The impact of changes in subsidiary autonomy and network relationships on performance

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Abstract

This paper reports the findings from 421 foreign owned subsidiaries located in the UK, Germany and Denmark. In this paper, we predict that increases in autonomy, intra- and inter-organizational network relationships of a subsidiary lead to increases in subsidiary performance. Further, we expect that increased autonomy leads to increased network relationships of the subsidiary, and that increased intra-organizational network relationships leads to increased inter-organizational network relationships of the subsidiary. However, the indirect effect is most significant, i.e., that interdependency between autonomy and network derives highest performance effect compared to isolated increases in the three factors respectively. Finally, we find host country differences. In Denmark and in the UK, the best performance effects are achieved by emphasizing autonomy and the further strengthening of inter-organizational relationship. In contrast, in Germany it makes most sense to call attention to intra-organizational integration, as increases in autonomy are significantly and negatively related to performance.

Introduction

Immense variations exist in the scale and scope of subsidiary activity and mandates. Roth & Morrison (1992) pointed out that subsidiaries typically have been operating within a narrow set of the value-chain, as the parent company has allocated different mandates or set of activities to its subsidiaries. Even though parent company facilitates integration among subsidiaries and thereby aligns activities (Verbeke and Kenworthy, 2008), there is still a high degree of variation in parent company – subsidiary relationship within the same corporation (Nohria and Ghoshal, 1997). Consequently, subsidiaries play different roles in the MNC, and the degree of autonomy and embeddedness into different types of network will vary (White and Poynter, 1984; Birkinshaw and Morrrison, 1995).

Several surveys, further, confirm that some subsidiaries *develop* over time in terms of what role they play in the organization. Reasons for subsidiary role development have been associated to improvement in host country economy (Jarillo and Martinez, 1990; Pearce, 1999; Young and Tavares, 2004), or location in leading edge clusters (Birkinshaw and Hood, 2000). While the subsidiary can strengthen its resources by establishing inter-organizational network relationships, it can likewise reach similar effects through intra-organizational network relationships (Forsgren et al., 2005). Another key factor explaining subsidiary role development has been the internal processes of the subsidiary and its' possessing of resources. The entrepreneurial efforts of the subsidiary, often manifested through R&D processes, have been investigated in relation to subsidiary role development (Hood et al., 1994; Pearce, 1999; Taggart, 1998; Birkinshaw, 1999; Bouquet and Birkinshaw, 2008). In general, the subsidiary's ability to build specific advantages, or create competence, has had an impact on its role development (Moore, 2001; Cantwell and Mudambi, 2005).

Including the aspect of subsidiary autonomy adds the element of resource dependency situations, as the subsidiary on the one hand over time tends to develop increasingly heterogeneous sets of relationships with other organizations and units (Pfeffer and Salancik, 1978) and increase the level of autonomy in relation to most-needed resources (Prahalad and Doz, 1981). Increases in autonomy increase the likelihood of resource immobility between subsidiaries. Resource immobility brings power to the subsidiary because the parent company or other subsidiaries then depend on the subsidiary (Pfeffer and Salancik 1978; Birkinshaw and Hood 1998, Andersson et al., 2007), and such subsidiary specific advantage is, therefore, likely to impact subsidiary evolution positively (Rugman and Verbeke 2001). However, adding the effect of participating in networks moderates these effects. One example is that intra-organizational product flows tend to increase reciprocal interdependencies between the parent company and the subsidiaries, and among the subsidiaries as well (Roth and Morrison, 1992). Luo (2003) investigated this relationship by combining the approaches of resource dependency and dynamic capabilities. His survey showed how parent company's 'control flexibility' (a concept that partly builds on autonomy) and resource commitment and local responsiveness exerted a strong and positive influence on subsidiary performance.

This paper also investigates the impact of network relationships and autonomy on performance (in this case the performance of the subsidiary) as an outcome of changes in the degree of autonomy. In a wider sense, we follow the logic suggested by Kogut & Zander (1992) emphasizing the importance of the 'integrative capabilities' of the firm, being a mix of internal learning processes and external knowledge

inputs. However, the contribution of this paper is its investigation of the *interrelated* effects of subsidiary autonomy and inter- and intra-organizational network relationships on subsidiary performance. Therefore, the direct effect of autonomy and inter, and intra-organizational network relationships on subsidiary performance is investigated, though the indirect effect, like high autonomy affects network relationships, and how intra-organizational network relationships are helpful to the subsidiary to establish inter-organizational network relationships is further being analyzed. Further, the paper analyzes the impact of *changes* in autonomy and network relationships rather than investigating the effect of high or low levels of autonomy and network relationships. We argue, through the development of six hypotheses that increases in autonomy and increases in network relationships lead to increases in performance. Further, we test the indirect relations between autonomy, inter-, and intra-organizational network relationships. Finally, the dataset is unique, as it contains insights from a questionnaire survey on 421 UK, German and Danish located foreign-owned subsidiaries.

The paper is structured in the following way. First, there is a literature review leading to six hypotheses. Then there is a methodology section describing the sample and the constructs. This is followed by empirical analyses ending with the conclusion.

Literature Review

The three key factors connected to the strategic development of subsidiaries in this paper are autonomy, intra- and inter-organisational network relationships. Intra-organisational network relationships are defined by the relationships that the subsidiary has established with the parent company and other subsidiaries within the MNC (Birkinshaw et al., 2005). Through intra-organisational relationships the subsidiary access tangible resources such as capital and equipment, but also intangible resources such as valuable knowledge (Forsgren et al., 2005; Schmid and Schurig, 2003). Inter-organisational network relationships are defined by the relationships the subsidiary has with its customers, suppliers, competitors, and supporting agencies such as governmental and quasi-governmental agencies. Beyond the access to raw materials and employment for production, and market opportunities in terms of sales, inter-organisational network relationships are often associated with tapping into clusters (Birkinshaw and Hood, 2000; Ivarsson, 2002; Papanastassiou and Pearce, 1997; Taggart, 1998). Both in case of intra- and inter-organizational network relationships, subsidiaries, which are strongly embedded into networks, are more likely than lightly embedded subsidiaries to develop competitiveness (Schmid and Schurig, 2003). Such embeddedness can enhance the effectiveness of both backward linkages and forward linkages, and further benefits can arise from increased abilities in gathering and processing information that leads to the acquisition of useful knowledge that enhances the ability to learn and innovate.

Autonomy refers to an organization "in which units and sub-units possess the ability to take decisions for themselves on issues which are reserved to a higher level in comparable organizations" (Brooke, 1984, p. 9). According to Edwards et al. (2002) subsidiaries that have been granted autonomy can more easily carry out their market based transactions due to decreased control by the parent company. However, as Young and Tavares (2004, p. 216) conclude: "Autonomy per se is insufficient" and subsidiary decision-making authority should be investigated in relation to the resources that the subsidiary controls. Autonomy permits subsidiaries a degree of freedom to engage in a variety of market and organizational transactions that can involve a multitude of possible strategic and operational areas and a large number of possible outcomes in terms of resource improvement and related increased economic rents. The relationships

between autonomy, inter-, and intra-organizational networks and related performance effects will be investigated via the below hypotheses.

Hypothesis 1: Subsidiary Autonomy and Intra-organizational Network Relationship

Subsidiary autonomy is seldom static and develops over time. Initially, Gates and Egelhoff (1986) showed that the age of subsidiary related to the decentralization of the MNC. Further, Edwards et al. (2002) and Johnson and Medcof (2007) have demonstrated an inverted U-relationship between subsidiary size and autonomy. Growth in its initiating stage increases resources dependency situations between parent company and subsidiary, which again increases the level autonomy of the subsidiary. However, over time, further growths increases coordinating complexity of the MNC, which again increases the need to make strategic decisions centrally. In addition, acquired companies, which become subsidiaries of an MNC, will initially be left with high autonomy, especially in cases where key value is related to key employees, and hard integration will cause these employees to leave. However, over time integration is needed to reveal synergy effects (Haspeslagh and Jemison, 1991).

The level of autonomy in the subsidiary is, therefore, likely to change over time. One outcome of increased subsidiary autonomy will be a specialization of activity that either reflects high degree of local responsiveness to meet requirements from host county product or niche markets (Bartlett and Ghoshal, 1999; Edwards et al., 2002), or the subsidiary will produce a designated set of components parts leaving sales activities to other corporate units (i.e., defined as rationalized manufacturer by White and Poynter, 1984). However, in both cases, we advocate for an increase in intra-organizational network relationships of the subsidiary. In case of subsidiaries acting as marketing outlets, autonomy is needed to lubricate local market transactions, and the subsidiary will benefit from increased resource flows from parent company or other subsidiaries, as these resource allocations increases the dynamic capability of the subsidiary (Luo, 2003). In case of subsidiaries acting as rationalized manufactures, naturally intra-organizational relationships are needed to effectively handle this systemic dependency between organizational units (Astley and Zajac, 1991). For example, reporting, enquiries and feedback to parent company are needed to for the efficient operation of MNC supply chain. Thus we hypothesize:

H_1: Increases in subsidiary autonomy increases intra-organizational network relationships of the subsidiary

Hypothesis 2: Subsidiary Autonomy and Inter-organizational Network Relationships

Increased autonomy helps subsidiary management to more successfully establish and deal with beneficial inter-organisational network relationships because of a decreased need to obtain approval from the parent company (Birkinshaw et al. 2005). Inter-organisational network relationships also facilitate the subsidiary's ability to utilize local advantages and to develop entrepreneurial capabilities, subsequently leading to improved performance that may result in subsidiaries being granted more autonomy (Birkinshaw et al., 1998; Birkinshaw and Hood, 2000; Boehe 2007; Holm et al., 2003; O'Donnell 2000). Subsidiary innovation processes are in general influenced by local embeddedness (Holm et al., 2005; Mu et al., 2007) and Papanastassiou and Pearce (1997) found that enhanced subsidiary role permit subsidiaries to extend their use of local technological expertise. Consequently, inter-organisational network relationships will in some cases lead to ownership of specific resources upon which upon other units depend (Pfeffer and Salancik,

1978) and are likely to lead to even higher level of autonomy to the subsidiary. These entrepreneurial activities are likely to occur, where the subsidiary for example start up independent R&D projects or product development and new product development projects. These types of entrepreneurial behavior have been found in R&D ventures (Papanastassiou and Pearce, 2005) and in areas such as product and market development (Birkinshaw 2000; Birkinshaw et al., 2005). The freedom to establish links to local sources of R&D and innovation competences are positively associated to the subsidiary's ability to become a centre of excellence (Frost et al., 2002), a unit characterized by high levels of autonomy. Thus we argue:

H_2: Increases in subsidiary autonomy increases inter-organizational network relationships of the subsidiary.

Hypothesis 3: Subsidiary Intra-organizational Networks Relationships and Inter-organizational Network Relationships

As subsidiaries build up more frequent and intensive relationships with partners within the MNC they might obtain leverage from the internalisation effects of collaboration (Buckley and Casson, 1976, Buckley et al., 2004) thereby providing the firm with a greater advantage than operating directly in foreign markets (Hymer, 1976). Kogut and Zander (1992) saw competitive advantage arising from the MNC's ability to transfer the innovations developed in one subsidiary to the rest of the organization. Boehe (2007) also identified the need to combine intra-organizational workflows and local linkages to improve innovation processes. In general, the network type of the MNC is predicted to be most efficient for such combinations (Johnson and Medcof, 2007, Hedlund, 1986). However, absorptive capacity is the lubricant that smoothen cross-functional interfaces among inter- and intra-organisational network relationships (Trent and Monozka, 2002). We argue that the subsidiary is likely to increase its absorptive capacity through its internal relationships. Cohen and Levinthal's (1990) argue that the accumulation of prior knowledge increases the ability to memorize, recall, and utilize new knowledge therefore a subsidiary will, through internal sourcing be able to build up a knowledge reservoir that is helpful when sourcing from other local partners. Support for this effect was found in a survey by Schultz (2003). This notion follows Birkinshaw and Hood's (1997) emphasis on how absorptive capacity is helpful to subsidiary development, as it helps such entities to exploit host country economic developments, and also enhances the ability to attract resources from the parent company. Following this logic it can be argued that increased absorptive capacities achieved through increased intra-organizational network relationships is transferrable to the inter-organizational network of the subsidiary. The systems of absorbing, utilize and dismiss knowledge within the organization is a resource, which the subsidiary can benefit from embedding itself into inter-organizational networks. Thus we argue:

H_3: Increases in intra-organizational network relationships of the subsidiary increases inter-organizational network relationships of the subsidiary

Hypothesis 4: Subsidiary Intra-organizational Relationships and Performance

Recent descriptions of the MNC view such entities as internal markets, where subsidiaries face external competitive pressures and simultaneously they fight for corporate mandates in competition with other subsidiaries (Birkinshaw et al., 2005, Cerrato, 2006). This internal competition is severe in cases of overlaps between the geographical market representation and resource constraints between two or more subsidiaries (Birkinshaw and Lingblad 2005). However, the strategy of cooptition, i.e., subsidiaries simultaneously competing and cooperating with other MNC units, contributes to the achievement of

mutually beneficial outcomes of the MNC (Luo, 2005). Intra-organizational network relationships are therefore helpful for the subsidiary to draw upon resources from this network, which increases its performance *vis a vis* other subsidiaries and local competitors (Luo, 2003; Birkinshaw et al., 2005). Increased intra-organizational network relationship by the subsidiary is therefore positively associated to increased performance. Furthermore, an increase in intra-organizational network relationship is likely to put the subsidiary into a central position in the intra-organizational network (Ghoshal and Bartlett, 2005; Zeitz, 1980) in terms of the type, amount and quality of resources being exchanged with corporate partners, and the density to which exchanges takes place (Forsgren et al., 2005). Astley and Sachdeva (1984) further point to the fact that parent company's (and other organizational units') dependency on the subsidiary is connected to this subsidiary's ability to deal with uncertain environments. Here, Hinings et al. (1974) found that those subsidiaries that were centrally interconnected to other actors in the organizational network, were better and to cope with uncertainty, and therefore had more power than other subsidiaries. Likewise we argue that increases in intra-organizational network relationships increases the ability to handle uncertainties of the local environment, and in addition, decreases the subsidiary's dependency of local resources (Luo, 2003). This will in the end positively have an impact on performance. Therefore we hypothesize:

H_4: Increases of the intra-organizational relationships of the subsidiary increases subsidiary performance

Hypothesis 5: Subsidiary Inter-organizational Relationships and Performance

A company's innovative activities is in many cases carried out in strategic collaborations with other firms (Teng, 2007) as such network relationships fill in resource gaps that arises from especially radical innovations (Abernathy and Clark, 1985). Furthermore, relationships to local counter partners, such as customers, suppliers, research agencies etc. is helpful for the subsidiary to develop its higher value-added activities. The importance of inter-organizational network relationships is highlighted by the value attached to locating within local networks to develop international competitiveness (Dunning, 2000; Porter, 1994). The use of local networks composed of other firms, R&D agencies such as universities and government research bodies, local authority agencies, chambers of commerce and other organizations can help subsidiaries to attain their objectives, such as the ability to attain collective learning and innovation benefits (Lundvall, 1999) and to acquire spillover benefits associated with proximity (Porter and Sölvell, 1998). The benefits of external relationships arise from external economies of scale, increased flexibility from proximity to suppliers, customers, and supporting agencies. Furthermore, accessing technological knowledge that can enhance capabilities to innovate is often regarded as being the major benefits that arises from intra-organizational network relationships (Ivarsson, 2002; Papanastassiou and Pearce, 1997; Taggart, 1998).Thus we hypothesize:

H_5: Increases) in inter-organizational relationships of the subsidiary increases subsidiary performance

Hypothesis 6: Subsidiary Autonomy and Performance

Luo (2003) argues that parent company needs to be flexible in the way the control functions are adapted to the local market condition of the subsidiary. This notion taps into the discussion of centralization versus decentralization, and what decision making areas that should be left in subsidiaries (Bartlett and Ghoshal, 1989). In most cases, the subsidiary possesses some strategic decision making authority (O'Donnell, 2000), though in most cases autonomy will mainly relate to its daily operations, as shown by Edwards et al. (2002).

However, decision making is not a either/or situation but rather an outcome of negotiations between parent company and the subsidiary, and autonomy can therefore differ in relation to different value chain activities (Birkinshaw and Hood, 1998; Birkinshaw et al., 2005; Holm and Pedersen, 2000; Roth and Morrison, 1992; Taggart, 1999; McKern and Naman (2003). For example, Vachani (1999) found that subsidiary autonomy was greater for marketing and personnel decisions than for R&D and finance, which is probably due to the need for local responsiveness.

There are many simultaneously valid reasons for both centralization and decentralisation and related subsidiary autonomy. Reasons in favour of a decentralization of decision making encompass the information overload at the top management in the parent company, the need for local responsiveness at foreign operations, the desire to tap into local knowledge and the wish to motivate and reward subsidiaries. Reasons that limit the decentralization and subsidiary autonomy comprise parent company's financial control, overall strategic authority and a final say in the shape of products, processes and corporate values. Gates and Egelhoff (1986) show how the degree of decentralization depends on the level of organizational complexity. According to their study MNCs introducing a high number of product lines abroad, following a strategy of local product adaptation or growing abroad mainly through acquisitions tend to stronger decentralisation and subsidiary autonomy. As argued above, increases in autonomy are further supportive to entrepreneurship and access to resource-dependent localized resources. Thus we hypothesize:

H_6: Increases in subsidiary autonomy increases subsidiary performance

Methodology

To examine the hypotheses we focused on foreign owned subsidiaries located in the UK, Germany and Denmark. We selected this setting following Tung and Witteloostuijn's (2008) recommendation of making comparative studies. In this case we investigate three host countries and a range of home countries, and will be able to make comparisons at the country level, like in the survey by Leong et al (2008). This sample provides the opportunity to analyze on cross-institutional setting. Like in the survey by Fenton-O'Creevy (2008), the sample differs from an institutional point of view between UK which according to Hall and Gingerich's (2004) coordination index is a liberal market economy, i.e. coordination through competitive markets and hierarchies, and Germany and Denmark being coordinated market economies based on relational contracting, and coordination and monitoring through networks. Further, we can investigate the effect of small and large developed countries (like Chesnais and Soilleau, 2000; Dunning, 1997; Gammelgaard et al., 2009). Furthermore, Tung and Witteloostuijn's (2008) suggestion on investigating cross-border activities is fulfilled by analyzing the parent company-subsidiary relationship of an MNC.

Sample

Data used to the model were collected through a self-administrated questionnaire sent to subsidiary managers in Denmark, Germany, and the UK respectively. An initial survey format was developed based upon a literature review including former surveys within this area. This format was written in English, and then translated into Danish and German by native-speaking members of the research group. This format was pre-tested in nine subsidiaries (three Danish, German and United Kingdom based subsidiaries respectively). A new format was made in English and translated into Danish and German. In the first mailing, a cover letter and a 4 pages questionnaire were sent to the subsidiary manager in establishments

in Denmark, Germany and the UK respectively. A follow-up package was sent subsequently. In the Danish case, a sample was made from the CD-direct database that contains information on every establishment in Denmark. According to this database, at the time of investigation there were 2,996 foreign owned establishments in Denmark. However, 1,187 of those establishments were holding type of units (with zero or one employee) or operating within real estate. The questionnaire was mailed to 1,809 subsidiaries. Excluding 32 subsidiaries that returned the questionnaire because of non-applicability, and 120 subsidiaries being returned by postal service as undeliverable, the sample size was reduced to 1,657. Of these 249 usable questionnaires were returned, producing a response rate at 15 percent. In the German case, the postal survey resulted in 124 returns. In this case the sample size of randomly selected 3000 foreign owned subsidiaries with 550 non identifiable addresses, 18 companies did not exist anymore, and 14 companies responded that they did not have any foreign ownership. In United Kingdom, we had 155 responses. Again, wrong addresses and a substantial part of holding companies reduced the original sample to 1509. We, therefore, pass the acceptable level of response rate for international surveys (Harzing, 1997). Due to missing values the sample for all three countries were then reduced to 421.

The questionnaire contained questions in order to provide descriptive data. The parent company of the subsidiaries was located in the following countries (Distribution in percentages): Austria (2%), Belgium (2%), Denmark (5%), Finland (2%), France (6%), Germany (17%), Italy (3%), Japan (7%), Netherlands (14%), Norway (5%), Sweden (13%), Switzerland (8%), United Kingdom (5%), United States (6%), and other counties(5%). The average age of foreign ownership of the subsidiary was 18.2 years with a standard deviation (S.D) of 16.3 years. 53% of the subsidiaries were established as a wholly owned subsidiary, 16% of the subsidiaries were established as a joint venture, 26% of the subsidiaries were the result of an acquisition of a local firm, and 5% of the subsidiaries were the result of an acquisition of existing joint venture. The percentage of foreign sales in relation to total sales (volume) was 25.6%, (S.D. 32.1%). The average number of employees in the subsidiary was 133, with a standard deviation of 581 employees. To measure the activity of the subsidiary, we asked about the proportion of the workforce in relation to the different types of activity. The result was (S.D in parentheses): production 24.4% (32.0), Sales 41.0% (33.9), Service 16.9% (20.0), R&D 3.8% (10.8), other 12.0% (20.8). Finally, in 76% of the cases the subsidiary was managed by a host country national, in 19% cases by a parent company national, and in 5 % of cases by a third country national.

Analytical Methodology

This survey adopts a partial least squares (PLS) approach to structural equation modeling. PLS modeling has been used by Vernaik et al., (2005) and Money and Graham (1999). Compared to a Lisrel model, PLS models can be used to test smaller samples, which make us able to test for e.g., host country effects.

Construct and Measures

The proposed model has four main constructs – ‘subsidiary autonomy’, ‘inter-organizational network relationships’, ‘intra-organizational network relationships’, and ‘subsidiary performance’. All four constructs are based on changes during a five-year period, as we generally asked for ‘current’ levels and levels regarding ‘five years ago’. To adequately capture richness, the constructs are measured with multiple questionnaire items using five-point Likert scales. All constructs are based on self-reports and therefore include subjective (non-financial) measures. This may be subject to bias, however, this method is widely used in literature, and in general there is evidence of general reliability (Venkatraman and Ramanujam,

1986). Overall, these four constructs have composite reliabilities ranging from 0.85 to 0.95, which exceed minimum requirement for adequate measurement, which is 0.70 (Vernaik et al., 2005). The average variance extraction ranges from 0.53 to 0.62, which is also above minimum requirement of 0.50 reported by Vernaik et al. (2005). Composite reliabilities ranges from 0.84 to 0.95, and should be above 0.70. Changes in autonomy refers to the extent to which subsidiary made *strategic decisions (*i.e., policy decisions) in terms of 'market area supplied', 'product range', 'R&D and new product development', 'producing goods or services', 'financial control', and 'human resource management', and *operational decisions* (i.e., tactical decisions) in respect to 'marketing activities', 'R&D and new product development activities', 'activities involved in producing goods or services', 'financial management practices', and 'human resource management practices'. The Cronbachs Alpha ($\propto$*)* for this 11-item measurement was 0.94. The scale for this measurement was anchored on 'exclusively by headquarters' (1), 'equally shared' (3), and 'exclusively by subsidiary' (5). The construct is adapted from Taggart and Hood (1999). The measurement of intra- and inter-organizational network relationships was inspired by the centre of excellence survey (Holm and Pedersen, 2000), and asked for the breadth (how many) and depth (how frequent) relationships the subsidiary had with a range of partners. Intra-organizational partners included, buyers, suppliers and R&D centres within the corporation ($\propto$ = 0.87), and inter-organizational actors included local customers, suppliers and competitors ($\propto$ = 0.86). The breadth indicator ranged from 1 (none) to 5 (fully agree), whereas the depth indicator ranged from 1 (low) to 5 (high). Finally, respondents were asked to compare the performance of the subsidiary to market competitors in relations to sales growth by volume/value, productivity, customer satisfaction, and market share. The scale ranked from 1 (a lot below average) to 5 (a lot above average) ($\propto$=0.77). This type of perceived performance survey has among others been carried out by Birkinshaw et al. (2005). Figure 1 visualizes the model being tested.

Figure 1 about here

Further, to minimize spuriousness of results, subsidiary size in terms of number of employees was controlled for by running regressions and taking out residuals. There were only minor changes ($\propto_{autonomy}$ = 0.94; $\propto_{intra\text{-}organizational}$ = 0.86 ; $\propto_{inter\text{-}organizational}$ = 0.86; $\propto_{performance}$ =0.77, and the average variance extraction ranges from 0.53 to 0.62, and composite reliabilities ranges from 0.84 to 0.95. The overall reliability of the model is GOF (Goodness of Fit) = 0.35

Analysis/Results

As indicated in figure 2, testing the direct effects in a structural equation model, all six hypotheses are confirmed. The strongest evidence we find for hypothesis 2 (increased autonomy leads to increased inter-organizational network relationships), hypothesis 3 (increased intra-organizational relationships leads to increased inter-organizational network relationships) and hypothesis 5 (increased inter-organizational relationships leads to increased subsidiary performance) which are all significant at a 1% level. Weaker evidence we find for hypothesis 1 (increased autonomy leads to increased intra-organizational network relationships), which is significant at a 5% level, and hypothesis 4 (increased intra-organizational relationships leads to increased subsidiary performance) and hypothesis 6 (increased subsidiary autonomy leads to increased subsidiary performance) which are significant at a 10% level. The R^2 square for autonomy is 0.00, as this parameter is treated as an exogenous latent variable. The R^2 square for intra-organizational

is 3.6% is low, though in this model, changes autonomy is the only explanatory variable to explain changes in this parameter. The R^2 squares for inter-organizational networks and performance is satisfactory. Figures are reported in Figure 2.

Figure 2 about here

The point to emphasize is that changes in inter-organizational network relationships have the major impact on performance, and are therefore a much more central explanatory factor explaining the success of the subsidiary. However, autonomy and intra-organizational relationships significantly influence the level of inter-organizational relationships. Therefore, increases in autonomy and in intra-organizational relationships also have a major impact on performance, because of the strong association with inter-organizational relationships. This can be analyzed by computing the total effects. The total effects includes the indirect relationships, e.g., autonomy directly impacts performance (H_6=0.12) but the total effect between autonomy and performance is 0.24, whereas 0.12 is explained by multiplying the coefficients of the autonomy→intra -organizational →performance relationships; autonomy→inter-organizational→performance;, and autonomy→intra -organizational→inter-organizational→performance relationships. The total effect of intra-organizational networks and performance is 0.23 (direct effect 0.108), and the total effect of autonomy on inter-organizational networks is 0.41 (direct effect 0.32). All total effects are significant at a 1 % level, except autonomy→ intra -organizational relationships, which is significant at a 5% level. See figure 3 for a visualization.

Figure 3 about here

Controlling for host country brings in a huge variation in the results. Table 1 shows these figures.

Table 1 about here

These results are interesting as it confirms the strength of comparative surveys, as suggested by Tung & Witteloostuijn (2008). It further indicates both cross institutional effects, like in a survey by Fenton-O'Creevy (2008), and a difference between small and large developed countries (Chesnais and Soilleau, 2000; Dunning, 1997; Gammelgaard et al., 2009). However, that granting more autonomy to a subsidiary is helpful for its ability to increase its level of inter-organizational network relationships, and that increases in intra-organizational network relationships (increased absorptive capacity) facilitates again the ability to increase inter-organizational network relationships are generic results that to a significantly high degree is confirmed in all three countries. However, autonomy works differently within the corporation, and only in

German located subsidiaries it leads to higher intra-organizational embeddedness as predicted. The tendency is the same in Danish located subsidiaries, though results are non-significant. In United Kingdom, figures show a negative association. Another interesting result with high managerial implication is that different factors apparently drive performance in the three countries. In the Danish case, increases in inter-organizational and increases in autonomy lead to higher performance. Apparently, Danish subsidiaries performs best if left more peripheral and with high local responsiveness, whereas inter-corporate integration does not show any performance effects. In United Kingdom, we can see the same pattern, but intra-organizational embeddedness also positively affects performance. One explanation, compared to the Danish case, could be that many of these subsidiaries are owned by US multinationals, whereas the closer cultural and linguistic similarities work more efficiently. Subsidiaries located in Germany works quite differently in relation to what impacts performance. In any case, the integration and high degree of intra-organizational network embeddedness create the highest performance effects. Like in the other cases, increases in inter-organizational relationships are positively related to performance, though this association is not significant. Autonomy is the contrasting figures, as it is strongly and significantly related to performance in the Danish and in the British case, as it is significantly and negatively related in the German case.

Discussion

This paper demonstrates a need for further investigation of the interdependencies among subsidiary autonomy and the intra- and inter-organizational relationships of the subsidiary. For both parent company management and subsidiary management it is recommended to coordinate strategies so all three factors are managed simultaneously instead of focusing on e.g., autonomy. Further, future research must analyze why networking and autonomy works differently in different host country. The question is whether this is an outcome of institutional differences, or whether host country size and economic stage is the determining factor. In future, a more explicit incorporation of economic geography in to the international business analysis is recommended (McCann and Mudambi, 2004). Further, the inclusion of subsidiary performance effects in analyses departing from institutional theory is worth to consider – like suggested by Zaheer (1995) linking liability of foreignness to the cost of operating abroad.

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Figures 1: Conceptual Model

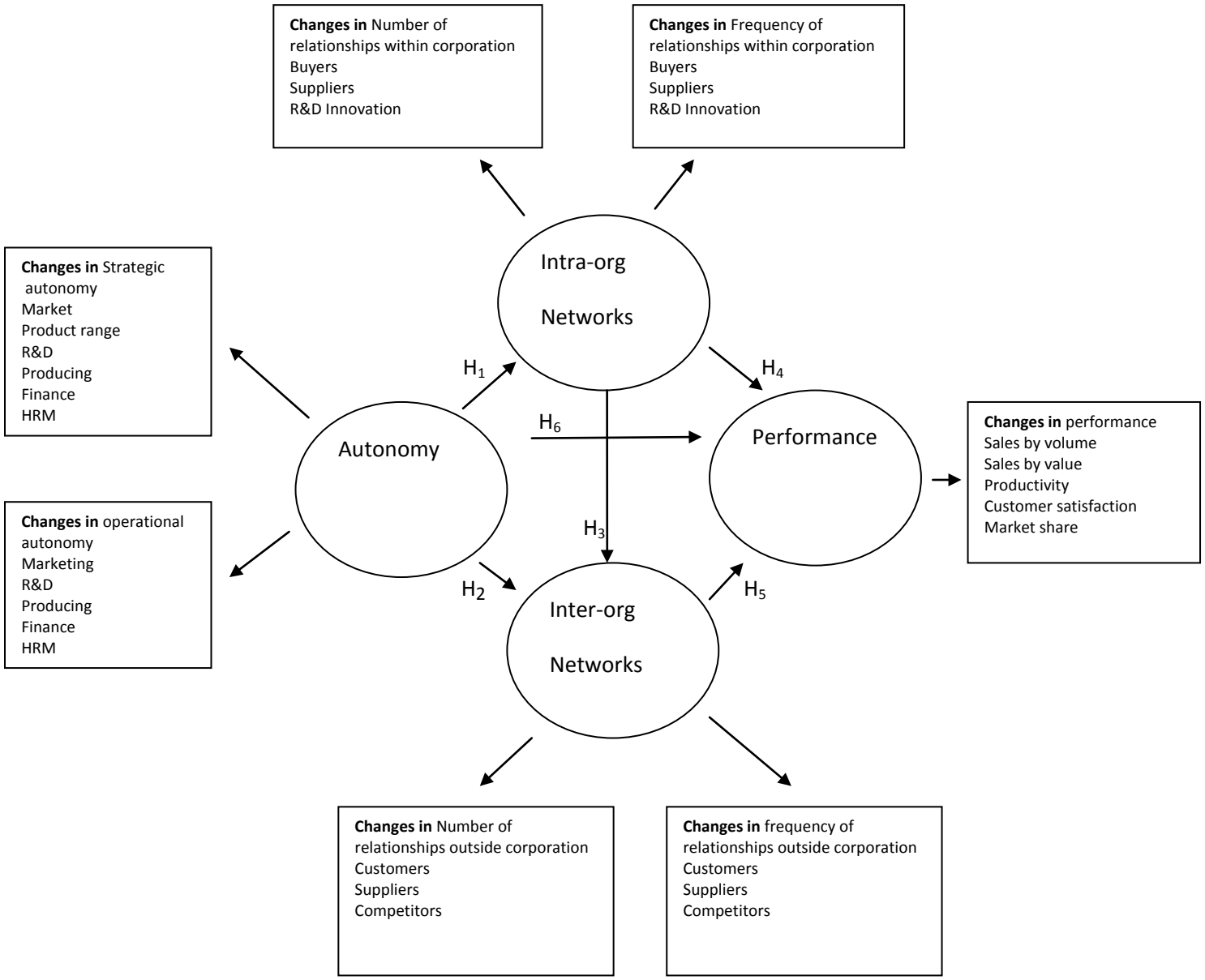


Figure 2: Direct Effects

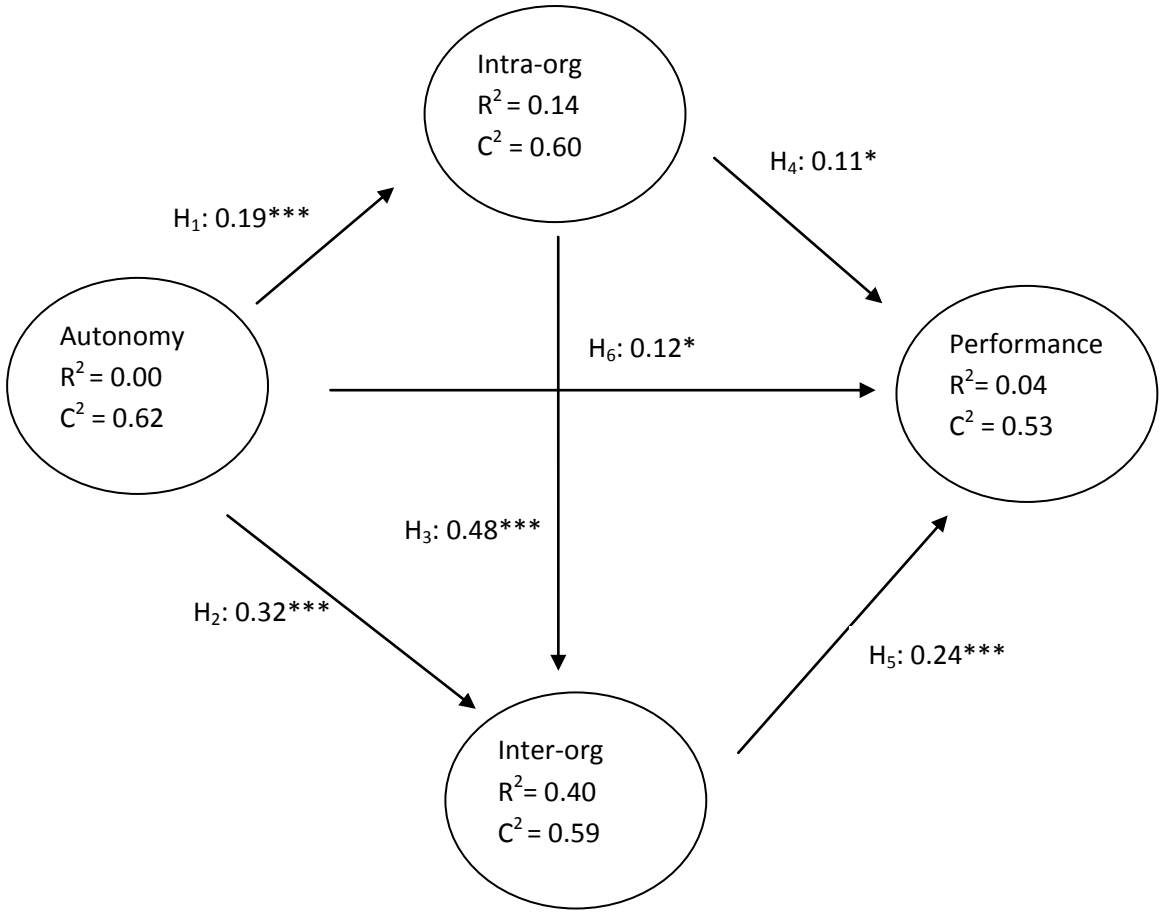


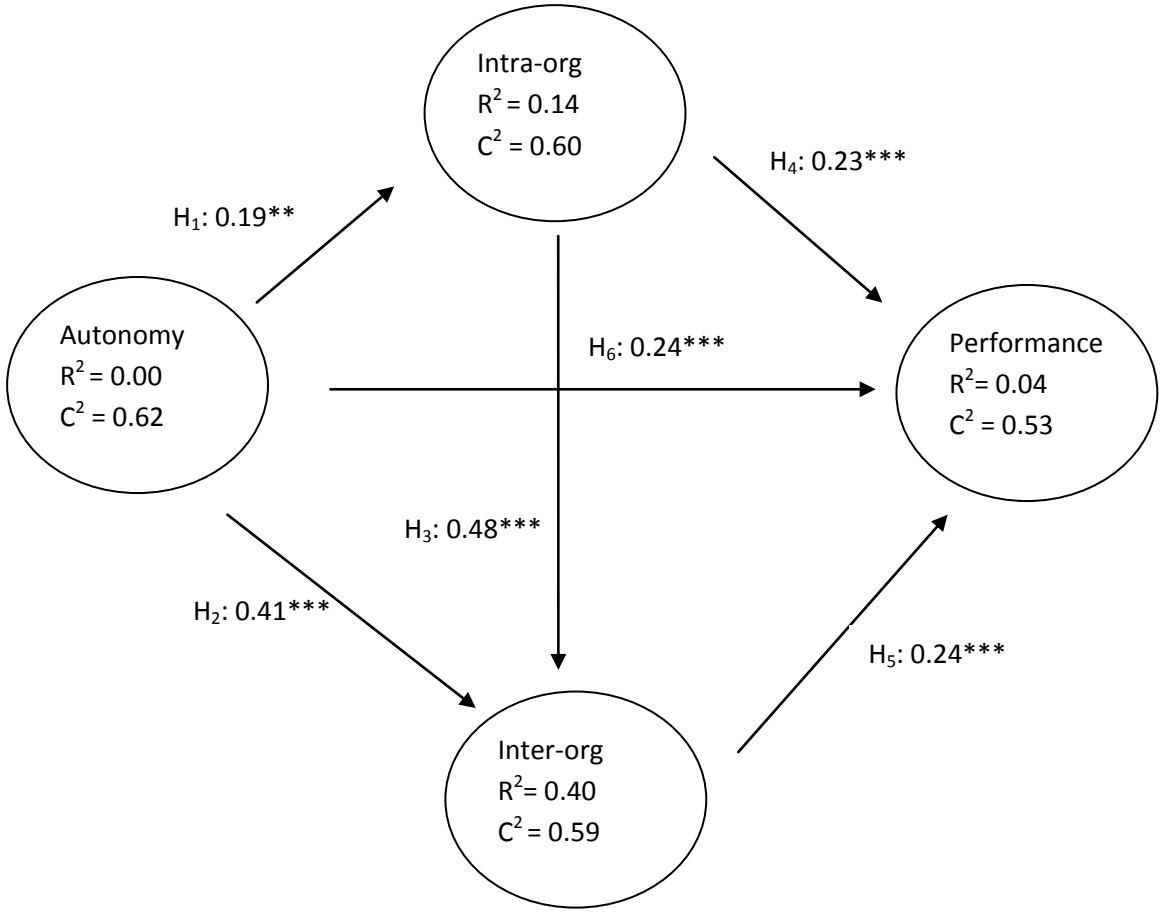
Figure 2: results, PLS parameter estimates. *P<0.10, **P<0.05, ***P<0.01

R^2 refer to the structural model (inner relations)

C^2 refers to the communalities for the measurement model (outer relations)

All measurement variables were significant at a 0.01 level

Figure 2: Total Effects



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All measurement variables were significant at a 0.01 level

Tabel 1: Country Effects (heterogeneity)

Hypothesis	Denmark	UK	Germany
H_1: Aut-Intra	0.16	-0.07	0.47***
H_2: Aut-Inter	0.30***	0.28***	0.34***
H_3:Intra-Inter	0.51***	0.33***	0.54***
H_4:Intra-Perf	0.01	0.18**	0.38***
H_5:Inter-Perf	0.35***	0.27***	0.16
$H_{6:}$Aut-Perf	0.28***	0.21***	-0.34**

Results, PLS parameter estimates. *P<0.10, **P<0.05, ***P<0.01

$GoF_{Germany}$= 0.46; $GoF_{Denmark}$= 0.40; GoF_{UK} = 0.28