Entrepreneurship in Multinational Subsidiaries:

The Effect of Entrepreneurial Competencies on Subsidiary Influence

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Abstract

Research suggests that the position of subsidiaries within the multinational corporation (MNC) network has been strengthened over time and as a result, the subsidiary’s ability to exert influence over decisions taken by headquarters and other MNC entities has improved. One of the drivers behind this changed corporate structure is the need of the MNC for innovation, which has lead MNC headquarters to recognize entrepreneurial activities at subsidiary level. In this paper, the connection between subsidiary entrepreneurship and subsidiary influence is examined and it is argued that internal traits held by subsidiaries, which promote entrepreneurial performance, can function as a resource that other entities within the MNC network become dependent upon. From this dependence, influence is received by the subsidiary holding this resource, in accordance to resource dependence theory. Hypotheses are formed and tested using data collected through 60 questionnaires completed by subsidiary managers. The analysis suggests that a quite large portion of the influence subsidiaries obtain can be explained by their internal entrepreneurial capabilities. Recommendations for future research are suggested.

Key words – Subsidiary Influence, Subsidiary Entrepreneurship, Subsidiary Entrepreneurial Competencies, Resource Dependence Theory
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1. Introduction

Over the past two decades, there has been a significant increase in the dispersion of activities, resources and competencies within multinational corporations (MNCs), hence the traditional MNC structure has changed. Traditionally, subsidiaries were assigned basic and unitary responsibilities such as production and sales, while nowadays, subsidiaries are more often acknowledged with higher end tasks, such as research, development and support activities (Bartlett & Ghoshal, 1989; Reilly & Scott, 2010). This trend, recognized by researchers, suggests a more active subsidiary role within the MNC network. Instead of focusing on entire companies as the unit of analysis, attention has been put on variations within the same company (Ghoshal & Bartlett, 1990). Bartlett and Ghoshal (1989) suggested that different subsidiaries can attain different roles and defined some subsidiaries as leaders while others are implementers and contributors. Adopting such a picture implies that subsidiaries in many ways can function as its own entity and even exert influence over strategic decisions taken in the MNC (Andersson & Pahlberg, 1997; Scott et al., 2010).

This change in MNC structure has also enabled subsidiaries to be more innovative and entrepreneurial (Liouka, 2007). Research has shown how important it is for enterprises to stay innovative and entrepreneurial in today’s fast changing environment (Bartlett & Ghoshal, 1989). This has led MNCs to comprehend the importance of subsidiary entrepreneurship, since new ideas often develop in local markets. Thus, there has been a shift from studying entrepreneurship at headquarter (HQ) level, to focus more on entrepreneurship at the subsidiary level (Birkinshaw, 1997). In recent research on subsidiary entrepreneurship, a frequently used concept is entrepreneurial competencies, which refer to specific internal characteristics held by subsidiaries that elevate entrepreneurial performance and enhance their ability to be innovative (Liouka et al., 2006; Zahra et al., 2000). Previous research papers on subsidiary entrepreneurship have largely focused on the relationship between entrepreneurial competencies and subsidiary performance. Subsidiary performance has traditionally been associated with financial results, but more subjective measures have also been linked to entrepreneurial competencies (Liouka et al., 2006; Liouka, 2007; Zahra et al., 2000). However, to our knowledge, there is still a profound lack of studies on the relationship between entrepreneurial competencies and subsidiary influence.

This connection should receive attention for two reasons; (1) subsidiary entrepreneurship has been acknowledged as essential for the development of MNCs and (2) It has been suggested
that factors affecting subsidiary influence should be further studied (Andersson et al, 2007; Birkinshaw et al, 2005). There have been a few research papers linking subsidiary influence to resource dependency theory and thereby argued that subsidiaries holding resources that other intra-MNC entities are dependent upon will obtain influential power over strategic decisions (Andersson & Pahlberg, 1997; Liouka 2007). The more important and scarce these resources are, the higher the dependency will be and thereby also the influence obtained by the subsidiary (Liouka, 2007). Hence, a prerequisite for influence is that resources held by a subsidiary are needed by other units within the MNC. Due to the increased importance of entrepreneurial activities at the subsidiary level, it is logical to assume that entrepreneurial competencies can function as a resource that other entities within the MNC network are dependent upon, and hence affect the subsidiary’s influential power. We argue that it is relevant to study this connection to further enhance the understanding regarding why some subsidiaries within the MNC network become influential. The aim of this paper is thus to: examine to what extent entrepreneurial competencies in MNC subsidiaries affect the influence they have on strategic decisions taken in the multinational corporation.

Strategic decisions have been defined as actions that ties up the MNC for a long time, for example where to locate product units or how to proceed in decisions regarding major investments (Bartlett & Ghoshal, 1989; Ghoshal & Bartlett, 1997). This implies that no consideration in this paper will be given to other types of decisions, such as operational and human resource decisions. Further, in this paper, focus will be on how entrepreneurial competencies affect subsidiary influence on strategic decisions taken by the HQ, since the parent company is the main source behind strategic decisions (Andersson & Pahlberg, 1997). However, it should be stated that other entities within the MNC network also undertake strategic actions (Kallinikos, 1984).

The connection between entrepreneurial competencies and subsidiary influence is interesting to examine because the MNC structure has changed and the picture of subsidiaries as peripheral and powerless no longer is valid (Ghoshal & Bartlett, 1990). This paper will provide two theoretical contributions, (1) by examining the impact of entrepreneurial competencies on subsidiary influence; the understanding about determinants to subsidiary influence can be enhanced. (2) Through studying this connection, a link between subsidiary entrepreneurship and subsidiary roles may be disclosed. Even though the contribution of this paper will be mainly theoretical, the paper could also have some managerial implications. In
particular, some useful insights may be brought to practitioners regarding entrepreneurial competencies effect on power structures within the MNC.
2. Theory and Hypothesis

In this section, a background to the development of MNC subsidiaries is first presented. Second, the concept subsidiary entrepreneurship is further developed. Third, four entrepreneurial competencies recognized in the subsidiary entrepreneurship literature are identified and presented. Fourth, literature on subsidiary influence is presented. Last, literature on how entrepreneurial competencies affect subsidiary influence is examined and hypotheses are formed.

2.1 Subsidiary Development

In early research, it was for a long time assumed that firm-specific advantages such as technological innovations were developed at the corporate headquarter level and later transferred to subsidiaries overseas (Dunning, 1981; Vernon, 1966). As foreign-owned subsidiaries grew in size, it became apparent that subsidiaries could hold their own unique resources and to solely focus on the corporate headquarter to understand how new developments were made possible was not valid anymore (Birkinshaw & Hood, 1998). The well-known product life cycle model created by Vernon (1966) has helped to understand why subsidiaries can evolve from a local servant towards performing high value-adding activities (Birkinshaw & Hood, 1998). From these conclusions, Paterson and Brock (2002) argued that subsidiaries today can stand for a big portion of the development within the MNC, even without support from HQ. The development of subsidiaries has not only engaged researchers to examine how subsidiaries have evolved in terms of the duties and responsibilities they have - several research papers have also tried to identify different roles subsidiaries can have within the MNC network (Gupta & Govindarajan, 2000; Holm & Pedersen, 2000).

Bartlett and Ghoshal (1986) implied that it would be necessary to allocate different roles within organizations since subsidiaries had been acknowledged with increased autonomy and the ability to hold unique resources. Researchers have created various frameworks in order to classify and define different roles that subsidiaries may take on within MNCs (D'Cruz, 1986; Prahalad & Doz 1987; White & Poynter, 1984). Gupta and Govindarajan (1991; 2000) developed a well-cited framework for subsidiary roles where intra-corporate knowledge transfer was used to distinguish four possible roles a subsidiary can attain. Intra-corporate knowledge transfer refers to the extent subsidiaries give and receive strategic knowledge in
exchange with other sister subsidiaries and HQ. Based on this theoretical model, Birkinshaw and Hood (1998) constructed a framework to explain how subsidiary roles can evolve over time and called this phenomenon subsidiary evolution. This framework suggested that subsidiary roles can be measured in terms of the specific business activities a subsidiary undertakes and this is measured through the following factors: (1) assignments given to the subsidiary from HQ, (2) the subsidiaries own perception regarding their duties and (3) the local environment surrounding the subsidiary. Taking these previous conclusions into consideration, one can make the assumption that subsidiary roles are a result of both internal and external factors.

2.2 Subsidiary Entrepreneurship

The importance of entrepreneurship at the subsidiary level has been recognized by a number of researchers (Bartlett & Ghoshal, 1986; Scott et al., 2010; Zahra et al., 2000). Two prominent explanations to the importance of subsidiary entrepreneurship has been given; (1) parent companies have to a greater extent been able to recognize and take advantage of capabilities found in subsidiaries and (2) entrepreneurship has been recognized for its increased importance in today's competitive society (Bartlett & Ghoshal, 1989; Birkinshaw & Hood, 1998). Early research in the area primarily focused on how subsidiary initiatives affected subsidiary roles within the MNC network (Birkinshaw, 1997; 1999). More recent studies have tried to develop a conceptual framework to increase the understanding regarding subsidiary entrepreneurship and the factors underlying this concept (Liouka et al., 2006; Zahra et al., 2000). Liouka et al. (2006) constructed a framework for subsidiary entrepreneurship and included three categories; the environmental context, the multinational context and subsidiary entrepreneurial competencies. The environmental context refers to the environment that surrounds the subsidiary and how these environmental conditions either promotes or harms the subsidiaries ability to be innovative. The multinational context refers to the role a subsidiary has in the MNC network and how this affects the entrepreneurial capabilities in the subsidiary. The third concept - entrepreneurial competencies - refers to internal characteristics held by subsidiaries, which elevate entrepreneurial performance. Since this paper focuses on the latter conception, section 2.3 and 2.5 will explain entrepreneurial competencies in detail.
2.3 Subsidiary Entrepreneurial Competencies

To define entrepreneurial competencies, international entrepreneurship scholars have typically used three aspects; innovativeness, willingness to take risk and proactiveness (e.g., Zahra & Garvis, 2000). Dimitratos & Plakoyiannaki (2003) proposed a new framework in order to increase the understanding regarding the underlying factors that affect entrepreneurship, suggesting six instead of the three competencies. The proposed framework included; innovation propensity, risk attitude, market orientation, learning orientation, network orientation and motivation. These factors were later tested by Liouka et al. (2006), who found that all suggested competencies affected subsidiary entrepreneurship. However, the same study concluded, just as Dimitratos & Plakoyiannaki (2003) discussed in their article, that market orientation and learning orientation are closely related. Moreover, Liouka et al. (2006) also found that the correlation between innovation propensity and risk attitude were high. Based on these findings, the authors suggested that market- and learning orientation should be combined to the concept of market-learning orientation and the concept entrepreneurial orientation should replace innovation propensity and risk attitude. Based on these findings, a new conceptual framework consisting of entrepreneurial orientation, market-learning orientation, network orientation and motivation were suggested (Liouka et al., 2006). In this paper, the latter framework consisting of four entrepreneurial competencies will be used. These four competencies will be explained further in section 2.5.

2.4 Subsidiary Influence through a Resource Dependence Perspective

Barcharach and Lawler (1981) regarded influence and authority as the two aspects of the power concept. While authority was defined as formal rights for control, influence was regarded as informal attempts to affect issues or behavior indirectly. The two concepts also differ in terms of the direction they flow. Authority flows downwards from high hierarchical levels while influence flows multidirectional (Andersson & Pahlberg, 1997). This means that influence can come from different hierarchical levels and thus also from MNC entities located in foreign countries. As mentioned in the introduction, different researchers have applied the resource dependency theory developed by Pfeffer and Salancik (1978) to explain why some subsidiaries become influential (Andersson et al., 2007; Blumentritt, 2003). This point of view suggest that the more the MNC depends on a certain subsidiary’s resources, the more influence will the subsidiary have over decisions and can hence promote its own interests.
This further suggests that subsidiaries will obtain different amounts of influence, since some subsidiaries will attain a more advantageous position because they are in control of more critical resources (Andersson & Pahlberg, 1997; Foss & Pedersen, 2002). In conclusion, holding resources are not enough to become influential, classical resource dependency theory states that competitive advantages come from unique resources that create value in the marketplace (Pfeffer & Salancik, 1978). Thus, a prerequisite for influence is also that other units within the MNC network require resources held by the subsidiary.

In literature on resource dependency, resources have been defined in terms of “tangible” and “knowledge-based”. Tangible resources usually refer to the classical definition, which means that resources are used for production and drift. Knowledge-based resources, on the other hand, are intangible resources, which comprises of the capabilities, organizational processes, information and knowledge controlled by firms (Barney, 1991; Liouka, 2007). In other words, subsidiaries have tangible- and knowledge-based resources and both these types of resources can function as a source for influence as long as other entities within the MNC network rely on them.

2.5 Hypothesis Development

In the following section, we explain how each of the four entrepreneurial competencies could be connected to subsidiary influence through a resource dependence perspective and after each reasoning, a hypothesis is formed.

Figure 1 The tested relationship
Entrepreneurial Orientation

Entrepreneurial orientation refers to subsidiaries proclivity to promote new creative ideas, products and processes in order to better serve the local market (Lumpkin & Dess, 1996). Entrepreneurial orientation depends, on the one hand, on the shared norms, beliefs and values among employees in subsidiaries since these factors affect the generation of new ideas and implementations of new approaches (O’Reilly, 1989). On the other hand, entrepreneurial orientation depends on the subsidiaries willingness to undertake risk and commit scarce resources in the host market (Miller & Friesen, 1978). In conclusion, for a subsidiary to be entrepreneurial orientated, it needs to have internal characteristics that promote entrepreneurial activities and a willingness to undertake significant risk.

Sarasvathy et al. (1998) argued that firms with a willingness to undertake significant risk will recognize opportunities that other more risk averse firms could miss. It is thus logical to assume that entrepreneurial oriented subsidiaries not only have a greater chance to recognize opportunities, but also have a greater ability to seize opportunities and turn these into new ideas and implementations. Further, Birkinshaw & Hood (1998) suggested that subsidiaries that are able to be innovative over time will enhance their credibility and improve communications towards HQ. We therefore argue that entrepreneurial oriented subsidiaries can make other entities in the MNC network dependent on them as a result of their ability to recognize new ideas and turn them into new products or services. In other words, entrepreneurial orientation could be seen as a resource required by HQ and other subsidiaries in the MNC. Thereby, the first hypothesis is formed:

**Hypothesis 1:** There is a positive relation between the entrepreneurial orientation of the subsidiary and subsidiary influence.

Market-Learning Orientation

Market learning orientation refers to the subsidiary’s propensity to actively obtain and use knowledge about its host market with the objective to take advantage of this intelligence and create superior value for the subsidiary’s customers (Dimitratos & Plakoyiannaki, 2003; Liouka et al., 2006). In general, subsidiaries with intense market focus have better understanding for their markets, which enables them to identify both opportunities and
problems. Through market-learning, subsidiaries can improve their ability to meet the market’s needs and expectations, for example, it has been argued that entrepreneurial initiatives in subsidiaries most likely arise from the identification and pursuit of product opportunities in the local market (Birkinshaw, 1997; Liouka, 2007). This learning process could provide subsidiaries with knowledge that is useful to other entities within the MNC network.

In accordance with resource dependence theory, a subsidiary that possess a knowledge-based resources that other entities within the MNC are dependent upon will have the possibility to a greater extent exercise influence over decisions taken within the MNC (Andersson & Pahlberg, 1997). We argue that market-learning orientated subsidiaries will pursue and seize opportunities in the host markets more often and thus obtain resources of importance to other intra-organizational entities and thereby increase their influence. The second hypothesis is therefore:

**Hypothesis 2:** There is a positive relation between the market-learning orientation of the subsidiary and subsidiary influence.

**Networking Orientation**

Networking orientation refers to the tendency a subsidiary has to develop business networks in order to obtain resources through embeddedness in these networks (Gulati, 1998). External network partners usually include suppliers, customers, distributors etc. These external partners have increasingly been recognized by researchers as critical sources for development of innovation and new business practices in foreign subsidiaries (Liouka, 2007). An explanation to the importance of these network relationships have been presented; a subsidiary that is closely tied to its network partners exchange information with them and is thus able to learn from their collaborations. This knowledge could later be used by the subsidiary to develop new technologies (Mudambi & Navarra, 2004). Andersson et al. (2007) tested if the external network embeddedness affected a subsidiary’s influence within the MNC. They suggested a positive relation between network embeddedness and influence. One of the main arguments leading to this hypothesis was that network embeddedness in earlier research (Andersson et al., 2001, 2002) had been demonstrated to have a positive influence on subsidiary performance, leading to a stronger bargaining power for the subsidiary.
However, after testing the hypothesis, Andersson et al. (2007) found that their result rather suggested a negative relationship between external network embeddedness and influence (insignificant result, with a t-value of -1.05). An explanation of this surprising result was suggested; a subsidiary with high external embeddedness might prioritize actors in the external network rather than investing time and resources on intra-MNC relationships, leading to less influence for the subsidiary in question. Since Andersson et al. (2007) tested this relationship quite recently and got a negative result, it seems logical to assume that there is a negative relationship between network orientation and influence. Our third hypothesis is therefore:

**Hypothesis 3:** There’s a negative relation between an active network orientation of the subsidiary and subsidiary influence.

**Motivation**

Motivation forms a major part of organization culture theory and is usually defined in terms of norms and values (Schwartz, 1997). Dimitratos & Plakoyiannaki (2003) described motivation as managers and employees willingness to initiate, direct and energize human behavior towards achieving the goals of the firm abroad. Zahra & Dess (2001) considered human capital as a key factor that firms possess in order to take advantage of entrepreneurial opportunities. To further extend this reasoning, individual traits have been linked to entrepreneurial performance, for example, a manager’s willingness to reach high achievements could enhance entrepreneurial progress (DeCarlo & Lyons, 1979). In other words, a motivated manager could be essential for entrepreneurial performance.

To summarize the previous paragraph; motivation is central for both the subsidiary’s entrepreneurial performance and its overall success in host market. Considering the importance of these concepts, it can be assumed that subsidiary motivation can function as a resource that HQ is dependent on. We thus argue that the degree of motivation among managers and employees in subsidiaries has a positive relation to subsidiary influence over strategic decisions taken by HQ. This leads to the final hypothesis:

**Hypothesis 4:** There’s a positive relation between subsidiary motivation and subsidiary influence.
3. Method

In this paper, a quantitative methodology has been applied to examine the relationship between entrepreneurial competencies and subsidiary influence. This approach enables us to determine if there is a relationship and how strong the relationship is. Further, a quantitative methodology enables us to use statistical inference to draw general conclusions. Previous research papers on entrepreneurship have used this course of action to examine different connections between subsidiary characteristics and subsidiary power/influence; Andersson & Pahlberg (1997) examined the relationship between technological position and subsidiary influence and Scott et al. (2010) studied a number of different hypotheses through a quantitative approach. Previous research papers have also separately applied entrepreneurial competencies and subsidiary influence as variables in regression analysis (Andersson et al., 2007; Liouka, 2007). Thus, these concepts have already been tested and operationalized, which makes it reasonable to use these previous constructed frameworks in our research paper, mainly because we can apply them in a way that would be in alignment with previous research. This fact strengthens the argument that a quantitative methodology should be used, since operationalizing theoretical concepts in a compelling way can be challenging.

A qualitative approach would have allowed us to dig deeper into the relationship between entrepreneurial competencies and subsidiary influence. This approach could have shed some light on questions in the nature of how, why and when. However, if a qualitative approach had been used, the sample size had been smaller and thus would the use of statistical tools been limited and no general conclusion could have been drawn. Since our goal with this paper is to examine to which extent entrepreneurial competencies affects subsidiary influence, we argue that for the purpose of our research question, a quantitative approach is preferable.

3.1 Sample

In order to investigate if entrepreneurial competencies affect subsidiary influence, a quite large number of subsidiaries had to be studied. To achieve this, the Amadeus database was used, which contains a large number of European enterprises (Amadeus, 2012). To narrow down the sample to a manageable amount, four filters were used. These filters enabled us to sort out those subsidiaries that did not have the appropriate characteristics for this study. First, in research on subsidiary entrepreneurship, it is customary to examine foreign-owned
subsidiaries where the MNC controls more than 50% of the votes (Birkinshaw, 1997; Birkinshaw, 1999; Liouka et al. 2006; Zahra et al., 2000). Therefore, a filter supporting these requirements was applied. Second, for practical reasons, only subsidiaries operating in Sweden were included. To solely focus on Swedish enterprises could perhaps be a limitation. However, several researchers have emphasized that Swedish companies share many characteristics with companies in other European countries (Franko, 1976; Hedlund and Åman, 1984; Håkansson, 1990). Third, a filter disabling subsidiaries with less than 50 employees was applied; since it is likely to assume that small subsidiaries have less influence on decisions taken by HQ. Fourth, in accordance with Birkinshaw et al. (2005) and Zahra et al. (2000), a number of industries were chosen where entrepreneurship is feasible to be important. Primary these industries contained industrial and high tech companies. After applying these four filters, 1085 companies remained in the database. See Appendix 1 for information about the sampling.

To further narrow down the sample size, subsidiaries that primarily focuses on sales and agency operations were excluded, since it is likely that entrepreneurship is of minor importance for such subsidiaries (Zahra et al., 2000). However, the database could not exclude these characteristics. Therefore, roughly two thirds of the 1085 subsidiaries were manually removed by controlling their business description (Allabolag, 2012). After this step, 358 subsidiaries remained. Our target respondents for the study were the managing directors of these 358 subsidiaries, because our respondents needed to possess the necessary knowledge to answer questions regarding entrepreneurial competencies and influence. After searching for suitable respondents on the subsidiaries web pages, contact information was gathered for 145 subsidiary managers. Since web pages often don’t disclose contact information, we had to reach out to the remaining 213 subsidiaries and ask them for the name and email address of their managing director. After this process, our final sample size was 202.

3.2 Data Collection

When choosing a quantitative methodology, two of the main obstacles to overcome were reaching out to subsidiary managers and getting them to participate. To solve these problems, a web survey was formed and sent out to the 202 email addresses that had been acquired. This course of action made it possible to contact the managers directly without going through any intermediaries. Because it was crucial to gather as many answers as possible, this approach
seemed to fit our purpose in a compelling way. The negative aspect regarding internet based questionnaires is that they usually have low response rates. However, after gathering more than 200 email addresses, we felt confident that a quite large number of subsidiary managers would participate.

When constructing our questionnaire, two factors were of significant importance; length and clarity. The questionnaire was intended to be easy to understand and fill out, to reduce the risk of misunderstandings. We also wanted our questionnaire to relatively short for two reasons; first, a long questionnaire may scare of respondents because they perceive it to be time consuming. Second, if the questionnaire contains too many questions, respondents might lose patience and answer the latter part of the questionnaire in a less thorough manner. When taking these considerations into account, a questionnaire containing 26 multiple choice questions was constructed. The questions were built on a 1-5 Likert scale, which is customary among research papers in the subsidiary entrepreneurship field (Andersson & Pahlberg, 1997; Liouka et al., 2006; Zahra et al., 2000). The complete questionnaire can be found in appendix 2.

3.3 Variables

Each variable was measured through five or six items. To operationalize the variables, an additive index was calculated. This implies that all answers regarding one variable were added together and then divided by the total number of questions (in others words, the mean was calculated). Each respondent thus had a total of five different indices (four independent indices and one dependent index), which were later used in the regression analysis.

Independent variables

The four independent variables were computed using 21 questions (see question 1-21, appendix 2). 16 of these have previously been used by Liouka (2007). The questions regarding entrepreneurial orientation, market-learning orientation and network orientation have therefore been tested in earlier research papers. For these variables, Cronbach alpha varied between 0.73 and 0.78. After reviewing the subsidiary entrepreneurship literature, it became clear that motivation - even though applied by Liouka et al. (2006) - is the least
studied entrepreneurial competence. As a consequence of this, no established or even suggested way of measuring subsidiary motivation was available. Hence, five questions were formed based on what stood out as important in regard to theory about subsidiary motivation (DeCarlo & Lyons, 1979; Dimitratos & Plakoyiannaki, 2003; Zahra & Dess, 2001). Further, Wherry and South (1977) formulated a number of questions to measure motivation in the workplace. Even though these questions are not directly applicable to our purpose, they gave us some insight on how functioning questions could be formulated. When measuring motivation in this paper, focus was on capturing employees and managers willingness to take own initiatives, strive for promotions and their propensity to show their skills and abilities. The unidimensionality and internal consistency of these five questions were tested by examining the intercorrelation between the questions. The Cronbach alpha was 0.84.

**Dependent variable**

Subsidiary influence can be measured in many different ways. In this paper, subsidiary influence is conceptualized and measure in a similar way as Andersson and Pahlberg (1997). They measured subsidiary influence through five questions, which were highly intercorrelated with a Cronbach alpha of 0.72. Unfortunately, the questions could not be applied in the exact same manner because Andersson and Pahlberg constructed their questions for HQ personnel to answer. Minor changes were made in order to make these five questions applicable for subsidiary managers. Our questions regarding subsidiary influence can be found in appendix 2, questions 22-26. Since modifications were made, we wanted to make sure that our questions were highly intercorrelated. The Cronbach alpha was 0.79.

### 3.4 Statistical Methodology

An OLS regression analysis was performed to answer the four hypotheses. Influence was set as the dependent variable and entrepreneurial orientation, market-learning orientation, networking orientation and motivation were set as explanatory variables. From this model, entrepreneurial competencies were tested against subsidiary influence and each variable was tested on the 5 respectively 10 percent level. The whole model was also tested on the 5 respectively 10 percent level. Further, the overall goodness of fit for the whole model was tested; this was done through the $R^2$-value and the $R^2$-adjusted value. This procedure was
repeated after excluding non-significant variables to determine which regression model that explained the variation in the dependent variable in the most compelling way. Finally, we tested the best model for multicollinearity and normality. Multicollinearity was tested through $R^2$ from auxiliary regressions and normality was examined through the Jarque-Bera test.

3.5 Reliability and Validity

In the study, transparency in used methods has been high and we cannot see any clear obstacles preventing other researchers from replicating the study. Our sampling method can easily be copied and the questionnaire can be found in appendix 1. Furthermore, we believe that the time perspective will not be a problem if replications are to be made. However, if a replication is performed years from now, inconsistent findings could occur if corporate structures have changed. As mentioned in section 3.3, Cronbach alpha were used to measure the internal consistency of the questions. The values varied between 0.73 and 0.84, which generally is viewed as quite high. These values imply that the questions coupled to each variable to a high degree measured the same thing, which is a necessity in order to have high reliability.

The fact that the majority of the questions in our questionnaire had been tested and fine-tuned in previous studies strengthens the validity of the survey; we believe the questions were straightforward, easy to answer and that they really measured the variables they set out to measure. Concerning cause and effect, we are confident that a possible connection between the independent variables and the dependent variable derive from this relationship. However, there might also be other factors affecting subsidiary influence. Previous studies have argued that subsidiary size and subsidiary age might have impact on subsidiary influence. These control variables have been tested previously and their impact have been relatively small and statistically insignificant (Liouka et al., 2006; Scott et al., 2010; Zahra et al., 2000). Andersson & Pahlberg (1997) tested subsidiary size specifically against subsidiary influence and the control variable (which was insignificant) could only explain 3% of the variation in the dependent variable. Thus, previous research shows that subsidiary size and subsidiary age can affect subsidiary influence, but this effect has been proven to be relatively small.

As mentioned in section 3.1, only subsidiaries operating in Sweden were included in the study, this implies that the generalizability of this study’s results may be limited. However, as
previously mentioned, Sweden shares many characteristics with other European countries and we believe that this is also true for many of the other industrial countries around the world. Another aspect that may have impact on our study’s generalizability is the fact that subsidiaries where entrepreneurial competencies were assumed to be of little importance (e.g., those engaged in retail) were excluded. Among these subsidiaries entrepreneurial competencies might have had other effect on influence in comparison to the studied subsidiaries. Therefore, the generalizability of the study’s result is doubtful for some types of subsidiaries. However, since entrepreneurial competencies can be assumed to be of minor importance for many subsidiaries, it does not really matter if the coefficient of determination on influence is different for those subsidiaries. Hence, it can be argued that the overall generalizability of the study is quite good and thereby not have any significantly negative impact on the study’s validity.

3.6 Limitations

Because our survey was performed through a web-based questionnaire, the opportunity to answer questions that respondents might have had when filling out the questionnaire were limited to email communication. This quantitative methodology also made it difficult to do follow-ups on the answers we received, thus we would have had little chance to investigate illogical answering patterns if this problem would have occurred. The course of action used to gather our sample also had some limitations; after gathering 1085 companies from the database, we manually excluded a big number of subsidiaries in accordance to the criteria’s mentioned in section 3.1. The fulfillment of these criteria’s were hard to determine in some cases, thus subjective decisions had to made. However, the manual excluding process was carefully executed and the number of unsuitable companies in our survey should be low. Further, only single-source data has been used. In other words, subsidiary managers answered all of the questions regarding subsidiary entrepreneurial competences and subsidiary influence. If HQ personnel also had been included in our research, it is possible that our result would have been different. Lastly, because of time constraints, no pilot survey was conducted. Performing a pilot survey would have been preferable, but since the majority of our questions had previously been tested, we believe that this limitation did not harm our result to any greater extent.
Statistical limitations

The sample used in our research has some statistical limitation. First, our sample is not collected randomly; this fact prevents us from drawing general conclusions about all foreign-owned subsidiaries in Sweden. Since we chose to focus on subsidiaries with certain types of characteristics, our results should be used and interpreted with caution. Second, our sample size is not big enough to rely on the central limit theorem. Thus, assuming normality among our residuals is highly doubtful. From a pure statistical point of view, this is a serious problem because there is no ways of knowing which distribution our residuals follow. This problem does not affect our ability to use the least-square method, which implies that creating a regression model with OLS still is valid. However, if a normality test does not indicate normality among the residuals, the use of statistical inference is questionable; tests and confidence intervals could be misleading and should be analyzed with caution. Third, multicollinearity was quite high between some of our independent variables. High correlation between the independent variables does not have an effect on our OLS estimates per se unless the correlation is perfect, but it could make independent variables insignificant even though they should be significant. Further, it should also be noted that a small sample size could be the reason behind insignificant variables and an uncertain $R^2$-value, since a single respondents can affect the statistical outcome relatively much.
4. Regression analysis

As reported earlier, a total of 202 questionnaires were sent out to managing directors of foreign-owned subsidiaries. We received 60 replies, which results in a response rate of 29.7%. This response rate is in alignment with previous studies in the same research field (e.g., Rosenzweig & Nohria 1994; Zahra et al., 2000). None of the answered questionnaires had to be removed because of illogical response patterns or uncompleted questionnaires. Thus, all of the 60 responses were included in our research. After calculating the five indices (one for each variable), the regression analysis was performed. Descriptive statistics regarding each variable can be found in table 1 on the next page. The first step of our analysis was to test entrepreneurial competencies against subsidiary influence. When all four explanatory variables were included in one regression model, our $R^2$-value was 20.4% and the $R^2$-adjusted value was 14.6%. The model was significant with an F-value of 3.53 ($P=0.012$). Entrepreneurial orientation and Market-learning orientation were both positively connected to subsidiary influence. Entrepreneurial orientation was significant on the 5% level ($P=0.029$) and market-learning orientation was almost significant on the 5% level ($P=0.057$). Networking orientation was also positively connected to subsidiary influence, but the variable was not significant on the 5% level or the 10% level ($P=0.333$). Motivation was the only variable with a negative connection to subsidiary influence. Motivation was almost significant on the 5% level ($P=0.069$).
In the second step of our analysis, we removed variables from the model to see how this affected other explanatory variables and the overall goodness of fit (R^2-adjusted). When entrepreneurial orientation or market-learning orientation were removed, R^2-adjusted decreased dramatically, which indicates that these two variables explains a big portion of the model’s overall goodness of fit. Since these variables had low p-values, removing them from the model was performed mainly to test the stability of the model. Thereafter we tested to exclude networking orientation since this variable had the highest p-value (P= 0,333). After removing networking orientation, the model actually explained more of the variation in the dependent variable (R^2-adjusted= 14.7 %). Furthermore, both entrepreneurial orientation and market-learning orientation were now significant on the 5 % level (P= 0,026 and P= 0,043). Motivation was however still insignificant on the 5 % level (P= 0,085). The increased R^2-adjusted value shows that networking orientation does not add anything in regards to explaining why some subsidiaries can influence strategic decisions taken within the MNC. This variable was also highly correlated with the other explanatory variables, which makes multicollinearity a problem (appendix 3). Networking orientation was therefore removed from the model permanently. This new model including entrepreneurial orientation, market-learning orientation and motivation were clearly significant (F-value= 4.39, P= 0,008). Since motivation still was insignificant, this variable was also questionable to include. However, after excluding motivation, the R^2-adjusted value decreased from 14.7 % to 11.6 % and market-learning orientation became insignificant. Motivation was hence included in the model even though the variable was only significant on the 10 % level. The final model had an R^2-value of 19.0 %, which implies, according to this model, that entrepreneurial competencies affects subsidiary influence.
Normality test and multicollinearity test

The final model, consisting of entrepreneurial orientation, market-learning orientation and motivation as explanatory variables, was tested for normality and multicollinearity. The Jarque-Bera test was insignificant on both the 5 and 10 percent (P=0.12), this indicates normality among the residuals. When testing for multicollinearity, we found that the correlation between some of the explanatory variables was somewhat high, but no perfect correlation was detected (see appendix 3 for correlation matrix).
5. Discussion

From the regression analysis, two of the variables had results in accordance with their hypotheses; entrepreneurial orientation and market-learning orientation were both positively related to subsidiary influence and both variables were statistically significant. This result indicates that these two concepts are not only positively connected to subsidiary performance (Liuoka et al., 2006), they also affect the subsidiaries ability to promote their own interests when strategic decisions are taken within the MNC. When analyzing these two variables, a number of interesting reasoning patterns could be stated form this new realization. Regarding entrepreneurial orientation, we suggest that the logical reason behind this positive relationship is in accordance with the theoretical framework of this paper; MNCs become dependent on subsidiaries that have a propensity to bear risk and an ability to seize opportunities in local markets. This dependence is thus based on a continuous need of the MNC for new innovations and entrepreneurial orientation could thus be regarded as a resource, which the subsidiary holds. The mentioned explanation could be especially accurate for MNCs where entrepreneurship and new innovations are of major importance.

This finding also bring some implications for future studies on subsidiary roles; Reilly and Scott (2010) had an interesting propositions and argued that entrepreneurial orientation could work as a complementary variable to integrating mechanism and knowledge flows. This line of thought suggests that entrepreneurial orientation can be seen as a knowledge-contributing characteristic that expands the subsidiaries knowledge pool and thus also affect the subsidiaries knowledge transfer. Gupta and Guvindarajan (1991) defined subsidiary roles through knowledge transfer and concluded that subsidiaries obtain different roles depending on if they are a giver or receiver of knowledge. Since the theoretical framework of this paper builds on the resource dependence theory, our result regarding entrepreneurial orientation indicates that this variable can be seen as a dependence creating resource. Thus, the result also gives a small indication that a possible relationship exists between entrepreneurial orientation and subsidiary roles. However, Reilly and Scott’s suggestion should receive further attention. By examining how entrepreneurial orientation affect the role a subsidiary has, an increased understanding regarding underlying determinants that constitutes subsidiary roles could be gained.
The results in this paper also bring some interesting insights regarding market-learning orientation. While previous research papers have proven that the ability to acquire and integrate foreign knowledge is vital for development, performance and innovations (Paladino, 2008; Zahra et al., 2000), our results indicates that market-learning orientation as an element of subsidiary entrepreneurship can affect power structures within the MNC network. According to resource dependence theory, the knowledge acquired from foreign markets by subsidiaries is seen as resource which other MNC entities become dependent upon. From this reasoning, two interesting suggestions arise; *first*, we believe that different types of foreign market knowledge lead to different amount of subsidiary influence. Since resources held by subsidiaries needs to be demanded by other MNC entities for influence to occur (Liouka, 2007), we suggest that not only competitor and customer focused market knowledge are essential in this discussion. *Second*, we propose that market-learning orientated subsidiaries located in different markets will receive different amounts of subsidiary influence. It seems logical to assume that subsidiaries located in big and industrialized markets would attain a more influential position. However, previous research has indicated that subsidiary nationality as a control variable is of minor importance when industrialized markets have been examined (e.g., Zahra et al., 2000). Hence, we believe it could also be the other way around, that market knowledge acquired in smaller and unexploited markets leads to subsidiary influence primarily, since such knowledge could identify previously unknown needs and possibilities.

Both these suggestions should receive further attention to enhance the understanding regarding market-learning orientation.

Networking orientation was the only insignificant variable on both the 5 and 10 percent level and the variable was thus removed from the model. Even though insignificant variables should be analyzed with caution, our results bring some interesting remarks. In this paper, networking orientation was positively related to subsidiary influence and the result was not consistent with the hypothesis. This result is also inconsistent with Andersson et al. (2007) finding; their research paper presented a negative (insignificant) relationship between networking orientation and subsidiary influence. These contradictory results could be explained in two ways; (1) as mentioned in the theory section 2.5, a subsidiary with high external embeddedness could prioritize actors in the external network rather than investing time and resources on intra-MNC relationship, which implies that the connection between networking orientation and subsidiary influence is negative. (2) From networking relationships, subsidiaries can attain knowledge from network partners that could be of value...
to other MNC entities, this reasoning could explain why networking orientation is positively connected to subsidiary influence. Even though both these explanations could be valid, networking orientation did barely explain any of the variation in the dependent variable (the $R^2$-adjusted value decreased with networking orientation in the model) and, as mentioned earlier, the variable was insignificant. This leads to the conclusion that networking orientation has a small effect on subsidiary influence and a clear statement regarding how it affects subsidiary influence cannot be drawn.

The result concerning motivation was in many ways the most surprising. The variable was significant at the 10 percent level and the effect on subsidiary influence was negative. This result was also inconsistent with the formulated hypothesis. It would be preferable to investigate this surprising relationship more thoroughly in order to clarify if the result on motivation is due to randomization or if it actually is true that subsidiaries with motivated employees and managers receive less influence over strategic decisions. It seems to us as a somewhat strange relationship. However, some logical explanations could be stated. First, subsidiaries with motivated personnel might be more “satisfied” than other subsidiaries and thus demand less change from HQ. This could result in limited communications between the two and the subsidiary in question could hence perceive to have little influence over decisions taken at the HQ level. Second, HQ might not prioritize subsidiaries were employees and managers are motivated and rather focus on dysfunctional subsidiaries, in order to improve morale and motivation in those subsidiaries. This reasoning could also imply that the communication between motivated subsidiaries and HQs is more limited, which leads to less influence for motivated subsidiaries over strategic decisions. Third, it is possible that highly motivated subsidiaries in general are result-orientated and prioritize the success of the subsidiary rather than being active in the MNC network. This line of thought could also give an indication to why motivated subsidiaries receive less influence over strategic decisions. Even though these three explanations could give some sort of explanation to this surprising relationship, future studies should dig deeper into questions regarding subsidiary motivation and its effect on subsidiary influence and subsidiary roles.

After networking orientation was omitted, the final model obtained through the regression analysis contained three independent variables; entrepreneurial orientation, market-learning orientation and motivation. These variables together explained 19 % of the variation in the dependent variable and were significant on the two star level ($P=0.008$). We find this $R^2$-value to be quite high, considering the fact that the aim of this paper was to examine whether
entrepreneurial competencies have a significant explanatory value for the variation in subsidiary influence. Based on this result, we argue that entrepreneurial competencies can be viewed as an important resource which other MNC entities become dependent on. Further, we suggest that this finding mainly result from the increased importance of entrepreneurship at the subsidiary level (Birkinshaw, 1997). In other words, HQ and other sister subsidiaries give influential power to subsidiaries which have internal characteristics that promote innovations and new developments.
6. Concluding Remarks

Andersson and Pahlberg (1997) argued that the possibility subsidiaries have of influencing strategic behavior arises from the position they obtain through controlling physical and/or knowledge based resources needed by other actors within the MNC network. The result of their study proved that technological position could function as such a resource, with technological position alone explaining 29% of the variation in subsidiary influence over strategic decisions. In this paper, we have in accordance with the previously mentioned article, argued that subsidiaries can become influential through their possession of resources needed by other MNC entities and it was argued that entrepreneurial competencies might have the potential to function as a resource that other entities within the MNC network become dependent upon. As a result of our survey, a model containing three independent variables was developed, including entrepreneurial orientation, market-learning orientation and motivation. This model was found to have a P-value of 0.008 and could explain 19% of the variation in the dependent variable. Based on this result, we argue that another explanation, besides technological position, is given to why some subsidiaries can exercise influence over strategic decisions.

Our study adds to the understanding regarding why some subsidiaries become influential. However, even though it has been shown that subsidiary entrepreneurial competencies and technological position explain a significant portion of the influence subsidiaries obtain, several other factors are probably also of importance. In order to bring better understanding regarding what affects subsidiary influence, we suggest that additional factors with potential impact on the influence subsidiaries attain should be tested. In future research, different variables with a proven relationship to influence could be studied together, in order to determine how much of the variation in influence can be specifically linked to a single concept, for example subsidiary entrepreneurial competencies.

Besides the recommendations on future research that were given in the discussion section, we here give some further suggestions for future research on subsidiary influence. In this paper the internal factors of subsidiary entrepreneurship was studied. We recommend that future research on subsidiary influence also should emphasize the external factors of subsidiaries; preferably the environmental context that enables subsidiary entrepreneurship could be studied. The environmental context can be expressed through the level of competition and the
exploitable opportunities in the host market (Covin & Slevin 1989), as well as by the rate of change in the industry and the unpredictability of actions taken by competitors and customers (Lawrence & Lorsch, 1967; Thompson, 1967). Beside environmental context, a few other subjects for future research that also might affect subsidiary influence are suggested here; psychic distance, subsidiary performance, subsidiary role, position in production chain, type of industry and corporate structure.

For management, understanding how subsidiary entrepreneurial competencies affect subsidiary influence can be of importance. The result of this paper shows that subsidiaries may increase their influence over strategic decisions by promoting and utilizing opportunities in the local environment. This indicates that organizational structures, which promote entrepreneurial activities and innovation development at the subsidiary level, might unintentionally give power to subsidiaries and thus also decrease the decision power of the HQ. In other words, the decentralization of entrepreneurial activities might have come at the expense of headquarters attaining weaker control over strategic decisions. For HQ managers, this reasoning implies that HQs decision power and future innovations can affect each other negatively, especially if subsidiaries stand for a large portion of the entrepreneurial progress within the MNC. However, it might be unwise if attempts were to be made by the HQ to strengthen control over their subsidiaries through centralizing entrepreneurial activities, as argued by Håkanson:

"the issue is not how to control activities in the subsidiary, but how to exploit its entrepreneurial capability to the benefit of the group as a whole" (Håkanson, 1990, p. 262).
7. References

Written sources


Electronic Sources


8. Appendix

Appendix 1
The sampling process is described through a transcript from the Amadeus database. The four filters that were applied can be found below point two, three and four. Also, the final number of received companies from the filtering is shown.

<table>
<thead>
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<th>Product name</th>
<th>Amadeus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Update number</td>
<td>218</td>
</tr>
<tr>
<td>Software version</td>
<td>7.07</td>
</tr>
<tr>
<td>Data update</td>
<td>23/11/2012 (n° 2182)</td>
</tr>
<tr>
<td>Username</td>
<td>Gothenburg Library-6809</td>
</tr>
<tr>
<td>Export date</td>
<td>23/11/2012</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step result</th>
<th>Search result</th>
</tr>
</thead>
<tbody>
<tr>
<td>479,866</td>
<td>479,866</td>
</tr>
</tbody>
</table>

1. All active companies and companies with unknown situation
2. Foreign subsidiaries: Def. of the UO: min. path of 50.01%, known or unknown shareh.
   Subsidiaries located in Sweden (SE) owned by an UO or not ult. owned but owned by at least 51%; May have other shareh. in the foreign country
   3,121
   3,096
3. Cos owning at least one subs.: of one of the following types: Industrial companies, owned between 0.00% and 100.00% or with an unknown % and with a given no of empl. of min 50
   67,847
   2,015
   204,700
   1,085
<table>
<thead>
<tr>
<th>43</th>
<th>Specialised construction activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>49</td>
<td>Land transport and transport via pipelines</td>
</tr>
<tr>
<td>50</td>
<td>Water transport</td>
</tr>
<tr>
<td>51</td>
<td>Air transport</td>
</tr>
<tr>
<td>59</td>
<td>Motion picture, video and television programme production, sound recording and music publishing activities</td>
</tr>
<tr>
<td>60</td>
<td>Programming and broadcasting activities</td>
</tr>
<tr>
<td>61</td>
<td>Telecommunications</td>
</tr>
<tr>
<td>62</td>
<td>Computer programming, consultancy and related activities</td>
</tr>
<tr>
<td>70</td>
<td>Activities of head offices, management consultancy activities</td>
</tr>
<tr>
<td>71</td>
<td>Architectural and engineering activities, technical testing and analysis</td>
</tr>
<tr>
<td>72</td>
<td>Scientific research and development</td>
</tr>
<tr>
<td>74</td>
<td>Other professional, scientific and technical activities</td>
</tr>
<tr>
<td>80</td>
<td>Security and investigation activities</td>
</tr>
<tr>
<td>98</td>
<td>Undifferentiated goods- and services-producing activities of private households for own use</td>
</tr>
</tbody>
</table>
Appendix 2

Survey on Multinational Subsidiary Entrepreneurship In Sweden

About the Survey
We are two students from Uppsala University who are performing a study on foreign-owned subsidiaries in Sweden. The aim of our research is to examine the connection between subsidiary entrepreneurship and subsidiary influence. To be able to perform this study, we need foreign-owned subsidiaries in Sweden to answer 26 questions about subsidiary characteristics. Thus, we would be grateful if you took the time and completed our questionnaire.

Information about the questionnaire
- For the purposes of this study, the term subsidiary refers to the facility/office with which you are directly associated.
- This questionnaire will take around 5 minutes to fill out.
- Your responses will be strictly confidential and no firm will be named in any publications that follow from the analysis of the collected data.
- If you have any questions regarding the questionnaire or our research in general, please don’t hesitate to contact us.

Henrik Espvall +46702362161 Henrik.Espvall@gmail.com
Victor Ostling +46702225894 Victor.Ostling@gmail.com

* Required

Entrepreneurial orientation

1. In general, in this subsidiary the offerings we provide are... *

   1  2  3  4  5
   “Tried and tested”   ○   ○   ○   ○   ○ “Innovative and novel”

2. How many new offerings has this subsidiary brought to the market during the past three years? *

   1  2  3  4  5
   No new offerings   ○   ○   ○   ○   ○ Very many offerings

3. Of which nature has changes in this subsidiary’s offerings been over the past three years? *

   1  2  3  4  5
   Changes in offerings have been mostly of minor nature   ○   ○   ○   ○   ○ Changes in offerings have usually been quite dramatic
4. In general, with regard to risk, this subsidiary has... *

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>A strong propensity for low risk projects (with normal and certain rates of return)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>A strong propensity for high risk projects (with chances of very high returns)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

5. In general, in this subsidiary we believe that due to the nature of the market...

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>It is best to explore it gradually via cautious, incremental actions</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Bold, wide-ranging acts are necessary to achieve this subsidiary’s objectives</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

6. When confronted with decisions involving uncertainty, this subsidiary typically...

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adopts a cautious, “wait and see” posture in order to minimise the probability of making costly decisions</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Adopts a bold, aggressive posture in order to maximise the probability of exploiting potential opportunities</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

**Market-Learning Orientation**

7. This subsidiary responds fast to customers needs *

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly disagree</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

8. This subsidiary measures customer satisfaction on a regular basis *

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly disagree</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

9. In this subsidiary, customer information is shared throughout functions and departments *

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly disagree</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
10. This subsidiary has formal or informal processes... *
For continuously collecting information about customers and competitors

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly disagree</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

11. This subsidiary has formal or informal processes... *
For using information about the market in subsidiary problem solving

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly disagree</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Networking Orientation**

12-16. Please indicate the extent to which this subsidiary has cooperated with the following organisations in performing its business activities *

1=Not at all 5=Very much

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customers</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Suppliers</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Distributors</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>External consultants</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Government organisations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Motivation

17-21. Please answer the following questions regarding subsidiary motivation.

1 = Very low 5 = Very high

<table>
<thead>
<tr>
<th>Question</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>The overall motivation among employees/managers for achieving subsidiary goals are</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employees/managers strive for promotions are</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employees/managers willingness to show their skills and abilities are</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employees/managers willingness to take own initiatives are</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employees/managers willingness to present new ideas are</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Subsidiary Influence

22-26. Please indicate if this subsidiary has considerable influence on decisions taken by the HQ regarding...

1 = Totally disagree 5 = Fully agree

<table>
<thead>
<tr>
<th>Question</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Where to locate R&amp;D-units within the multinational corporation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Where to place production units within the multinational corporation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Investments in R&amp;D</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Investments in new products and services</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acquisitions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix 3

Statistical data

**Model 1**

Influence = 0.37 + 0.490 Entrepreneurial orientation + 0.534 Market-learning orientation + 0.202 Networking orientation - 0.459 Motivation

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Coef</th>
<th>SE Coef</th>
<th>T</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>0.371</td>
<td>1.020</td>
<td>0.36</td>
<td>0.717</td>
</tr>
<tr>
<td>Entrepreneurial orientation</td>
<td>0.4896</td>
<td>0.2190</td>
<td>2.24</td>
<td>0.029</td>
</tr>
<tr>
<td>Market-learning orientation</td>
<td>0.5336</td>
<td>0.2748</td>
<td>1.94</td>
<td>0.057</td>
</tr>
<tr>
<td>Networking orientation</td>
<td>0.2020</td>
<td>0.2068</td>
<td>0.98</td>
<td>0.333</td>
</tr>
<tr>
<td>Motivation</td>
<td>-0.4595</td>
<td>0.2479</td>
<td>-1.85</td>
<td>0.069</td>
</tr>
</tbody>
</table>

S = 0.993907  R-Sq = 20.4 %  R-Sq(adj) = 14.6 %

**Analysis of Variance**

<table>
<thead>
<tr>
<th>Source</th>
<th>DF</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>4</td>
<td>13,9456</td>
<td>3,4864</td>
<td>3.53</td>
<td>0.012</td>
</tr>
<tr>
<td>Residual Error</td>
<td>55</td>
<td>54,3318</td>
<td>0.9879</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>59</td>
<td>68,2773</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Model 2

Influence = 0,757 + 0,499 Entrepreneurial orientation + 0,565 Market-learning orientation - 0,432 Motivation

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Coef</th>
<th>SE Coef</th>
<th>T</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>0,7568</td>
<td>0,9404</td>
<td>0,80</td>
<td>0,424</td>
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<tr>
<td>Entrepreneurial orientation</td>
<td>0,4992</td>
<td>0,2186</td>
<td>2,28</td>
<td>0,026</td>
</tr>
<tr>
<td>Market-learning orientation</td>
<td>0,5649</td>
<td>0,2728</td>
<td>2,07</td>
<td>0,043</td>
</tr>
<tr>
<td>Motivation</td>
<td>-0,4320</td>
<td>0,2462</td>
<td>-1,75</td>
<td>0,085</td>
</tr>
</tbody>
</table>

$S = 0,993492$  $R-Sq = 19,0 \%$  $R-Sq(adj) = 14,7 \%$

Analysis of Variance

<table>
<thead>
<tr>
<th>Source</th>
<th>DF</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>3</td>
<td>13,0039</td>
<td>4,3346</td>
<td>4,39</td>
<td>0,008</td>
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<tr>
<td>Residual Error</td>
<td>56</td>
<td>55,2734</td>
<td>0,9870</td>
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<td></td>
</tr>
<tr>
<td>Total</td>
<td>59</td>
<td>68,2773</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Correlation matrix

<table>
<thead>
<tr>
<th></th>
<th>Motivation</th>
<th>Network</th>
<th>Market-Learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Network</td>
<td>0,224</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Market-Learning</td>
<td>0,556</td>
<td>0,233</td>
<td></td>
</tr>
<tr>
<td>Entrepreneurial</td>
<td>0,264</td>
<td>0,135</td>
<td>0,371</td>
</tr>
</tbody>
</table>

Cell Contents: Pearson correlation

Jarque-Bera

P= 0,13

The null hypothesis is accepted.