or disconfirm the chosen hypotheses.

During the regression analysis, important assumptions for a valid regression will be elaborated and tested in order to ensure that the final regression models are not flawed. In this research context, it was decided that me most important tests would be assessing the appropriate number predictors compared to the sample size, testing the normality of the dependent variable, testing

the included variables for multicollinearity and heteroscedasticity, and inspect if there are very influential cases and/or outliers.

4.6 Variables

The following section will present the dependent variable, the independent variables and the control variables that were used in the final regression model. How the variables were operationalized for the final questionnaire will be emphasized.

4.6.1 Dependent variable

This paper had one dependent variable that measured the Nordic firms *Polish venture performance.* The variable was planned to form a construct out of four items in the questionnaire. Respondents had four questions where they had to indicate on a 7-point scale (1 = extremely dissatisfied, 4 = unsure, 7 = extremely satisfied) on how satisfied they were with the Polish venture performance in terms of (a) the realization of goals and objectives, (b) profits, (c) sales, and (d) achieved cost savings. The three first questions (a-c) were successfully used in recent research with a similar topic (Musteen et al, 2010). However, earlier research (e.g. Meyer & Gelbuda, 2006) and conversations with managers of firms operating in Poland pointed to the fact that many firms entered Poland in order to reduce operating costs. Therefore, the question (d) regarding cost savings was also included as a potential fourth item in the performance construct.

It may be a weakness that the success construct was designed to be based on subjective performance indicators instead of objective measures. This increases the risk of increased measurement error and possible bias. There is for example a risk that managers are biased and/or want to "paint a rosy picture" of their performance. Unfortunately, it was very difficult to collect objective performance data about the population from other than primary sources, especially about their foreign operations. Despite of this, similar measures have been widely used in prior research (Delaney & Huselid, 1996) while other research shows that subjective measures are significantly correlated with objective measures (Dollinger & Golden, 1992). Recent research on similar topics also proved that these measures can be used with successful research outcomes (Musteen et al, 2010).

4.6.2 Independent variables

Two independent variables were included in the main model. The first construct was supposed to measure the *quality of personal ties* (refer to H1 in section 3.1) in the network before/during market entry, while the second measured the *utilization of personal contacts* (refer to H2 in section 3.1).

The *quality of personal ties* construct was operationalized using five questions. The five questions were developed together with a Norwegian entrepreneur who had led a successful entry into the Polish market and who was knowledgeable about the networking effects in Poland. Based on these conversations, five questions were developed in order to grasp the "quality" construct of personal connections in Poland. Respondents were asked if (at the time before/during entry to Poland) their firm had personal contacts in Poland who: a) had relevant industry experience from the Polish market b) had solid connections with local policy makers and bureaucrats c) were experienced with establishing firms in Poland d) had solid connections with related firms in Poland e) had a university degree and/or other high-level education. Respondents could answer the five question on a 7-point scale (1 – strongly disagree, 4 – neither agree nor disagree, 7 – strongly agree). A drawback of this measure was that it had never been used in similar research. In the analysis, the variable is denominated as *Quality of personal ties.*

Utilization of personal contacts was a construct supposed to measure how firms involved personal contacts during entry compared to professional contacts. Respondents were asked how many professional (PR) and personal contacts (PE) were involved before/during the market entry to Poland. The variable was operationalized using the formula in Equation 1. It was inspired by Musteen et al (2010) who had significant findings by using the same measure:

Equation 1. Personal contacts

$$\frac{PE}{PE + PR} = Utilization\ of\ personal\ contacts$$

Consequently, firms that were only dependent on personal contacts during market entry would reach the maximum score of 1. In the analysis, the variable is denominated as *Personal ties.*

Respondents were also asked questions about how many professional and personal contacts they had exclusively in Poland during market entry. These questions were supposed to create another construct that was supposed to measure the extent of utilization of contacts exclusively in Poland. There was however, problems with getting responses on this question, and this problem will be elaborated in section 4.7.3.

4.6.3 Control variables

The study also included a total of 7 control variables. The first control was *entry commitment* and was measured by one question that concerned the respondents first entry mode into the Polish market. The choice of entry mode is known to be an influential factor of a firms foreign venture performance (Nitsch et al, 1996; Pan, 1999). Peng (2009) argues that entry modes can be divided into four main categories (1) Exports, (2) contractual agreements, (3) joint ventures and (4) wholly owned subsidiaries. Under these four categories there are several sub-categories. Exports is considered as the least risky entry mode while wholly owned subsidiary is considered as the most risky of the four categories. One can therefore argue that the four entry modes represent a 1 to 4 scale of entry commitment. Respondents had ten different alternatives when stating their entry mode: (a) exports, (b) licensing/franchising, (c) turn-key projects, (d) R&D contracts, (e) minority join venture, (f) 50/50 join venture, (g) majority joint venture, (h) green-field investment, and (i) acqusition. The a-i answers were later recoded into a 1-5 scale that represented the initial entry commitment of the respondent, with 1 representing the lowest entry risk, and 5 representing the highest. In the analysis, the variable is denominated as *Entry commitment*

The second control was *proactive network development.* Firms were asked to what extent they agreed (on a 1-7 point scale) that their firm had actively tried to build a network of personal contacts (before/during entry) that could be useful when entering Poland. From the theoretical review there is clear evidence that this should have an effect on firm performance. In the analysis, the variable is denominated as *Proactive networking.*

The third control was *total network size.* It measured the total network size before and during market entry. This measure had been used earlier in similar research (Musteen et al, 2010). It

was operationalized as the natural logarithm of PR+PE, where PR are total professional contacts and PE are total personal contacts. In the analysis, the variable is denominated as *Total contacts*.

The fourth control was *firm size*. This variable was operationalized using the total number of employees in the firm. Data for this variable was extracted from both the questionnaire and from Orbis. To adjust for size and skewness, the variable was transformed to the natural logarithm of the number of employees in the firm. In the analysis the variable is denominated as *Firm size*.

The fifth control variable was *experience in Poland*. The question behind this variable was simply how many years ago the respondents' firm had established its first subsidiary in Poland. The variable is denominated as *Experience* in the analysis.

The sixth control was a dummy variable that only covered manufacturing firms. It was designed to inspect if firms from a specific industry background would have an effect on venture performance. Both information from the questionnaire and Orbis was used to classify firms into different industries. Manufacturing firms were given the value "1" while the firms from other industry sectors were given the value "0". The variable is denominated as *Dummy Manufacturing* in the analysis.

The seventh control was also a dummy variable that covered all firms that were Norwegian. This variable would control if the nationality of the firm had an effect on the venture performance. Respondents were asked in the questionnaire to provide the nationality of their firm. This information was later controlled through information from Orbis. Norwegian firms were given the value "1" while firms from other countries were given the value "0". The variable is denominated as *Dummy Norwegian* in the analysis.

4.7 Data collection

The questionnaire that was used (Appendix A) was developed and distributed using an electronic survey tool called Questback[3]. Questback is mainly used for internet based surveys and makes it easy to export data to Excel and SPSS, which were the programs used for data analysis.

[3] www.questback.com

4.7.1 Pre-testing and pilot survey

Before starting the data collection, it is appropriate to perform a pre-test of the developed questionnaire, in this way one can discover defects, confusing formulations or other problems with the questionnaire. With this in mind, a thorough pilot study was conducted, which involved both professional and academic experts. First, the CEO's of three Norwegian firms operating in Poland were asked to answer a pilot survey and respond to the following questions:

- How long time did you spend completing the survey?
- Are there any questions you found vague, confusing or incomprehensible?
- Are there any questions you think that the target group will be unwilling to respond to?
- Were any of the questions especially difficult or too time consuming to respond?
- Other questions or comments?

In addition, two academic experts (the authors' supervisor and a scholar who have published appraised articles on similar topics) were asked to provide feedback on the questionnaire.

The pilot study led to some small changes that helped ensure the quality of the final questionnaire.

4.7.2 Collection of survey data

Before being able to contact firms and collect data, a large effort had to be put into retrieving e-mail addresses to all relevant respondents. Orbis provided the e-mail to about half of the firms in the population, but many of these e-mails were only company e-mails and could not guarantee that the e-mail went to someone with experience in Poland. Large effort was therefore put into gathering e-mail contacts manually through website browsing and contacting relevant organizations like the Scandinavian Polish Chamber of Commerce (SPCC) and Innovation Norway Poland. SPCC has members from all Nordic countries, but also international and Polish firms that are heavily involved in helping Scandinavian firms in Poland. SPCC provided 264 personal e-mail contacts from their own members. The list of e-mails from SPCC was used to supplement the contact info that was retrieved from the Orbis database.

The collection of data was conducted in two steps. As the author was also involved in doing a broader survey for the Polish office of Innovation Norway[4], a first pool of questionnaires was sent out through Questback to Norwegian firms only. In the invitation e-mail, it was stated that only managers in the company with direct experience with establishing firms in Poland were suitable to answer the survey. The purpose of the questionnaire was stated along with a guarantee of absolute anonymity. As Innovation Norway wanted a high response rate on this survey, substantial effort was put into increasing the response rate. Two e-mail reminders over the course of two weeks were sent out, and firms were also contacted by phone and reminded to answer the survey. The second pool of questionnaires was sent to Danish, Finnish and Swedish companies. When collecting data from the second pool, it was not possible to put in the same amount of resources to increase the response rate. The questionnaire for the second pool had been shortened down to only include questions that were relevant for the thesis, this was positive for the response rate as the questionnaire could be completed in much shorter time. All communication with the second pool was done through e-mail and the firms were reminded two times over two weeks to answer the survey. In total, 129 firms responded, which gives a 12.6 % response rate. A timeline of responses can be found in Appendix B. Compared to similar studies (e,g. Musteen et al, 2010), the response rate was disappointing. A potentially contributing factor to the low response rate was the lack of time to contact each potential respondent by phone. Also, since data collection was only conducted through mass e-mail invitations, it may happen that some of the invitations were stuck in spam filters. With more resources in place, it would have been appropriate to also distribute the survey on paper by traditional mail.

4.7.3 Invalid respondents and missing data

In order to ensure quality, all responses were examined in detail after the data collection was completed. Respondents of firms that had entered Poland more than 20 years ago were eliminated to decrease the possibility of recall bias. In three cases, respondents from the same firm had replied. The respondent who had the highest rank in the company were kept for the final analysis. Another challenge with the sample was missing data. Some firms had submitted the questionnaire without responding on all questions. Some of these were contacted but most were removed from the sample. Second, many firms had replied 0 or not at all on the question

[4] http://www.innovasjonnorge.no/Kontorer-i-utlandet/Polen

regarding personal contacts in Poland. Firms that had not replied were contacted in order to collect the missing information. Some firms replied back with the appropriate number, but most stated that they could not reply because they did not remember, or found the information to sensitive to share. Originally, the question about contacts in Poland was supposed to create a construct about personal contacts in the target country. However, since 70 % of the respondents answered 0 or nothing on this question, it was useless to use it for further research. On the bright side, the question regarding the number of personal contacts (regardless of location) had a much higher response rate and was used instead. It was therefore decided that the first independent variable that measured quality of personal connections would have to be a sufficient measure of personal connections in Poland. Table 4.2 summarizes the removal of invalid respondents:

Table 4.2 Deleted respondents

Problem	Invalid responses
Entered Poland 20 or more years ago	13
Missing data in questionnaire	10
Multiple respondents from same firm	3
Total deleted respondents	**26**

After excluding invalid respondents, 103 firms remained for the statistical analysis.

4.7.4 Role of respondents

Respondents were asked to report their main role in the company they represented. Almost half of the respondents were CEO's of the company, while only a small fraction reported a role that made them subject to a position of low importance in the firm. A summary of the respondents reported role in the company can be seen in Table 4.3

Table 4.3 Role of respondents in final sample

Role	% of grand total (N=103)
CEO	45%
Chairman	6%
Board member	13%
General Manager	19%
Other	17%

4.8 Final sample

The final sample after deletions consisted of 103 firms. Key data about the sample is provided in Table 4.4. There are many differences from the population (Table 4.1), especially in average revenue, country of origin and industry sectors. In the population, Norway only represented 9 % in terms of the firms, while Sweden was the most frequently observed country. Norway is heavily represented in the final sample because of the extra effort that was commenced in order to gather data from Norwegian firms. Danish firms are also heavily represented because respondents from this country turned out to be most willing to respond on the survey.

Table 4.4 Sample: Key figures

Total number of firms	**103**
SMEs (%)	**61** (59,2 %)
Average revenue (th EUR)	**250,142**
Average employees	**1135**

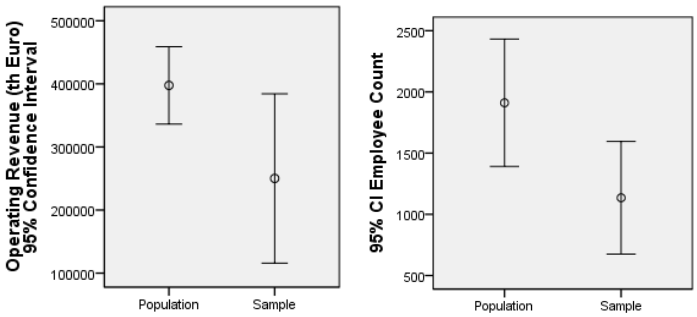
Country of Origin	**% of grand total**
Denmark	33.98%
Finland	13.59%
Norway	32.04%
Sweden	20.39%

Top 10 industry sectors	**% of grand total**
Other services	35.92%
Manufacturing (furniture, machinery, etc.)	22.33%
Wholesale & retail trade	11.65%
Construction	4.85%
Metals & metal products	4.85%
Chemicals, rubber, plastics, non-metallic p	4.85%
Transport	3.88%
Financial services	2.91%
Wood, cork, paper	2.91%
Food, beverages, tobacco	1.94%

4.8.1 Sampling bias test

A common test of the sample is to examine if the sample is representable to the population. There are many ways of doing this, and the method is mostly constrained by the information that is available about the population and sample. In this case, numbers regarding firm size were reliable both for the sample and the population. Figure 4.1 is a graphical display of the two variables that was used to compare the sample from the population; total revenue and number of employees. The graphs show the average revenue and employment for both groups along with a 95 % confidence interval. It is clear that both in terms of revenue and headcount, the population had a higher mean. In terms of revenue, the sample firms had a wider confidence interval.

Figure 4.1 Sample vs. Population: Confidence intervals



The graphical comparison reveal that the sample and population are to some extent different. T-tests were also conducted to see if the differences between the population and sample was actually significant. Table 4.5 illustrates the grouped mean, standard deviation of the selected variables. The same table also tests the two groups for equality of variance and means by utilizing an independent t-test. When looking at operating revenue, it is clear that there are large differences in the mean between the population and sample. However, the standard deviation of these measures are also very large, actually larger then the mean itself. This makes it possible for the means of the two groups to be very different, but still be regarded as equal in a t-test.

Table 4.5 Group statistics and t-test: Population vs. Sample

Test variables	Group Statistics				Levene's Test for Equality of Variances			t-test for Equality of means		
	Cases	N	Mean	Std.dev	Assumption	F	Sig	t	df	Sig(2-tailed)
Operating revenue	Population	1020	397,604	999,704	Equal variances assumed	5.062	**0.025**	1.462	1121	0.144
	Sample	103	250,142	686,822	**Equal variances not assumed**			1.978	149.63	**0.050**
Employee count	Population	1020	1,911	8,482	**Equal variances assumed**	1.795	**0.181**	0.925	1121	**0.355**
	Sample	103	1,136	2,354	Equal variances not assumed			2.201	464.85	0.028

The Levene's test for equality of variance tests the hypothesis that variance in the two groups are equal. If the test is significant at $p \leq 0.05$ one can conclude that the null hypothesis is incorrect and that the variances are significantly different (Field, 2005). The levene's test for operating revenue shows that the two groups does not have an equal variance ($p=0.025 \leq 0.05$).

The independent t-test of equality of means tests the hypothesis whether the mean of two groups are equal, both assuming that variances are equal or not equal (it is therefore important to do the Levene's test first). If the test is significant $p \leq 0.05$ one can conclude that the null hypothesis is

incorrect and the means are significantly different. The independent t-test of equality of means shows that the population and sample have significantly different revenue ($p=0.05\leq0.05$).

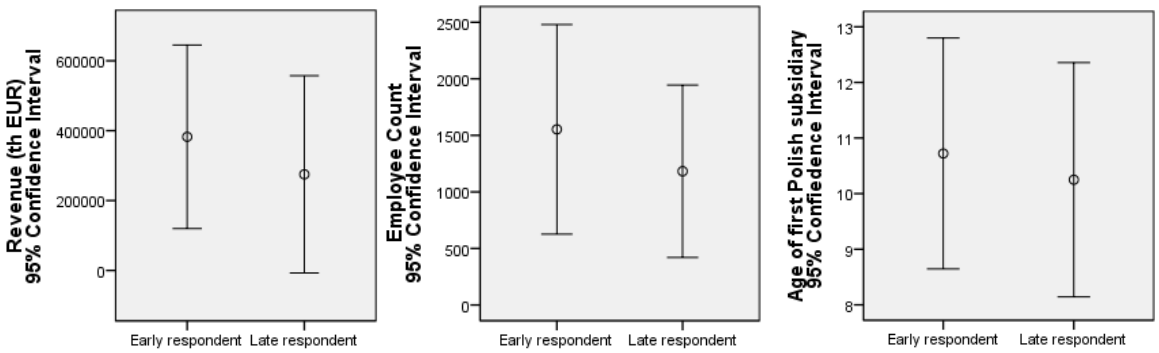
When conducting the same tests of employee count, different results were obtained. There are also large differences in the mean for this variable, but the population shows a high standard deviation compared to the sample. Equal variance between the groups was assumed ($p=0.181>0.05$) and the t-test for equality of means accepted the null hypothesis ($p=0.355>0.05$), which indicates equal means.

The conclusion of the sampling bias analysis in terms firms size is equivocal. There sample is not representative to the population in terms of operating revenue, but the sample is representative to the population in terms of employee count.

4.8.2 Early-late response bias test

The early-late response bias test, was carried out to see if there are differences between respondents who decided to answer early or late on the survey. Early respondents can be characterized as the ones who answered quickly after receiving the questionnaire. Late respondents were the ones who did not answer before being reminded one or multiple time. Since data was collected from two different pools in different timeframes, it was pointless to test for early and late response on the whole sample. As the second pool was the largest, it was decided that this pool was the most suitable for an early/late response bias test. Respondents of the second pool were split in half with regards to the time they had answered the survey. The median respondent (in terms of time) was not included in order to have an equal amount of respondents in each group. The early and late responding groups consisted of 36 firms in each group. The same variables for measurement were used as in section 4.8.3. Figure 4.2 graphically illustrates the difference between the two groups.

Figure 4.2 Early vs. late respondents: Confidence intervals



Considering the graphics, the two groups seemed to be very similar. The t-tests in Table 4.6 confirm that all variances and means are significantly equal. One can therefore conclude that there is no difference between early and late respondents in the sample.

Table 4.6 Group statistics and independent t-test: Early vs. late respondents

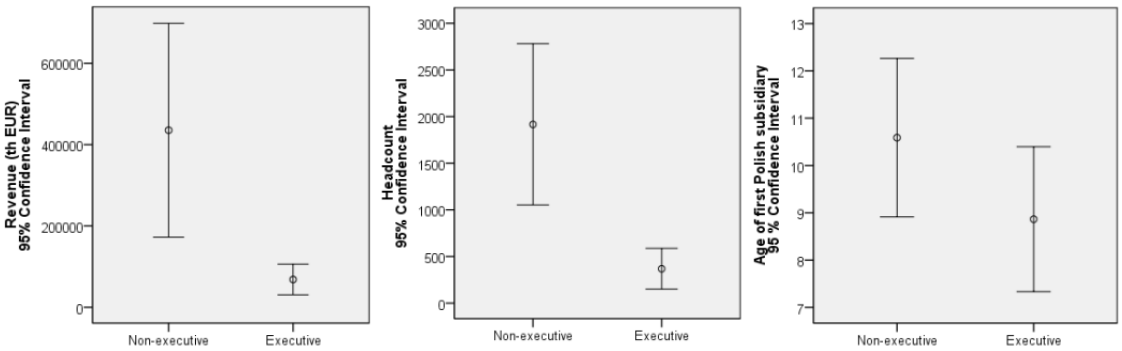
Test variables	Group Statistics				Levene's Test for Equality of Variances			t-test for Equality of means		
	Cases	N	Mean	Std.dev	Assumption	F	Sig	t	df	Sig(2-tailed)
Operating revenue	Early reponses	36	282,418	129,287	**Equal variances assumed**	0.153	**0.696**	0.565	70	**0.574**
	Late responses	36	275,053	139,148	Equal variances not assumed			0.565	69.63	0.574
Employee count	Early responses	36	1,553	456	**Equal variances assumed**	0.553	**0.460**	0.627	70	**0.533**
	Late responses	36	1,182	375	Equal variances not assumed			0.627	67.522	0.533
Age first Polish subsidiary	Early reponses	36	10.72	1.02	**Equal variances assumed**	0.622	**0.433**	0.324	70	**0.747**
	Late responses	36	10.25	1.04	Equal variances not assumed			0.324	69.985	0.747

4.8.3 Role of respondent bias test

Since the respondents of the survey represented different hierarchical levels in the organization, it is important to measure if there are differences between these respondents. In order to simplify, respondents were divided into two separate groups. The first group covered all respondents who had *executive* positions in the company they represented. This group included CEO's and the Chairman of the board. Other respondents were classified as *non-executive.* The same measures were used as in the late-response bias test.

The confidence intervals of the three measures are illustrated in Figure 4.3. One can see that non-executive respondents usually represent much larger firms while they are fairly similar when it comes to the age of the subsidiary.

Figure 4.3 Non-executive vs. executive respondents: Confidence Intervals



Statistical tests are illustrated in Table 4.7, and clearly show that the executive and non-executive respondents are different when it comes to firm size, but they are similar when it comes to the age of their subsidiary.

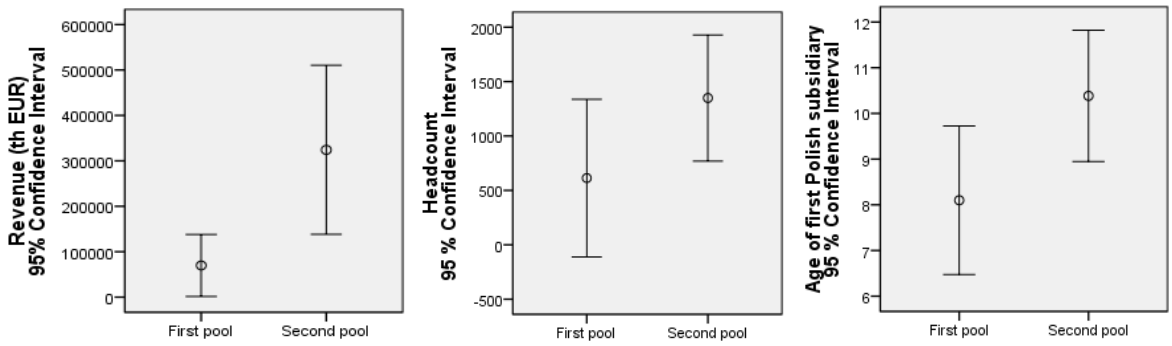
Table 4.7 Group statistics and t-test: Executive vs. non-executive respondents

Test variables	Group Statistics				Levene's Test for Equality of Variances			t-test for Equality of means		
	Cases	N	Mean	Std.dev	Assumption	F	Sig	t	df	Sig(2-tailed)
Operating revenue	Executives	52	68,394	135,995	Equal variances assumes	18.913	0.000	-2.801	101	0.006
	Non-executives	51	453,454	934,918	**Equal variances not assumed**			-2.775	52.08	**0.008**
Employee count	Executives	52	369	784	Equal variances assumes	31.37	0.000	-3.517	101	0.001
	Non-executives	51	1,916	3,073	**Equal variances not assumed**			-3.487	56.354	**0.001**
Age first Polish subsidiary	Executives	52	8.87	5.50	**Equal variances assumes**	0.547	**0.461**	-1.525	101	**0.130**
	Non-executives	51	10.59	5.96	Equal variances not assumed			-1.524	100	0.131

4.8.4 Nationality of firm bias test

As mentioned in section 4.7.2, data was first collected from Norwegian firms (first pool) and then later from other Nordic firms (second pool). The sample from the first pool consisted of 30 respondents while the sample from the second pool consisted of the remaining 73. It is relevant to see if the Norwegian respondents from the first pool are different from the rest. The same measures used in the two last bias tests were also applied in this analysis. Figure 4.4 shows the dispersion of the three measures with the mean and the 95 % confidence interval. Looking at these figures, it seems to be large differences between the two groups.

Figure 4.4 First pool vs. second pool: Confidence Intervals



Especially in terms of revenue, the second (non-Norwegian) pool had high average revenue, while the Norwegian pool had lower and more concentrated average revenue. Also in terms of employee count and age of first subsidiary, the Norwegian pool had a much lower average then the second pool. The t-tests in Table 4.8 show that only employee count have a significantly equal mean ($p=0.113>0.05$) of the three tested variables.

Table 4.8 Group statistics and t-test: First pool vs. second pool

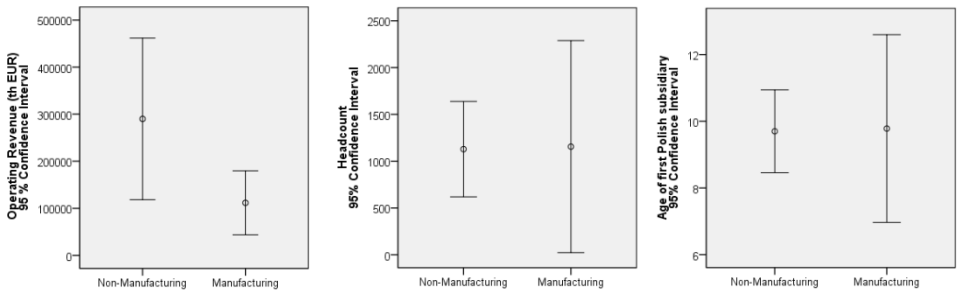
Test variables	Group Statistics				Levene's Test for Equality of Variances			t-test for Equality of means		
	Cases	N	Mean	Std.dev	Assumption	F	Sig	t	df	Sig(2-tailed)
Operating revenue	First Pool	30	69,870	182,743	Equal variances assumed	6.746	**0.011**	-1.724	101	0.088
	Second pool	73	324,226	797,320	**Equal variances not assumed**			-2.567	88.01	**0.012**
Employee count	First pool	30	613	1,940	Equal variances assumed	4.472	**0.037**	-1.449	101	0.150
	Second pool	73	1,349	2,483	**Equal variances not assumed**			-1.606	68.71	**0.113**
Age first Polish subsidiary	First pool	30	8.10	4.36	Equal variances assumed	10.884	**0.001**	-1.847	101	0.068
	Second pool	73	10.30	6.16	**Equal variances not assumed**			-2.217	75.65	**0.037**

4.8.5 Firm industry bias test

The last test conducted was to see if respondents from one type of industry sector differ from the rest of the sample. The same measurements were used as in the last test, and respondents were split into two groups, based on their belonging to the manufacturing and non-manufacturing sector.

Figure 4.5 illustrates the confidence intervals of the chosen measures. It shows that the two industry sectors in the sample are very similar means in terms of headcount and age of subsidiary. Manufacturing firms have however a lower operating revenue than the rest of the firms in the sample.

Figure 4.5 Manufacturing vs. non-manufacturing: Confidence Intervals



Independent t-tests in Table 4.9 show that there are no significant differences between the manufacturing firms and other firms in the sample.

Table 4.9 Group statistics and t-test: Manufacturing vs. non-manufacturing

Test variables	Group Statistics				Levene's Test for Equality of Variances			t-test for Equality of means		
	Cases	N	Mean	Std.dev	Assumption	F	Sig	t	df	Sig(2-tailed)
Operating revenue	Manufacturing	23	111,659	157,231	Equal variances assumed	4.624	0.034	-1.098	101	0.275
	Non-manufacturi	80	289,956	771,355	**Equal variances not assumed**			-1.933	96.26	**0.065**
Employee count	Manufacturing	23	1,155	2,619	**Equal variances assumed**	0.101	**0.752**	0.047	101	**0.962**
	Non-manufacturi	80	1,128	2,290	Equal variances not assumed			0.044	32.296	0.965
Age first Polish subsidiary	Manufacturing	23	9.78	6.52	**Equal variances assumed**	2.638	**0.107**	0.06	101	**0.952**
	Non-manufacturi	80	9.70	5.58	Equal variances not assumed			0.066	31.866	0.956

5.0 Results and analysis

In this chapter, the data from the 103 sample respondents will be analyzed and measured against the established hypotheses. First, factor analysis will be utilized in order to examine if any variables should be excluded for the final constructs in the analysis. The constructs will be tested for reliability using the Cronbach's alpha test. Towards the end, two regression models will be presented, which tests the hypotheses that were established in section 3.1.

5.1 Factor analysis

The factor analysis in this paper consists of five parts. First, a justification of the chosen variables and sample size for the factor analysis will be elaborated. Second, a preliminary analysis will be conducted to tests if the sample is suitable for a factor analysis. Third, factors will be extracted and presented. Fourth, factors will be rotated in order to see if any variables should not be included in the intended constructs. In the end, the reliability of the chosen constructs will be tested through the Cronbach's alpha test.

5.1.1 Choice of variables and sample size

Only variables that were subject to a perceptive opinion of the respondents were chosen to be included in the factor analysis. Consequently, subjective variables like opinions of firm performance and networking were included in the factor analysis, while objective variables like firm size, industry and age of first Polish subsidiary were not included. By only including variables prone to subjective opinions, it would be possible inspect if one can create constructs out of multiple, subjectively measured items from the questionnaire. The intended constructs with the number of available variables for the factor analysis are summarized in Table 5.1.

Table 5.1 Factor analysis: Included Variables

Intended construct	Type	Number of variables	Classification
Polish venture performance	Dependent	4	a
Quality of personal ties	Independent	5	b
Utilization of personal networks	Independent	2	c
Entry commitment	Control	1	d
Proctive networking before entry	Control	1	e

The purpose of the "classification" column in Table 5.1 is to have an easy way to distinguish the variables from each other during the factor analysis. This will make it easier for the reader to see what construct the variable were initially intended to represent.

For factor analysis, Kass & Tinsley (1979) recommend having between 5-10 particiants per variable. This factor analysis contains in total 13 variables, which means that the analysis has 13/103 = 7.9 respondents per variable. One can therefore conclude that the sample size is fair compared to the number of variables. However, other researchers (e.g. Tabachnick & Fidell, 2001) would argue that at least 300 cases should be included for a factor analysis, and that 100 cases is a poor sample size. It was however not possible to collect more data because of time restrictions, and the analysis had to continue with a sample size of 103.

5.1.2 Preliminary analysis

To ensure a good factor analysis, variables should be correlated to some extent, but not be perfectly correlated (Field, 2005). The correlation matrix between the variables (Appendix C) was therefore scanned in order to see if there was any correlations coefficient above 0.9. None of these were found. Secondly, it is recommended by Pallant (2005) that several correlations should be at least above 0.3. One can also see from the correlation matrix that this requirement was also satisfied. Considering that the variables are to some degree correlated, but not particularly large, one did not have to consider eliminating any of the variables from the analysis at this stage.

Other important initial tests are the Keiser-Meyer-Olkin (KMO) measure, Bartlett's test of sphericity and checking the anti-image correlation and covariance matrices. The KMO measure tests whether the partial correlations among variables are small (Field, 2005). A measure over 0.5 is barely acceptable, values between .5 and .7 are mediocre, values between .7 and .8 are good, values between .8 and .9 are great and values above .9 are superb (Kaiser, 1974). In this case the KMO for all 11 variables was 0.751 (Table 5.2), which is good enough for further analysis.

Table 5.2. Factor analysis: KMO and Bartlett's test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.751
Bartlett's Test of Sphericity	Approx. Chi-Square	487.988
	df	78
	Sig.	.000

The KMO for the individual variables can be found by looking at the bolded diagonal elements in the anti-image correlation matrix (Appendix C). All these variables should have a KMO above 0.5 and preferably higher (Field, 2005). In this case, two variables were slightly below the threshold, but there were no large changes in the overall KMO measure when these variables were removed, and the test was re-run. Therefore, it was decided to keep all the variables. The last control before moving on to the principal component analysis was to control that the Bartlett's test of sphericity had a significance level above 0.05. This test measures whether the correlations between variables are sufficiently large for factor analysis to be appropriate (Field, 2005). One can see from Table 5.2 that Bartlett's test is highly significant ($p<0.001$) and good enough for further analysis.

The tests from the preliminary analysis conclude that the included variables have satisfactory characteristics in order to conduct a factor analysis.

5.1.3 Factor extraction

The principal component analysis of all the 13 variables yielded four factors based on Kaiser's criterion of retaining eigenvalues greater than 1.0 (Field, 2005). The total variance explained, scree plot and component matrix can be seen in Appendix D. The first factor accounted for 25 %, while all four factors accounted for 66 % of the variance. The scree plot revealed a clear break after the fourth component.

The component matrix (bottom table in Appendix D) shows the relative contribution that a variable makes to the four retained factors (Field, 2005). One can see from the component matrix that the "a" variables have a high factor loading to the first component. Variables from the "b" classification load to the second component, but also "e" load to this component. This may be a sign that proactive networking and quality of networks have some similarities that should be

further investigated. The “c” variables load to the third component while there are a few variables with a rather week loading to the fourth component. This leads to the conclusion that only three factors should be retained for further investigation.

5.1.4 Factor rotation and interpretation

Once the number of factors has been determined, one can start trying to interpret what they represent. To assist in this process the factors can be “rotated”. Rotation does not change the underlying solution, but rather presents the pattern of loadings in way that is easier to interpret (Pallant, 2005). Factor rotation can be done in several ways. If there are theoretical grounds to think that the factors are independent (unrelated) then it is advisable to choose one of the orthogonal rotations (varimax is recommended). However, if theory suggests that factors might correlate, then one of the oblique rotations (direct oblimin or promax) should be selected (Field, 2005). Despite of this, one can argue that varimax rotation is the best method in order to create more interpretable clusters of factors. The reason of this is that varimax rotation attempts to maximize the dispersion of loadings between factors. Also, varimax is good for simple factor analysis since it is known to be a good general approach that simplifies the interpretation of factors (Field, 2005). On the basis of this argument, varimax rotation was chosen.

Table 5.3 shows the rotated component matrix by using Principal Component analysis with varimax rotation. As mentioned in section 5.1.3, only three factors were retained for this analysis.

Table 5.3 Factor analysis: Rotated Component Matrix

	Component		
	1	2	3
a: Realization of goals and objectives	.896	.038	-.020
a: Making profits	.926	-.042	-.002
a: Sales revenue	.906	-.028	-.033
a: Achieved cost savings	.755	.037	-.008
b: Relevant industry experience from the Polish market	.007	.788	-.032
b: Solid connections with local policy makers and bureaucrats	.047	.748	.077
b: Experienced with establishing firms in Poland	-.085	.738	.160
b: Solid connections with related firms in Poland	-.046	.755	-.123
b: Had a university degree and/or other high-level education.	.049	.483	-.234
c: Professional connections	-.011	.054	.850
c: Personal connections	-.071	.011	.815
d: Entry commitment	-.328	-.111	.252
e: Proactive networking	.216	.467	.233

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

One can see clearly that the variables intended to form the "Polish venture performance" construct load to the first component. However, the performance variable that concerns costs savings (dotted circle in first component) loads much weaker than the other three variables. The second component shows high loadings for the 4 of the 5 variables supposed to measure quality of personal ties. The fifth variable that measures the education level of the personal ties, loads substantially lower compared to the other four variables. The control variable that measures proactive networking has a similar loading to the second component as the education variable (dotted circles). Since *proactive networking* does not have loadings above 0.5 to the second component, it was decided to keep it as a control variable. The third component belongs mainly to the third construct, which measures utilization of personal ties compared to professional ties. One can see that the two variables that are needed to measure this construct have fairly similar factor loadings.

One can conclude that the factor analysis has shown that it is reasonable to create constructs out of most of the initially intended variables, but the "*a:achieved costs savings"* variable and "*b:Had a university and/or other high-level education"* variable may have to be excluded from the final constructs.

5.1.5 Reliability of constructs

By utilizing factor rotation, one has established that there are three constructs that consists of more than one variable.

Before concluding that the independent variables and dependent variable constructs can be founded by the three factors found in the rotated component matrix, one should also measure the reliability of these factors. One way of testing the consistency between the items in each factor is through the Cronbach's alpha test. The Cronbach's alpha is based on the average inter-item correlation. According to Pallant (2005), a scale with a Cronbach's alpha higher than 0.7 is required in order to create a reliable construct of multiple variables.

First, the four variables that were supposed to form the construct of the dependent variable were tested. One can see from Table 5.4 that the cronbach's alpha for all four variables was 0.901, which is a good score. The analysis also show how much the reliability would increase/decrease if any of the items are deleted. If the variable measuring cost savings was removed, reliability would increase. It was therefore decided to exclude the cost savings variable and only keep three variables in the final construct.

Table 5.4. Dependent variable: reliability analysis

N of items	Cronbach's Alpha
4	0.901

Items	Cronbach's Alpha if deleted
Goals and objecives	0.864
Makingprofits	0.840
Sales revenue	0.856
Cost savings	**0.921**

The same type of test was done for the construct measuring quality of personal ties. Initially, five variables were intended to measure this construct. By analysing the Cronbach's alpha of these variables, one can see from Table 5.5 that the last variable that measures the education level of personal ties, decreases the reliability of the construct. Similar conclusions were already conceived from the factor analysis, as the education variable had much lower loadings on the second component compared to the other four variables. It was therefore chosen to remove the education variable from the final construct, which means that four of the initial five variables for this construct were retained for the regression analysis.

Table 5.5. Independent variable: Reliability analysis

N of items	Cronbach's Alpha
5	0.758

Items	Cronbach's Alpha if deleted
Industry experience from Polish market	0.675
Connections with policymakers	0.711
Experience with establishing firms	0.709
Connections with related firms	0.688
High level education	**0.782**

Before testing the hypotheses in regression analysis, the items that form one constructs must be merged through some sort of calculation. From Table 5.6, one can see that the performance and quality construct are well over the 0.7 treshold. To form these two constructs, the average of the included variables was calculated. The construct measuring personal network utilization had a slightly lower alpha than the recommended 0.7. This should however not be a problem as it was not averaged, but calculated using the formula shown in Equation 1.

Table 5.6. Final constructs after factor analysis

Construct	Type	Number of variables	Calculation	Cronbach's alpha
Polish venture performance	Dependent	3	Average	0.913
Utilization of personal ties	Indepedent	2	Equation 1	0.677
Quality of personal ties	Indepedent	4	Average	0.782

5.2 Linear regression

This part of the analysis will look at the predicting powers of the established constructs on the dependent variable using linear regression, and inspect if the established hypotheses can be confirmed or disconfirmed.

There are two regressions in the analysis; *Regression 1 (R1)* and *Regression 2 (R2)*. *R1* includes all firms in the sample and has 9 predictors. The intention of this model is to confirm or disconfirm all the hypotheses that are not related to SME's (H1 and H2). In addition, *R1* shows what control variables that have the best predicting powers. Insights from *R1* are used to form *R2*, which is a slimmed regression with fewer predictors. The intention of *R2* is to answer the hypothesis regarding SME's (H3).

5.2.1 Sample size and number of predictors

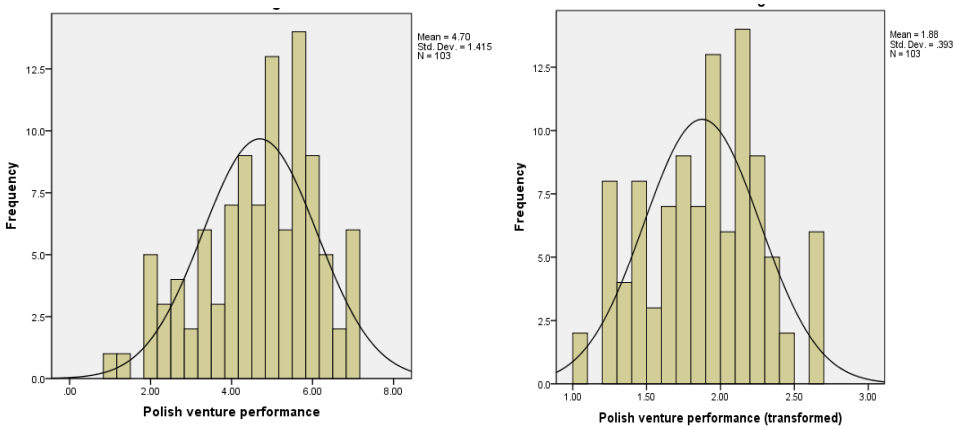
To ensure that the regression models in this paper are sound, it is important to establish how many predictors the model can have compared to the sample size. According to Field (2005) the two most common rules is that each predictors should at least contain 10-15 subjects. *R1* uses 9 predictors, which means that there are 103/9 = 11.44 subjects per predictor. *R2* compares all firms with SME's. Since there are only 61 SME's in the sample, only 6 predictors are used in *R2*.

The following parts (5.2.2-5.2.6) focuses on preliminary tests that were carried out to test if the variables in the model were suited for a regression analysis. The tests are done using the cases and variables used in *R1*, and are explained in detail. The same preliminary tests were also completed for *R2*, but the results from this analysis showed the same patterns that were discovered in the preliminary analysis of *R1*, and is therefore not described in detail.

5.2.2 Normality of dependent variable

A very important assumption in regression is that the dependent variable is normally distributed. Normality is used to describe a symmetrical, bell-shaped curve, which has the greatest frequency of scores around in the middle combined with smaller frequencies towards the extremes (Pallant, 2005). The regressions in this paper have *Polish venture performance* as the dependent variable. If the dependent variable is not normally distributed, there is little point in performing regression analysis because a major assumption of the model is broken. As explained in section 5.1.5, Polish venture performance was calculated by using the mean of three variables that measured different performance indicators of the venture. The frequency distribution of the computed variable can be seen in Figure 5.1. The histogram on the left shows the dependent variable before transformation. The variable is negatively skewed as the mean score is 4.71, which is above the median score of 3.5.

Figure 5.1 Frequency distribution of dependent variable before and after transformation



One can conduct a simple test whether the frequency distribution of the variable deviates from a normal distribution. This can done using the Kolmogorov-Smirnow test and Shapiro-Wilk tests. These tests compare the variable to a normally distributed set of scores with the same mean and standard deviation. If these tests are non-significant ($p > 0.05$), it tells that the distribution in the sample is not significantly different from a normal distribution (Field, 2005). The test of the untransformed variable in Table 5.7 shows that the variable failed both of the normality tests and is therefore not suitable to be used in a regression model.

It is however, possible to transform the variable in order to increase the normality of the variable (Field, 2005). This was done using the formula in Equation 2.

Equation 2. Transformed dependent variable

$$Transformed\ variable = \sqrt{abs(variable - 8)}$$

In Equation 2, "*variable"* denominates the dependent variable before transformation, while *"abs"* illustrates that the absolute value of (*variable-8)* is used. The dependent variable is subtracted by the maximum score in the variable (7) pluss 1, which is a typical formula designed for adjusting skewness. By using the formula, skewness was reduced from -0.518 to -0.045. The transformed variable can be seen on the right histogram in Figure 5.1. The normality test of the transformed variable can also be seen in Table 5.7.

Table 5.7. Polish venture performance: Normality tests before and after transformation

Variable	N	Mean	Minimum	Maximum	Std.dev	Skewness	Kolmogorow-Smirnow (sig)	Shapri -Wilk (sig)
Untransformed	103	4.699	1.00	7.00	4.70	-0.518	0.001	0.004
Transformed	103	1.875	1.00	2.65	1.88	**-0.045**	**0.069**	**0.094**

The new normality test after transformation shows that both normality tests are above p=0.05, which means that the variable does not deviate significantly from a normal distribution. After transformation, the variable was reversed one more time to ensure that a high satisfaction level was assigned to a high score in the final analysis.

5.2.3 Correlations and multicollinearity

Before presenting the regression models, one should inspect if there are excessive correlations between the variables in the model. The correlation matrix can scanned as a preliminary look for multicollinearity. To avoid multicollinearity in the sample, there should be no substantial correlations (R > 0.9) between the predictors (Field, 2005). The correlation matrix in Table 5.8 shows that there are no variables that have excessive correlations between them.

Although regression and correlation must be treated as different things, one can scan the correlation matrix in order to see potential relations that may also show up in the regression models. The independent variable *Personal ties* has a weak negative correlation with the dependent variable (R=-0.122). A negative relation is in line with the expected hypothesis (H2). The second independent variable, *Quality of personal ties,* shows a very weak negative correlation with the dependent variable, which is not in line with the expected hypothesis (H1). Most of the control variables show in general a stronger correlation with the dependent variable compared to the independent variables, except of *Total contacts, Dummy: Manufacturing,* and *Dummy: Norwegian.* The dependent variable has significant correlations with *Entry commitment(-), Proactive networking(+), Firm size(+), and Experience(+).*

Table 5.8 Descriptives and correlations of variables in final model

	Variable	Mean	S.D.	1	2	3	4	5	6	7	8	9	10
1	Polish venture performance[t]	1.88	0.39	1.000									
2	Personal ties	0.27	0.31	-0.122	1.000								
3	Quality of personal ties	3.77	1.54	-0.047	-0.127	1.000							
4	Entry commitment	3.06	1.82	-0.249	0.177	-0.050	1.000						
5	Proactive networking	4.59	1.80	0.188	-0.216	0.345	-0.079	1.000					
6	Total contacts[t]	0.87	0.46	-0.015	-0.010	0.048	0.055	0.260	1.000				
7	Firm size[t]	2.20	1.00	0.278	-0.280	-0.061	-0.065	-0.052	0.211	1.000			
8	Experience	9.72	5.77	0.293	-0.133	0.084	-0.179	0.023	0.198	0.358	1.000		
9	Dummy: Manufacturing	0.21	0.41	-0.054	-0.059	-0.030	-0.199	0.052	0.097	0.103	0.038	1.000	
10	Dummy: Norwegian	0.32	0.47	-0.026	0.054	0.100	-0.079	-0.215	-0.348	-0.198	-0.187	-0.002	1.000

[t] transformed variable

There also several interesting correlations between the control variables and independent variables which should be addressed. *Personal ties* is significantly correlated with *Entry commitment* (+), *Proactive networking* (-), and *Firm size* (-). *Quality of personal ties* is significantly correlated with *Proactive networking* (+). Some of the control variables show also significant correlations between them. *Entry commitment* is negatively correlated with *Experience*, and *Dummy: Manufacturing. Proactive networking* is significantly correlated with *Total contacts (+)*, and *Dummy: Norwegian* (-). *Total contacts* is significantly correlated with *Firm size* (+) and *Dummy: Norwegian* (-). *Firm size* is significantly correlated with *Experience* (+) and *Dummy: Norwegian (-). Experience* has a significant negative correlation with *Dummy: Norwegian.*

In addition to checking the correlation matrix, it is important to check the variance inflation factor (VIF). VIF indicates whether a predictor has a strong linear relationship with other predictors in the model. The largest VIF should not be greater than 10, and the average VIF should not be much higher than 1 (Field, 2005). The VIF for each predictors and the average are summarized in Table 5.9.

Table 5.9. Variance inflation factor of predictors

Predictors	VIF
Personal ties	1.200
Quality of personal ties	1.206
Entry commitment	1.131
Proactive networking	1.372
Total contacts	1.274
Firm size	1.332
Experience	1.244
Dummy: Manufacturing	1.066
Dummy: Norwegian	1.262
Average	**1.232**

All VIF values are well below 10 and the average is close to 1. One can therefore conclude that there are no signs of excessive multicollinearity within the model.

5.2.4 Casewise diagnostics

In order to control for extreme cases within the sample, residual statistics where screened. According to Field (2005), one should expect that 95 % of all cases to have standardized residuals within ∓ 2 standard deviations. As there are totally 103 in this model, one can accept five cases with higher residual values. The model showed four cases with such high residual values. These cases are summarized along with other relevant figures for outliers in Table 5.10.

Table 5.10. Extreme cases: Cases with standardized residuals above 2

Case	Std. Residual	Cook's distance	Mahalonobis Distance	Centered Leverage Value
1	-2.119	0.037	6.250	0.061
2	-2.520	0.084	9.780	0.096
3	-2.485	0.075	9.035	0.089
4	2.052	0.070	11.926	0.117

The influential cases where also checked for Cook's distance, which signals cases that have an excessive influence on the model. A Cook's value greater than 1 signals excessive influence (Field, 2005).

The Mahalanobis distance measure the distance that each case in the sample has from the means of the predictor variables. How long distance one can accept depends on the number of variables

in the model. With ten variables, the highest allowed distance is 29.59, according to Barnett & Lewis table (Barnet & Lewis, 1978). No cases with such high value were found.

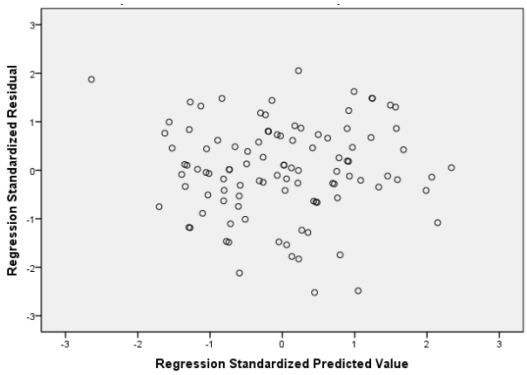
The final check for possible outliers is testing the Centered Leverage Value. This value measures the influence of the observed value of the outcome variable over the predicted values. The average leverage value can be measured as (k+1)/n where *k* is the number of predictors in the model and *n* is the sample size (Field, 2005). The average leverage value in this case is therefore *(9+1)/103 ≈ 0.09708.* There are different opinions about how large the leverage value can be on a specific case before one should consider removing it from the model. The lowest estimate is presented by Hoaglin & Welsch (1978) who recommends investigating cases with values that are twice of the average leverage value (in this case 2*0.09708=0.194). When comparing these values to the leverage value of the extreme cases in Table 5.10, there is little to worry about. The conclusion is that none of the cases in the sample show such extreme values that they should be removed from the analysis.

Cases with lower standardized residuals were also scanned for potential outliers, but none were found. A summary of all the cases with relevant outlier values can be found in Appendix E.

5.2.5 Homoscedasticity/Heteroscedasticity

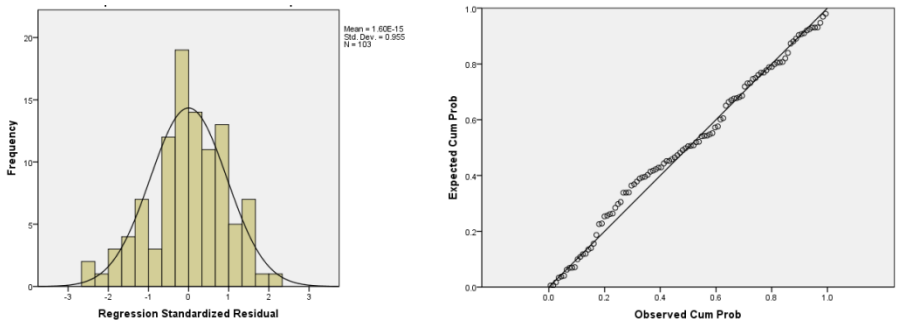
As regression models should be assumed to have a constant variance of residuals (homoscedasticity), one has to check if this assumption is met. One way of doing this is to look at the plot in Figure 5.2, which is a scatterplot of standardized residuals against standardized predicted values. The graph should show a random array of dots that are evenly dispersed around zero. If, for example the graph funnels out, there are chances that there is heteroscedasticity in the sample. Also, if the graph plots any sort of curve, there are chances that the data have broken the assumption of linearity. In this case however, the graph shows a random dispersion around zero, and one can conclude that the assumption of homoscedasticity has been met.

Figure 5.2. Heteroscedacity: Polish venture performance



It is also important to check the normality of residuals. This can be done by looking at the histogram (left) and normal propability plot (right) in Figure 5.3. One can see from the histogram that the distribution is rather normal. The mean is also very close to 0. The normal probability plot also shows if there are deviations from normality. The points are the observed residuals, while the line represents the normal distribution. If all dots had been straight on the line, it would have meant that the residuals had been perfectly normally distributed. In this case, the plot seems to be close to normal. The normality of the standardized residual was talso tested, using the Kolmogorow-Smirnow test. This test strongly confirmed the hypotheses of normality (p>0.200).

Figure 5.3. Test of normality of residuals: Polish venture performance



5.2.6 Partial plots of predictors

To do a final check for outliers, the partial plots for all predictors (Appendix F) were scanned. Partial plots are scatter plots of the residuals of the dependent variable and each of the predictors when both variables are regressed separately from the remaining predictors. When looking

through these plots, it is hard to spot any firm linear relations between any of the predictors and the dependent variable. This makes it also hard to spot any outliers in the data.

One can conclude from preliminary analysis that most assumptions for a linear, multiple regression model have been met. The dependent variable is linear, and there is little risk of multicollinearity, heteroscedasticity or highly influential outliers in the regression model. But on the other side, the partial plots show that the relations between the predictors and the dependent variable seem to be very weak.

5.2.7 Regression 1: All firms and predictors

Table 5.11 shows *R1*. which covers all nine predictors and the whole sample (N=103). As mentioned before, the preliminary tests in section 5.2.2-5.2.6 refers to *R1*. The regression is split into three models. *Model 1* includes only the control variables, while *Model 2* and *Model 3* include the two independent variables in a stepwise manner. The table displays the unstandardized coefficients and standard errors (in brackets) of each predictor. Significant coefficients are marked with signs that are explained in the bottom of the table.

Table 5.11 Regression 1

Variables	Model 1	Model 2	Model 3
Intercept	1.521**	1.479**	1.566**
	(0.177)	(0.191)	(0.196)
Entry commitment	-0.041*	-0.043*	-0.042*
	(0.020)	(0.021)	(0.021)
Proactive networking	0.051*	0.054*	0.068**
	(0.021)	(0.022)	(0.023)
Total contacts	-0.111	-0.117	-0.115
	(0.087)	(0.088)	(0.087)
Firm size	0.100*	0.107	0.103*
	(0.039)	(0.041)	(0.041)
Experience	0.013*	0.014*	0.015*
	(0.007)	(0.007)	(0.007)
Dummy: Manufacturing	-0.120	-0.120	-0.128
	(0.089)	(0.089)	(0.088)
Dummy Norwegian	0.044	0.045	0.073
	(0.083)	(0.084)	(0.084)
Personal ties		0.075	0.061
		(0.126)	(0.125)
Quality of personal ties			-0.042+
			(0.025)
Observations	103	103	103
F-statistic	4.033**	3.548**	3.536**
R^2	0.229	0.232	0.255
R^2 adj.	0.172	0.167	0.183

+ $p < 0.1$

* $p < 0.05$

** $p < 0.01$

In *Model 1*, the seven control variables explained 0.229 of the variance. In *Model 2*, when the independent variable *personal ties*, was included, R^2 improved marginally to 0.232. In *Model 3*, when the last independent variable, *Quality of personal ties*, was included in the model, R^2 increased to 0.255. The adjusted R^2 decreased when the first independent variable was included, but increased when the second independent variable was also included in the model.

Entry commitment turned out to show a negative, statistically significant influence on venture performance in all three models. *Proactive networking* had a positive influence on firm performance, and the predictor was significant in all three models. *Total contacts* showed a negative influence on performance, but this control was not significant in any of the models.

Firm size showed positive influence on firm's performance, and the predictor was significant in all three models. The control for *experience* had a positive influence on firm performance, and the predictor was significant in all three models. The two *dummy variables* failed to show any significant predicting power on the dependent variable.

As for the independent variables, utilization of personal ties showed a positive relation to firm performance but was not statistically significant in *Model 2* or *Model 3*. This discards the H2 hypothesis that high utilization of personal networks during market entry has negative influence on firms' performance. *Quality of personal ties* showed a weak negative relation, which was not significant. This also discards H1, which stated that access to personal ties with high quality should have a positive effect on venture performance.

5.2.8 Regression 2: All firms and SMEs

R2 was designed to test differences between all firms in the sample and SME's. Since there was only 61 respondents who could be classified as SME's, the number of predictors were decreased in order to adapt to Fields (2005) recommendation of having 10-15 subjects per predictor. It was therefore chosen to remove the three control variables that showed the weakest significance in *R1*. The removed variables were: *Total contacts*, *Dummy: Manufacturing*, and *Dummy: Norwegian.*

Like with *R1*, preliminary tests were performed to ensure that the variables and cases in *R2* were suitable for a regression. Therefore, all the tests explained in 5.2.2-5.2.6 were performed. No major issues were identified, except that the problem with the dispersed partial plots (explained in section 5.2.6) persisted.

Table 5.12 shows the mean, standard deviations and correlation matrix of the dependent variable and predictors in *R2* with all firms (N=103). One can see from this table that there are no variables with excessive correlations.

Table 5.12 Correlations: All firms

Variable	Mean	S.D.	1	2	3	4	5	6	7
1 Polish venture performance[t]	1.88	0.39	1.000						
2 Personal ties	0.27	0.31	-0.122	1.000					
3 Quality of personal ties	3.77	1.54	-0.047	-0.127	1.000				
4 Entry commitment	3.06	1.82	-0.249	0.177	-0.050	1.000			
5 Proactive networking	4.59	1.80	0.188	-0.216	0.345	-0.079	1.000		
6 Firm size[t]	2.20	0.95	0.278	-0.291	-0.068	-0.052	-0.063	1.000	
7 Experience	9.72	5.77	0.293	-0.133	0.084	-0.179	0.023	0.332	1.000

[t] transformed variable

Table 5.13 shows the means, standard deviations and correlation matrix when only SME's (N=61) are included. Again, there are no excessive correlations between the variables. When it comes to the mean of the variables, there are some small differences compared to Table 5.12, which included all firms in the sample. SME's seem to be slightly less satisfied with the venture in Poland, which stands in line with the observation from *R1,* where firm size had a negative influence on venture performance. They are also more prone to utilizing personal ties during entry. They also report higher quality of personal ties and entered the polish market with a slightly higher entry commitment. SME's are also more active when it comes to proactive networking, and have on average shorter experience in the Polish market.

Table 5.13 Correlations: SME's

Variable	Mean	S.D.	1	2	3	4	5	6	7
1 Polish venture performance[t]	1.81	0.41	1.000						
2 Personal ties	0.34	0.35	-0.106	1.000					
3 Quality of personal ties	3.85	1.67	-0.047	-0.191	1.000				
4 Entry commitment	3.25	1.79	-0.260	0.198	-0.086	1.000			
5 Proactive networking	4.72	1.91	0.075	-0.330	0.337	-0.019	1.000		
6 Firm size[t]	1.60	0.60	0.198	-0.223	-0.182	0.095	-0.220	1.000	
7 Experience	8.05	5.39	0.314	-0.170	0.065	-0.107	0.050	0.226	1.000

[t] transformed variable

Table 5.14 illustrates *R2,* which compares all firms with SME's. Model 1-3 (black numbers) shows the unstandardized coefficients and standard errors of each predictor, with all firms from the final sample included. Model 1a-3a (blue numbers) shows the same measures, but only for firms in the sample that were SME's.

Table 5.14 Regression 2: All firms and SMEs

Variables	Model 4	Model 4a (SMEs)	Model 5	Model 5a (SMEs)	Model 6	Model 6a (SMEs)
Intercept	1.497**	1.543**	1.462**	1.463**	1.556**	1.542**
	(0.156)	(0.224)	(0.174)	(0.226)	(0.185)	(0.292)
Entry commitment	-0.41*	-0.57*	-0.42*	-0.061*	-0.042*	-0.061*
	(0.020)	(0.028)	(0.020)	(0.029)	(0.020)	(0.029)
Proactive networking	0.040*	0.021	0.042*	0.028	0.052*	0.033
	(0.020)	(0.026)	(0.021)	(0.029)	(0.022)	(0.030)
Firm size	0.091*	0.129	0.097*	0.146	0.091*	0.136
	(0.040)	(0.087)	(0.042)	(0.092)	(0.042)	(0.094)
Experience	0.012+	0.018+	0.012+	0.018+	0.013*	0.019+
	(0.007)	(0.009)	(0.007)	(0.010)	(0.007)	(0.010)
Personal ties			0.059	0.092	0.046	0.079
			(0.126)	(0.161)	(0.126)	(0.163)
Quality of personal ties					-0.034	-0.021
					(0.025)	(0.032)
Observations	103	61	103	61	103	61
F-statistic	5.976**	3.192*	4.786**	2.588*	4.394**	2.210+
R^2	0.196	0.186	0.198	0.190	0.214	0.197
R^2 adj.	0.163	0.127	0.157	0.117	0.165	0.108

+ p < 0.1

* p < 0.05

** p < 0.01

5.2.8.1 Results from model 4-6, all firms

In *Model 4*, the four control variables explained 0.196 of the variance. In *Model 5*, when the independent variable, *utilization of personal ties*, was included, R^2 improved marginally to 0.198. When the last independent variable, *Quality of personal ties*, was included, the explained variable increased to 0.214. The adjusted R^2 decreased after adding the first independent variable, but increased again when the last independent variable was added to the model. All these observations are in line with what was observed in *R1*. When moving on to the predicting powers of each variable, *entry commitment* showed a statistically significant negative influence on venture performance in all three models. *Proactive networking* showed a positive, significant influence in all three models. *Firm size* showed positive influence on venture performance with statistical significance in the three models. As for the independent variables *Personal ties* showed a positive, but not significant relation to the dependent variable. This, again, discards the H2 hypothesis that high utilization of personal networks during market entry has negative

influence on firms' performance. *Quality of personal ties* showed a weak negative relation, but it was not significant. This also discards H1, which stated that access to personal ties with high quality have a positive effect on venture performance

5.2.8.2 Results from Model 4a-6a, only SME's.

In *Model 4a*, where only control variables were included, the R^2 was 0.186. In *Model 5a*, R^2 increased to 0.190. In *Model 6a*, the R^2 increased to 0.197. The adjusted R^2 had a small decrease when each independent variable was included. The control variables showed weaker predictive powers compared to the models with all firms included. *Entry commitment* was the only control variable that showed significant predicting powers in the all models with only SMEs. As with the models that included all firms, *Entry commitment* had a negative influence on SME's performance. *Proactive networking* showed a positive, but non-significant relation on SME's venture performance. *Firm size* had a positive relation to the dependent variable, but it was not statistically significant. *Experience* had also a positive influence on performance, but it was not significant. The independent variables showed very weak influence on SME's venture performance. *Personal ties showed* a positive relation with firm performance but it was not significant. *Quality of personal ties* had a negative influence on venture performance, but it was not significant. Since there was no observed stronger influence by *Quality of personal ties* on venture performance in *Model 6a* compared to *Model 6*, hypothesis H3 was also discarded. H3 stated that high quality personal ties should have a stronger positive effect on SME's compared to larger firms.

5.2.9 Summary

The findings from *R1* and *R2* led to the rejection of the three established hypothesis. Table 5.15 provides a brief summary of each hypothesis, the results from the tests and a reference to where one can find evidence of the results.

Table 5.15 Summary of findings

Hypothesis	Result	Reference
H1: Firms with access to personal ties of high quality (in terms of social capital) before/during market entry, experience increased venture performance.	Rejected	*R1*: *model 3* *R2*: *model 6 and 6a*
H2: High utilization of personal networks compared to professional networks during market entry has negative effect on venture performance	Rejected	*R1*: *model 2 and 3* *R2*: *model 5, 5a, 6 and 6a*
H3: High quality of personal ties has a stronger positive effect on SMEs international venture performance, compared to larger firms.	Rejected	*R2*: *model 6 and 6a*

6.0 Discussion

This chapter will elaborate on the results from the analysis and compare them to the established hypothesis and research questions. It will also elaborate on other findings that were discovered during the analysis. In addition, directions for future research on similar topics will be discussed.

6.1 Quality of personal ties and venture performance

The independent variable *Quality of personal ties* was designed to measure the quality of the personal ties utilized in Poland. It was believed from theory that firms that were good at building personal relations with well-connected and influential stakeholders in Poland would have an important advantage of higher social capital, and therefore experience a better venture performance. Accordingly, the H1 hypothesis states that firms with personal ties of high quality in Poland experience increased venture performance. The regression models in this thesis failed to confirm this hypothesis. This research can therefore not confirm that firms who wish to enter Poland should focus on building a network of personal contacts with high social capital.

The correlation matrix of the variables in *R1* saw a strong correlation between *Quality of personal ties* and *proactive networking.* This is not a surprising relation as firms who focus on building strong personal ties relevant for market entry, should experience a higher quality of these ties.

6.2 Personal ties and venture performance

The independent variable *Personal ties,* was designed to measure to what extent personal ties were utilized compared to professional ties during market entry to Poland. It was expected that firms who relied too heavily on personal ties during market entry, would experience decreased venture performance. Accordingly, the H2 hypothesis states that the use of personal ties alone has a negative effect on venture performance. Earlier research that has shown that there is a relation negative relation between the use of personal ties and venture performance (Musteen et al, 2010), but it focused on firms that internationalized for the first time. This thesis was the first approach to see if the same effect could be discovered for firms from the same geographical

cluster that entered a transition economy. The regression models used in this paper rejected the H2 hypothesis. One therefore not confirms from that there is a liability to have a large network of personal contacts involved during market entry.

The correlation matrix of the variables in *R1* found a positive relation between *Personal ties* and *Entry commitment*. This is an interesting relation as it indicates that firms that are more reliant on personal ties during entry, have a less perceived risk of entry, and commit more resources when entering the Polish market. *Personal ties* were negatively correlated with *proactive networking*. This may indicate that firms, who are committed in building a personal network relevant for market entry, are more selective in what personal ties they utilize when entering a new market, but do not over-prioritize personal ties compared to professional ties. *Personal ties* was also negatively correlated to *firm size*. This point to the fact that smaller firms rely more on personal ties compared to larger firms when entering new markets, and is in line with established theories around small firms and internationalization that were discussed in chapter 2.0.

6.3 SME's, quality of personal ties and venture performance

The hypothesis from H3 stated that the use of high quality personal ties would have larger positive effect on SME's international venture performance compared to larger firms. This hypothesis was tested in *R2*¸ but no such relation was found. In order for this hypothesis to be confirmed, the unstandardized coefficient of *Quality of personal ties* needed to be larger in the models that only included SME's. As the coefficients in *Model 6* and *Model 6a* were negative and not significant, the hypothesis could not be confirmed. One can therefore not conclude that SME's more benefitted with building strong, high quality network of personal ties compared to larger firms.

There was however clear evidence that SME are in fact more prone to utilize personal networks compared to larger firms. This could be observed by comparing the mean utilization of personal ties from the correlation matrixes of R1 and R2. Also, the earlier mentioned negative correlation between firm size and utilization of personal ties proves this point.

6.4 Critics of the analysis

A review of earlier research indicated that the hypotheses in this paper should have been confirmed. This section will therefore discuss different problems with the research model that may have led to the negative results. Some key contributing factors are sample related, like excessive geographic dispersion, and industrial inconsistency. Other potential problems are exaggerated timeframe and weak constructs. These issues will now be discussed in-depth.

6.4.1 Excessive geographic dispersion

The problem of excessive geographic dispersion is tied to the fact that firms from four different countries were included in the final dataset. The firms in the final analysis were not evenly distributed from a similar type of countries as Norway and Denmark were overrepresented. There may be some cultural differences and approaches to doing business between managers from these countries, and using such a large geographical cluster may have weakened the model. Evidence of this stems from tests that were done in section 4.8.4, which indicate that there were significant differences between the firms from Norway compared to firms from the other countries.

6.4.2 Industrial inconsistency

Industrial inconsistency tied to a similar problem as the geographical. The firms in the sample originated from a very different type of industries. The way of doing business can differ significantly based on what industry a firm is representing. The need for a strong personal network can be totally different from one industry to another. With this in mind, it may be that the industrial inconsistency that is present in the sample may have been an influential factor of the poor results. However, tests that were done in section 4.8.5 did not find significant differences between one industry class and the rest of the sample.

6.4.3 Exaggerated timeframe

The potential problem of an exaggerated timeframe is tied to the fact that firms that entered Poland even up to nineteen years ago were included in the sample. Management in the sample firms may have already been changed, or the respondent may already only vaguely remember

details about the market entry. Another problem tied to the long timeframe is the fact that Poland has experienced a rapid economic change the last 20 years, which can also have also influenced the business culture in the country. This again may have led to different approaches to networking between the firms who entered Poland a long time ago and the ones who entered more recently.

6.4.4 Weak constructs

The independent variable measuring *quality of personal ties* was designed by the author and had never been used in earlier research. A construct that had been used in other research could have yielded better results. How a better construct could have been developed will be further discussed in section 6.5.

6.5 Suggestions for future research

The research approach in this thesis had several shortcomings. It may be a possible that one can obtain positive results with the same hypotheses, if a more rigid research approach is applied.

An important factor to consider in future research is the homogeneity of the sample firms. In order to capture the dynamic of firms from an advanced economy entering a transition economy, one could for example consider a population from Germany, which has over 2600 entities operating in Poland according to the Orbis database. If expanding the population to also include Swiss and French firms, the population would be over 4000 firms. An empirical basis with that kind of size would potentially create more significant data, as one could also be more selective and only consider firms from a specific industry with a shorter history in Poland.

Control variables in future research need to be more precise and adjusted to the shortcomings that were discovered in this paper. Questions about employee count and revenue should be formulated in a way that makes respondents describe conditions that were present right before they entered Poland instead of describing the current conditions. By doing this one can better compare conditions across firms, regardless if they entered Poland one or ten years ago. It is also normal to include control variables that consider more strategic issues. Similar, and more successful research (e.g Musteen et al, 2010 and Peng & Luo, 2000) included control variables

that adressed the strategic focus the respondents. As entry to Poland is often tied to cost reduction strategies, one could include control variables that cover this topic, for instance the cost leadership scale developed by Zahra & Covin (1993).

With Peng's (2003) succesful research on personal managerial ties in transition economies in mind, it should be recommended that similar research in the future gathers data solely from CEO's who were involved directly with the entry. This research collected data from different types of management, and only 45 % of these respondents were the CEO.

Also, personal ties should be in the future defined more precisely in order to capture the term more specifically. One option is to follow the approach of Peng & Luo (2000) and divide personal ties into ties with top managers at other firms and with government officials. In Peng's research, respondents were asked to assess their ties with (1) buyers, (2) suppliers, (3) competitors, (4) political leaders in various levels of government, (5) officials in industrial bureaus and (6) officials in regulatory and supporting organizations such as tax beureaus, state banks, and commercial administration bureaus. Managers were asked to rate this ties on a "very little" to "very extensive" seven point scale. The first three questions were tied to personal ties with managers at other firms, and the last three were tied to ties with officials. Using some of the approaches used by Peng & Luo may be a better way of conducting future research in this field.

7.0 Conclusion

This thesis has investigated whether the use of personal networks had a positive effect on foreign venture performance. This was tested on Nordic firms that had entered the Polish market. The results turned out to be negative, as none of the established hypotheses were confirmed. The findings conclude that the utilization of personal ties during foreign entry has no significant effect on the ventures performance; both in terms of the utilization rate of personal connections, and as well the quality of those personal ties.

It is questionable if the findings can be generalized, as there were significant differences between various parts of the respondents and other large discrepancies within the sample. However, this thesis has discovered several ways of how future research in the field can be conducted more thoroughly with a larger chance to discover significant results. The main recommendation for future research is using a more homogenous population and target firms that ventured into a new country during the recent years.

7.1 Research Limitations

There are several research limitations in this paper, and some have already been discussed. It is also important to point out to the weakness of the population that was used in this paper. Only Nordic firms that had established subsidiaries in Poland were used in the population. Firms that were only exporting to Poland were not captured by using this approach. This may have caused that firms that are considerably involved in Poland were not captured, which is an issue that could be addressed in future research.

The perceived success of firms can also be biased. Firms who tried to enter Poland but decided to withdraw are not covered by the population. The population was only limited to firms that were still operating in Poland. This can lead to a biased positive opinion about business in Poland.

This paper also suggests that future research should focus on firms that ventured to a new country more recently. This is also problematic as it may take some time before it is established really what the level of success with the international venture was.

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9.0 Appendices

Appendix A: Survey outline

Scandinavian establishments and investments in Poland

The main theme of this survey is networking effects during internationalization.

Estimated time to complete the survey is 5-10 minutes.

Respondents will be rewarded by an anonymated presentation of aggregated results.

If you have any questions/concerns regarding this survey, contact me at rehbinder.thesis@gmail.com or by phone: +48 889 585 480

1) Firm's country of origin

Select answer

2) Age of first Polish subsidiary

Select answer

3) Our entry to Poland was a result of..

	1 - Strongly disagree	2	3	4 - Neither agree or disagree	5	6	7 - Strongly agree
..our own initiative. An active search and commitment to enter the Polish market							
..a reactive decision. Stakeholders (i.e. partners/suppliers) came to us with a business idea that triggered the entry to Poland.							

4) Before and during market entry, our management had personal contacts in Poland who....

	1 - Strongly disagree	2	3	4 - Neither agree or disagree	5	6	7 - Strongly agree
...had relevant industry experience from the Polish market							
...had solid connections with local policy makers and bureaucrats							
...were experienced with establishing firms in Poland							
...had solid connections with related firms in Poland							
...had a university degree and/or other high-level education.							

5) Our management worked actively to develop a network of personal contacts that could be useful when entering Poland

- 1 - Strongly disagree
- 2
- 3
- 4 - Neither agree nor disagree
- 5
- 6
- 7 - Strongly agree

6) Provide an estimated number of the following types of contacts that were involved before/during your firm's entry to Poland. A rough estimate is fine.

1 - Professional contacts; i.e. customers, suppliers, export agents or other industry-related contacts.

1a - Of these professional contacts, how many where exclusively based in Poland?

2 - Personal contacts; i.e. friends relatives and other non-industry related contacts of management.

2a - Of these personal contacts, how many were exclusively based in Poland?

7) Choose your firm's entry mode in the Polish market. If the entry mode changed over time, list the different entry modes chronologically, showing the initial entry mode in the first column.

1

2

3

4

5

8) How satisfied are you with venturing to Poland in terms of...

	1 - Extremely dissatisfied	2	3	4 - Unsure	5	6	7 - Extremely satisfied
..realization of goals and objectives?							
..making profits?							
..sales revenue?							
..achieved cost savings?							

9) Your role in the company

- CEO
- Chairman
- Board member
- General manager
- Other

10) Age of your company (years)

Select answer

11) Main industry sectors of your firm. Pick only one industry as your "Primary industry"

Advertising, marketing	
Automotive	
Bank/Finances	
Chemical Industry	
Construction	
Defense	
Energy	
Environmental Sector	
Engineering	
Food Industry	
Furnishing	
Green Energy	
Human Resources	
IT/Communication	
Medical Care	
Oil & Gas	
Real Estate	
Seafood	
Textiles	
Tourism/Hotels/Entertainment	
Transport/Logistic	
Other	

12) Size of entire firm including foreign subsidiaries (revenue in EURO). A roughly estimated value is accepted.

Select answer

13) Total headcount in entire firm including foreign subsidiaries. A roughly estimated value is accepted.

Select answer

14) Export ratio (% of turnover from outside home country). A roughly estimated value is accepted.

Select answer

15) Total turnover of Polish entities in EUR. A roughly estimated value is accepted.

Select answer

16) Headcount in Polish entities. A roughly estimated value is accepted.

Select answer

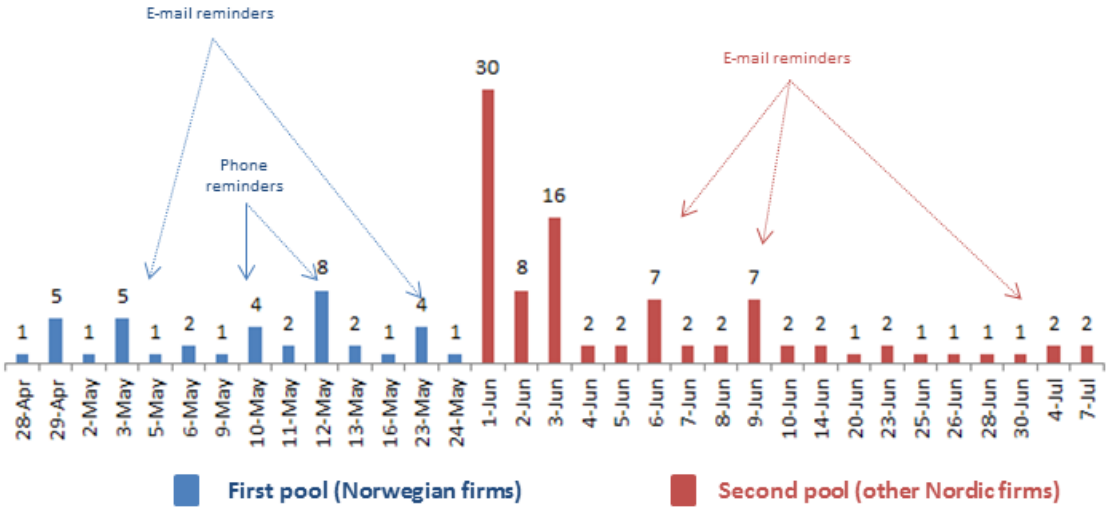
17) Company name (optional)

18) Name of Polish subsidiaries (optional)

19) E-mail (optional if you want to receive an anonymous report of findings)

20) If you have any comments/feedback to this survey, provide them in the field below

Appendix B: Survey responses by date



Appendix C: Factor analysis - Correlation matrix and anti-image matrix

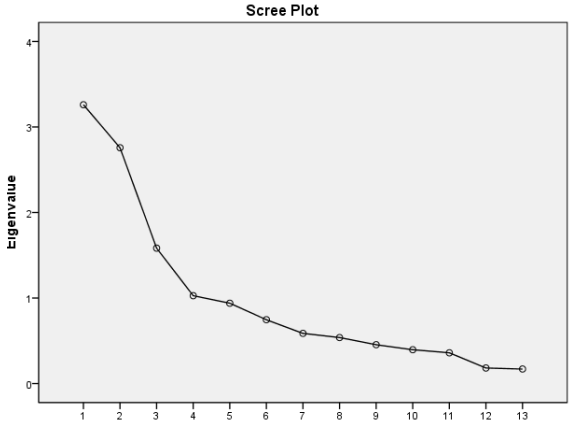
Correlation Matrix	a: Realization of goals and objectives	a: Making profits	a: Sales revenue	a: Achieved cost savings	b: Relevant industry experience from the Polish market	b: Solid connections with local policy makers and bureaucrats	b: Experienced with establishing firms in Poland	b: Solid connections with related firms in Poland	b: Had a university degree and/or other high-level education.	c: Professional connections	c: Personal connections	d: Entry commitment	e: Proactive networking
a: Realization of goals and objectives	1.000												
a: Making profits	.789	1.000											
a: Sales revenue	.800	.804	1.000										
a: Achieved cost savings	.545	.661	.569	1.000									
b: Relevant industry experience from the Polish market	.077	-.023	-.002	-.001	1.000								
b: Solid connections with local policy makers and bureaucrats	.084	.032	.001	.029	.497	1.000							
b: Experienced with establishing firms in Poland	-.071	-.077	-.077	.008	.418	.500	1.000						
b: Solid connections with related firms in Poland	.014	-.100	-.040	.055	.564	.405	.455	1.000					
b: Had a university degree and/or other high-level education.	.012	.037	.046	.102	.334	.174	.224	.308	1.000				
c: Professional connections	-.017	-.031	-.072	-.048	.024	.103	.100	-.048	-.091	1.000			
c: Personal connections	-.101	-.086	-.054	-.014	.047	-.052	.090	.017	-.032	.526	1.000		
d: Entry commitment	-.242	-.205	-.252	-.150	-.099	-.014	.066	-.113	-.105	.025	.162	1.000	
e: Proactive networking	.167	.161	.135	.072	.228	.370	.326	.149	.086	.148	.012	-.079	1.000

Anti-Image Matrix	a: Realization of goals and objectives	a: Making profits	a: Sales revenue	a: Achieved cost savings	b: Relevant industry experience from the Polish market	b: Solid connections with local policy makers and bureaucrats	b: Experienced with establishing firms in Poland	b: Solid connections with related firms in Poland	b: Had a university degree and/or other high-level education.	c: Professional connections	c: Personal connections	d: Entry commitment	e: Proactive networking
a: Realization of goals and objectives	**.802**[a]												
a: Making profits	-.363	**.783**[a]											
a: Sales revenue	-.455	-.397	**.800**[a]										
a: Achieved cost savings	-.029	-.402	-.045	**.838**[a]									
b: Relevant industry experience from the Polish market	-.116	.010	.046	.095	**.758**[a]								
b: Solid connections with local policy makers and bureaucrats	-.052	-.037	.057	.010	-.282	**.757**[a]							
b: Experienced with establishing firms in Poland	.116	-.004	-.026	-.047	-.086	-.283	**.785**[a]						
b: Solid connections with related firms in Poland	-.093	.188	.004	-.143	-.356	-.111	-.247	**.731**[a]					
b: Had a university degree and/or other high-level education.	.107	-.040	-.040	-.073	-.202	.025	-.069	-.116	**.787**[a]				
c: Professional connections	-.101	-.034	.140	.046	.042	-.134	-.036	.107	.071	**.459**[a]			
c: Personal connections	.111	.060	-.132	-.075	-.100	.172	-.050	-.049	.008	-.553	**.444**[a]		
d: Entry commitment	.027	-.014	.118	.006	.063	-.063	-.116	.119	.066	.110	-.183	**.714**[a]	
e: Proactive networking	-.030	-.076	-.021	.062	-.030	-.205	-.200	.045	-.003	-.110	.031	.055	**.793**[a]

Appendix D: Total variance explained, scree plot and component matrix

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.260	25.075	25.075	3.260	25.075	25.075	3.214	24.723	24.723
2	2.757	21.211	46.286	2.757	21.211	46.286	2.031	15.625	40.347
3	1.583	12.180	58.465	1.583	12.180	58.465	1.833	14.102	54.450
4	1.027	7.903	66.369	1.027	7.903	66.369	1.549	11.919	66.369
5	.939	7.225	73.594						
6	.746	5.742	79.336						
7	.587	4.513	83.849						
8	.538	4.136	87.986						
9	.454	3.494	91.480						
10	.396	3.044	94.525						
11	.360	2.766	97.291						
12	.182	1.402	98.693						
13	.170	1.307	100.000						

Extraction Method: Principal Component Analysis.



	Component			
	1	2	3	4
a: Realization of goals and objectives	.885	-.122	.074	-.042
a: Making profits	.899	-.204	.102	-.043
a: Sales revenue	.884	-.190	.068	.021
a: Achieved cost savings	.746	-.097	.071	.144
b: Relevant industry experience from the Polish market	.155	.768	-.091	.170
b: Solid connections with local policy makers and bureaucrats	.176	.732	.024	-.330
b: Experienced with establishing firms in Poland	.038	.753	.093	-.162
b: Solid connections with related firms in Poland	.105	.736	-.185	.257
b: Had a university degree and/or other high-level education.	.158	.442	-.264	.514
c: Professional connections	-.080	.136	.837	.103
c: Personal connections	-.144	.101	.800	.381
d: Entry commitment	-.365	-.027	.223	-.249
e: Proactive networking	.276	.442	.218	-.540

Extraction Method: Principal Component Analysis.

Appendix E: Regression analysis - Casewise diagnostics

Residual size	Case	Standardized Residual	Mahalanobis Distance	Cook's Distance	Centered Leverage Value
Below 2	1	-1.48468	9.70882	.02886	.09518
	2	1.32297	9.55626	.02251	.09369
	3	1.87191	15.71980	.08210	.15412
	4	.61784	10.56471	.00550	.10358
	5	-1.46602	17.54376	.05832	.17200
	6	.83759	13.63589	.01371	.13369
	7	.99341	10.82514	.01462	.10613
	8	.48406	10.01264	.00318	.09816
	9	1.43847	11.63634	.03336	.11408
	10	.25586	10.92228	.00098	.10708
	11	1.47888	7.28816	.02103	.07145
	12	-1.77779	8.34349	.03504	.08180
	13	-1.17646	11.20994	.02136	.10990
	14	-1.01149	13.94895	.02057	.13675
	15	-.53099	5.14865	.00192	.05048
	16	-.17720	10.28439	.00044	.10083
	17	-.26434	9.92023	.00094	.09726
	18	-.51011	14.24190	.00537	.13963
	19	-.30923	8.84584	.00113	.08672
	20	.61382	8.21590	.00411	.08055
	21	-.33538	11.17939	.00173	.10960
	22	-.63800	5.95734	.00319	.05841
	23	-.06813	11.41899	.00007	.11195
	24	.11990	10.47254	.00021	.10267
	25	.79989	4.68447	.00399	.04593
	26	.45618	8.92259	.00248	.08748
	27	.26758	9.39868	.00090	.09214
	28	.86134	14.41273	.01554	.14130
	29	.44057	7.64095	.00196	.07491
	30	.45970	7.40154	.00206	.07256
	31	-.66411	6.20731	.00360	.06086
	32	.80445	3.49350	.00311	.03425
	33	.76306	8.00443	.00618	.07847
	34	-1.28365	6.13574	.01331	.06015
	35	-.08727	6.04319	.00006	.05925
	36	1.48078	8.53224	.02490	.08365
	37	1.48412	13.04404	.04075	.12788
	38	-.10480	11.69743	.00018	.11468
	39	.01610	6.21068	.00000	.06089
	40	-.57040	5.01266	.00216	.04914
	41	.66218	14.57924	.00932	.14293
	42	-1.18551	8.89044	.01669	.08716
	43	.57962	5.68333	.00252	.05572
	44	-1.10408	5.11041	.00825	.05010
	45	-.88857	10.84076	.01172	.10628
	46	-.00559	8.55526	.00000	.08388
	47	1.34227	11.39096	.02833	.11168
	48	-.02294	14.03981	.00001	.13765
	49	-.18076	9.97400	.00044	.09778
	50	.86819	8.74322	.00879	.08572
	51	.13113	11.48537	.00027	.11260
	52	.10149	10.72331	.00015	.10513
	53	.10734	13.57281	.00022	.13307
	54	.10537	2.68027	.00004	.02628

	55	.73350	7.62150	.00542	.07472
	56	.01243	6.80613	.00000	.06673
	57	-.75262	7.97377	.00598	.07817
	58	.04827	11.77177	.00004	.11541
	59	.73477	6.65276	.00473	.06522
	60	-.74544	3.83204	.00289	.03757
	61	.38677	11.48398	.00237	.11259
	62	-.41452	9.78541	.00227	.09594
	63	.02014	5.65145	.00000	.05541
	64	1.18060	10.17495	.01924	.09975
	65	1.40514	10.02299	.02679	.09826
	66	.67355	3.54065	.00221	.03471
	67	-1.23569	8.44218	.01714	.08277
	68	-.65522	2.54114	.00159	.02491
	69	-.24735	8.89287	.00073	.08719
	70	-.12113	4.49307	.00009	.04405
	71	1.22882	9.27979	.01880	.09098
	72	-1.74458	3.86996	.01599	.03794
	73	-.04557	13.54716	.00004	.13282
	74	-.19546	6.02271	.00030	.05905
	75	.19149	6.61503	.00032	.06485
	76	-.34747	6.18491	.00098	.06064
	77	.91544	6.57098	.00725	.06442
	78	-1.47780	6.65853	.01914	.06528
	79	-.63206	8.22327	.00436	.08062
	80	-1.53775	11.08975	.03604	.10872
	81	-.21770	8.51260	.00054	.08346
	82	.42264	5.12908	.00121	.05029
	83	1.62295	9.37159	.03315	.09188
	84	-1.08118	13.02280	.02158	.12767
	85	-.41638	7.14854	.00163	.07008
	86	1.14196	7.90855	.01366	.07753
	87	-.41687	8.82944	.00205	.08656
	88	-.28248	4.13715	.00044	.04056
	89	.47058	10.12283	.00304	.09924
	90	-.20826	3.45613	.00021	.03388
	91	-.14232	8.90294	.00024	.08728
	92	1.30170	6.42401	.01432	.06298
	93	-.11955	5.91733	.00011	.05801
	94	-1.83063	5.86586	.02589	.05751
	95	.85797	7.30264	.00709	.07159
	96	.70783	11.24231	.00776	.11022
	97	.18213	11.20618	.00051	.10986
	98	.05255	12.83452	.00005	.12583
	99	-.27025	16.21233	.00178	.15894
	Total	99	99	99	99
Above 2	1	-2.11889	6.25027	.03693	.06128
	2	-2.52019	9.78019	.08384	.09588
	3	-2.48457	9.03543	.07463	.08858
	4	2.05213	11.92581	.06991	.11692
	Total	4	4	4	4
Total	N	103	103	103	103

Appendix F: Partial plots - All predictors vs Dependent variable