ACQUISITIONS VERSUS GREENFIELD INVESTMENTS: EXPLORING THE IMPACT OF THE MNC'S INTERNATIONAL STRATEGY

Conference theme: 2.1 Market entry and locational strategies

Type of paper: competitive

Anne-Wil Harzing, University of Bradford, Management Centre
Emm Lane, Bradford, West Yorkshire BD9 4JL, United Kingdom
Tel: +44 (0)1274 234364, Fax: +44 (0)1274 546866
Email: anne-wil@harzing.com

ABSTRACT

Using an organizational capability (see e.g. Madhok, 1997) perspective this paper adds an important explanatory variable to the well-established list of factors shown to influence the choice between foreign acquisitions and greenfield investments. This variable, the international strategy followed by the multinational company (MNC) in question, is subsequently used to build a bridge between the field of international business – where the choice of entry mode is often seen as the end result of a decision that centers around the *establishment* of foreign subsidiaries – and the field of international management – where the choice of entry mode is usually seen as the start of a decision process that centers around the subsequent *management* of foreign subsidiaries – . The MNC's international strategy is linked to the management of subsidiaries by showing that differences in strategy are reflected in different internal characteristics for acquisitions and greenfields. Some of these internal characteristics are also shown to change over time, a process that is mediated by the MNC's strategy.

Key-words: acquisition, greenfield, entry mode, international strategy, subsidiary development

INTRODUCTION

The choice of entry mode into foreign markets has received a lot of attention from international business researchers in recent decades. An expansion into foreign markets requires a decision on two related but distinct issues. First, a company has to choose between non-equity entry modes such as exporting through agents and licensing, and equity-based entry modes, in which the local enterprise is either partially or wholly owned. These entry modes differ considerably in their level of control, resource commitment and risk. Wholly owned subsidiaries offer the highest level of control, but also require a substantial commitment of resources, while the reverse goes for exporting through agents. Because of the higher level of resource commitment, business risk in equity ventures is higher. On the other hand the risk of unwanted dissemination of firm-specific knowledge to other partners is inversely related to the level of control. Many studies have investigated factors that might influence the choice for different levels of control, often focusing on three distinct entry modes: licensing, joint ventures and wholly owned subsidiaries and usually underpinned by either transaction cost theory or the Ownership-Location-Internationalization framework (see e.g Agarwall & Ramaswami, 1992; Anderson & Gatignon, 1986; Bell, 1996; Benito, 1996; Caves, 1982; Erramilli, 1996; Erramilli & Rao; 1993; Gomez-Casseres, 1989; Hill, Hwang & Kim, 1990; Kim & Hwang, 1992; Kogut & Singh, 1988; Kwon & Konopa, 1993).

If an equity mode of entry into a foreign market is chosen, the issue of whether to acquire an existing local firm (acquisition) or to set up a completely new plant (greenfield investment) still has to be decided. The number of empirical studies on factors that might influence this choice is somewhat more limited and most authors focus on investments by *one* home country only (usually Japan, Sweden or Finland) or look at one host country (usually the US) only. Our study, which includes nine home and 22 host countries, therefore provides the opportunity to test whether the results of previous studies can be replicated in a multiple home/host country setting. Most authors have based their studies on a transaction cost framework (see e.g. Hennart & Park, 1993; Cho & Padmanabdan, 1995) or derive a list of factors from the literature (see e.g. Larimo, 1996). More recently, Madhok (1997, 1998) suggests that a focus on firms' capabilities might shed new light on the entry mode decision. According to Madhok (1998) it is considerations relating to "the efficient and effective development of a firm's capabilities" rather than transaction cost considerations which are becoming more critical in the dynamic and global competitive environment. Our study will take an organizational capability perspective to investigate the choice between greenfield and acquisition. In doing so, it will focus on a key explanatory variable that has not been studied before: the MNC's international strategy.

Although a substantial number of studies have been published on both types of entry mode decisions, to our best knowledge no studies are available that compare the *internal* characteristics of greenfields and acquisitions in an international perspective. The fact that most previous entry mode studies used secondary data has made this type of analysis very difficult. Our study combines secondary and primary data on greenfields and acquisitions and can therefore provide both sides of the picture, using MNC strategy as the link between the choice for a particular entry mode and the subsequent management of the acquisition or greenfield. The introduction of MNC strategy as an explanatory variable and the comparison of internal characteristics of greenfields and acquisitions will enable us to build a bridge between studies in the field of international business - where the choice of entry mode is often seen as the end result of a decision process that centers around the *establishment* of foreign subsidiaries - and studies in the field of international management - where the choice of entry mode is usually seen as the start of a decision process that centers around the subsequent *management* of foreign subsidiaries - .

The remainder of this paper is structured as follows. In the following section, we will first briefly review the literature on factors influencing the choice between greenfields and acquisitions from an organizational capability perspective. We will limit ourselves to a brief summary of the well-established factors, before introducing a new variable – international strategy – in more detail. The introduction of the strategy variable will then be followed by a set of hypotheses about the impact of strategic choices on subsidiaries' internal characteristics. We will also discuss how we might expect these internal characteristics to change over time. A subsequent section describes our research methodology, more fully explaining our data collection, measures and statistical methods. We then report our results, offer a discussion of their interpretation and finish the paper with a conclusion.

LITERATURE REVIEW AND HYPOTHESES

Factors Influencing the Choice between Greenfields and Acquisitions

Table 1 summarizes the most important factors discussed in previous studies and indicates their effect on the choice between greenfields and acquisitions. First, firms with a higher R&D intensity are more likely to want to exploit and develop their firm's capabilities in terms of proprietary technology through internal development and remain in complete control over their investment. Firms with a lower R&D intensity are more likely to try and buy technological capability abroad – where necessary - by acquiring an existing firm. All previous studies with significant results found support for this relationship.

Second, a higher degree of diversification means that firms are entering industries that are new to them. These industries would need specific know-how and locally based capabilities and hence there is a higher probability of acquisitions. Less diversified companies are more likely to want to exploit their own core capabilities through internal development, while more diversified companies have strong organizational capabilities in the management of diverse organizational units. Most studies with significant results found support for this relationship. However, in a sample of Finnish firms, Larimo (1993) expected a positive relationship, but found a negative relationship and in Barkema & Vermeulen's (1998) study of 25 Dutch firms the chance of an acquisition first declined with increasing product diversity, but increased again at higher levels of product diversity.

Table 1: Factors influencing the choice between greenfields and acquisitions

Characteristic	Effect*	Support found by (only studies with statistically significant results are included)
R&D intensity	-	Andersson et al., 1992; Andersson & Svensson, 1994; Brouthers & Brouthers, 2000; Cho & Padmanabdan, 1995; Hennart & Park, 1993; Hennart, Larimo & Chen, 1995, Kogut & Singh, 1988; Larimo, 1996, Padmanabdan & Cho, 1995.
Degree of product diversification	+	Andersson et al., 1992; Brouthers & Brouthers, 2000; Caves & Mehra, 1986; Larimo 1996; Larimo 1998; Wilson, 1980; Zejan, 1990.
	-	Barkema & Vermeulen, 1998, Larimo, 1993.
Foreign experience	+	Andersson et al., 1992; Andersson & Svensson, 1994; Caves & Mehra, 1986, Forsgren, 1984; Larimo, 1993.
	-	Barkema & Vermeulen, 1998; Brouthers & Brouthers, 2000; Larimo, 1996; Larimo, 1998; Wilson, 1980.
Cultural distance	-	Barkema & Vermeulen, 1998; Hennart, Larimo, Chen, 1995; Kogut & Singh, 1988; Larimo, 1996; Larimo, 1998; Padmanabdan & Cho, 1995.
Relative size of investment	+	Brouthers & Brouthers, 2000; Caves & Mehra, 1986; Hennart & Park, 1993; Kogut & Singh, 1988; Padmanabdan & Cho, 1995.
Time of investment	+	Andersson et al. 1992; Andersson & Svensson, 1994; Barkema & Vermeulen, 1998; Larimo, 1996; Larimo, 1998; Wilson, 1980; Zejan, 1990.

* + Increases probability of acquisition

For the influence of the third factor, the level of foreign experience, we can distinguish two opposing theoretical arguments. The first argument indicates that newly internationalizing companies will prefer acquisitions because they do not know how to deal with foreign environments themselves. As time goes by they acquire the necessary capabilities to set up new subsidiaries from scratch themselves. Another line of reasoning is that newly internationalizing companies lack the organizational capabilities to integrate acquired subsidiaries and would therefore prefer to avoid the problems and uncertainties in managing acquisitions. Only with increasing foreign experience would they develop the capabilities to integrate acquisitions into their organization and therefore more readily accept acquisitions as an alternative to greenfields. As Table 1 shows empirical support has been found for both perspectives.

Due to the fact that a firm's routines are embedded in the home context, it is not easy to transfer a firm's capabilities to other markets. Especially when there is a high degree of cultural distance between home and host country, it might be inappropriate to transfer the firm's management techniques and procedures. Organizing and management principles differ across countries and in situations of high cultural distance an acquisition's capabilities may be very different due to the different operational context. This would mean that it would be very difficult to exploit the know-how of the investing firm efficiently. In a situation of high cultural distance, firms would therefore be expected to prefer greenfield investments. Many studies have found significant empirical support for this relationship.

If the size of the foreign direct investment is large in comparison to the size of the investing company, it may face managerial resource constraints if it wants to expand. A going firm has its own management cadre and may have unutilized borrowing capacity (Caves & Mehra, 1986). If the relative size of the investment is large, an acquisition might therefore be the preferred way to obtain additional managerial resources. Studies that showed significant results all found support for this relationship.

Finally, all previous studies that investigated the impact of the time of entry and the probability of entry through acquisition found a positive and often highly significant relationship, i.e. the more recent the investment, the higher the likelihood it will be an acquisition. Rationales for this relationship include: the growing instability and uncertainty in recent times (Zejan, 1990); the improvement of firms' international experience and organisational capabilities over time (Andersson et al., 1992); intensified global competition and shorter product life cycles that necessitate a speedy response (Larimo, 1996) and a relaxation of antitrust regulations and tax policy changes in the US, which resulted in a take-over wave that might have been followed by mimetic behaviour in other countries (Barkema & Vermeulen, 1998). We will therefore include time of entry as a control variable.

A variable that has received very little attention in previous entry mode studies, but one that might have a big impact on a firm's choice of entry mode from an organization capability perspective is the firm's international strategy. As Hill et al. (1990) indicate the choice of entry mode will be dependent upon the strategic relationships that a MNC aims to realize between operations in different countries. Typologies of international strategy have received a lot of attention in the international management literature (for an overview see Harzing, 2000). All studies distinguish two types of international strategies: “global” and “multidomestic”, while many include a third hybrid strategy often called “transnational” and some include an “international” strategy. In this article we choose to focus on global and multidomestic strategies only, because these two strategies are the most commonly accepted and clearly defined. Global strategies are characterized by a high level of globalization of competition with national product markets being interconnected and a focus on capturing economies of scope and scale. Multidomestic companies experience a lower level of global competition and compete predominantly on a domestic level, while adapting products and policies to various local markets. In their conceptual framework Hill et al. (1990) predicted that multidomestic companies would prefer low-control entry modes to maintain greater global flexibility, while global companies would prefer high-control entry modes. Domke-Damont (2000) tested this relationship for 24 service firms and found that the odds of choosing a high control entry mode dropped quickly as strategies shifted from more of a global strategy to more of a multidomestic strategy ($p=0.014$). However, both studies focused on the continuum of entry modes between low control entry modes such as licensing and high control entry modes such as wholly owned subsidiaries and as yet no studies have investigated the impact of strategy on the choice between greenfields and acquisitions.

When faced with a choice between a greenfield investment and an acquisition, a greenfield investment can be interpreted as the higher control option and an acquisition as the lower control option. In a greenfield investment it is easier for companies to mold structures and policies to their specific preferences, offering a higher level of control over the subsidiary’s operations. Following that reasoning we would expect greenfields to be the preferred option for companies following a global strategy and acquisitions the preferred option for companies following a multidomestic strategy.

There are, however, other arguments – more clearly linked to the differential capabilities that global and multidomestic companies have - that point in the same direction. Rugman & Verbeke (1992) link the ownership-location-internalization theory of international production to different types of international strategy. Their analysis takes as a starting point that foreign direct investment has been chosen as the most efficient mode of entry, hence internationalization advantages are assumed to be present. They distinguish two types of ownership advantages – which they call firm-specific advantages (FSAs) – but which might just as easily be termed firm capabilities. The first are location-bound FSAs whose benefits depend on their being used in one particular location (or a set of locations). They cannot easily be transferred and cannot be used in other locations without significant adaptation. Non-location-bound FSAs do not depend on their being used in one specific location. They can be used on a global scale, because transferring them to other locations can be done at low cost and without substantial adaptation. With regard to location advantages they distinguish two sources: home and host country. Linking these two concepts to the two international strategies we have distinguished, global companies tend to focus on the exploitation of non-location bound home-based FSAs, such as for instance a proprietary technology. They do exploit location advantages in host countries, but this is usually limited to the exploitation of low cost locations which allows global companies to pursue their strategy based on cost efficiency (Bartlett & Ghoshal, 1989). Building up a low-cost production site is easier when the site can be set up from scratch, so that it can incorporate the latest production technologies and can be built to match the company's exact production requirements rather than having to accept existing - possibly too large or inefficient - operations in an acquired subsidiary. The core capabilities of multidomestic companies lie in the exploitation of location bound FSAs using host country specific advantages. These companies have to deal with markets that require tailoring products and policies to local circumstances. In order to be able to do so companies need to be well aware of local circumstances and well-integrated into the local market. This will be easier to achieve by acquiring an existing company with a knowledgeable work-force and good connections in the local market, than by setting up a new subsidiary from scratch. Hence:

Hypothesis 1: Greenfields will be the preferred entry mode in companies following a global strategy; acquisitions will be the preferred entry mode in companies following a multidomestic strategy.

Differences and Development in Internal Characteristics between Greenfields and Acquisitions

As we mentioned above, we expected global companies to prefer greenfields as a relatively high-control entry mode giving a higher ability to impose structures, systems and culture upon a subsidiary. However, in order to influence a subsidiary's daily operations *after* its establishment headquarters must apply specific control mechanisms. Given the fact that a greenfield is intended as a high control entry mode, we would expect headquarters to exercise a higher level of control to greenfields than to acquisitions. Hence:

Hypothesis 2: Greenfields will show a higher level of control by headquarters than acquisitions.

As indicated above, an important reason for multidomestic companies to prefer acquisitions to greenfield investments is the ability to tap local capabilities and acquire local market knowledge. This can be very important in industries where consumer preferences and tastes differ across cultures and where a local image is an important source of competitive advantage. If this were indeed an important reason to prefer acquisitions to greenfields, we would expect acquisitions to be more locally responsive than greenfields. Hence:

Hypothesis 3: Greenfields will show a lower level of local responsiveness than acquisitions.

The presence of expatriates in subsidiaries is aimed to achieve a higher level of control. Expatriates can be used both as a direct (through direct supervision) and as an indirect (through socialization of local managers) way to control subsidiaries. Since greenfields require higher levels of control, we would expect a higher level of expatriate presence in greenfields. Another point of view to explain a differential level of expatriate presence could be the required level of local responsiveness. If local responsiveness is important for the subsidiary in question to function effectively, headquarters is likely to leave the running of operations to local managers. Since local responsiveness is more important for acquisitions than for greenfields, acquisitions are likely to have a lower level of expatriate presence. Finally, acquisitions come with existing top management, which makes it less necessary to bring in expatriates to provide the necessary management skills. Therefore:

Hypothesis 4: Greenfields will show a higher level of expatriate presence than acquisitions.

If the reasons we have put forward for global and multidomestic companies to prefer a particular type of entry mode are born out in practice, we would expect that these companies would not want to change the very internal characteristics of subsidiaries that allow them to function according to headquarters' strategic intentions. For instance in the case of multidomestic companies, the capabilities of the acquired company must be preserved in order to take full advantage of its domestic environment. On the other hand, if companies, for whatever reason, were forced to enter a market through their an entry mode that is not the first choice for the strategy they are following, we would expect them to try to mold the subsidiary's internal characteristics to make them conform more closely to that of their preferred entry mode. Hence:

> *Hypothesis 5: Over time subsidiaries will converge towards the internal characteristics of the "preferred" entry mode, i.e.*
>
> *Hypothesis 5a: In multidomestic companies the internal characteristics of greenfields will become more similar to acquisitions.*
>
> *Hypothesis 5b: In multidomestic companies the internal characteristics of acquisitions will not change.*
>
> *Hypothesis 5c: In global companies the internal characteristics of greenfields will not change.*
>
> *Hypothesis 5d: In global companies the internal characteristics of acquisitions will become more similar to greenfields.*

METHODOLOGY

Data Collection

Data for this study were collected by means of an international mail survey between October 1995 and March 1996. This mail survey was conducted as part of a study that focused on control mechanisms in multinational companies. Questionnaires were mailed to CEOs and Human Resource Managers at the headquarters of 122 multinationals and to the managing directors of 1650 subsidiaries of these multinationals in 22 different countries. This article only uses the data collected at subsidiary level. The overall response rate at subsidiary level was 20%, varying from 7.1% in Hong Kong to 42.1% in Denmark. Table 2 summarizes the number of respondents by industry, country of headquarters and subsidiary country. The total number of 287 subsidiary responses represents 104 different headquarters (85% of our population) and the number of responses per headquarters varies from one to eleven.

Table 2: Number of respondents by industry, subsidiary country and HQ country

Industry	Number of respondents	Subsidiary country	Number of respondents
Electronics, electrical equipment	41	Argentina	4
Computers, office equipment	26	Austria	8
Motor vehicles and parts	30	Belgium	14
Petroleum (products)	20	Brazil	15
Food & Beverages	34	Denmark	16
Pharmaceutical	46	Finland	8
Paper (products)	25	France	14
Chemical (products)	55	Germany	16
Various	10	Hong Kong	5
		Ireland	11
Country of location of headquarters	**Number of respondents**	Italy	21
		Japan	16
		Mexico	10
Finland	23	Netherlands	25
France	26	Norway	13
Germany	32	Singapore	10
Japan	38	Spain	14
Netherlands	16	Sweden	11
Sweden	41	Switzerland	14
Switzerland	31	UK	25
UK	25	USA	13
USA	55	Venezuela	4

Measures

To ascertain the entry mode - *acquisition vs. greenfield investment* - respondents were asked whether the subsidiary had been acquired by another owner after its foundation. Our overall sample included 97 acquisitions and 190 greenfields. Respondents were also asked to state the subsidiary's year of foundation and – where applicable – acquisition by another owner. In order to test the hypotheses with regard to subsidiary development, we calculated the time for which subsidiaries had been under ownership of headquarters at the time of the study. For greenfields this was simply the year of data collection minus the year in which they were established. For acquisitions this equated to the year of data collection minus the year in which their current owner had acquired them.

R&D intensity was measured by dividing a company's R&D expenses by its total level of sales. Data for this variable were taken from 1994 annual reports of the companies in the sample. Although we would have preferred to use the level of R&D intensity in the year preceding the actual investment, it was not feasible to obtain these data for all companies. However, since few year-to-year fluctuations were found for companies that showed a ten-year overview of these data, we feel the variable is a good approximation of the actual R&D intensity in the year before the investment. The *level of diversification* was measured by the number of different 4-digit SIC codes in which the MNC operated. Data for this variable were taken from the 1996 edition of the Directory of Corporate Affiliations (DCA, 1996). This means that we were unable to assess the exact level of diversification at the time of the investment. *Foreign experience* was measured as the number of years that had passed since the company established its first foreign subsidiary. Data for this variable were taken from Stopford's (1992) Directory of MNCs, Kepos' (1995) International Directory of Company histories and companies' annual reports. Following Zejan (1990) a logarithmic form of this variable was used, since we expected years to have a decreasing impact on the firms overall foreign experience. Kogut and Singh's (1988) composite index, which summarizes the difference between two countries on each of Hofstede's dimensions, was used to measure the overall *cultural distance* between investing and target country. The *relative size* of investment was measured by dividing the number of employees of the subsidiary in question by the number of employees at headquarters. Since the resulting variable was badly skewed, the natural logarithm of this variable was used as the final measurement of relative size. Data on the *timing of investment* were collected by asking the respondent for the year of foundation of the subsidiary and -if applicable- the year of acquisition.

Four statements were constructed that measured whether competition was predominantly global or local and whether the corporate strategy was focused on achieving economies of scale or on achieving local differentiation. [i] It was expected that global companies would be characterized by global competition and a strategy to achieve economies of scale (Bartlett & Ghoshal's cost efficiency), while multidomestic companies would predominantly compete on a domestic level and strive for national responsiveness. These questions were subjected to cluster analysis and a two-cluster solution resulted in clusters that could easily be identified as global and multidomestic (see table 3). Subsidiary managers, however, might not be fully informed of the strategy applied by the MNC as a whole and their perception of this strategy might be influenced by their own characteristics. Therefore for each headquarters we verified whether subsidiaries were classified in the same cluster. This turned out to be the case in general, with a very limited number of exceptions that involved for instance one out of five subsidiaries being in a different cluster. These divergent cases were recoded to the cluster that contained the majority of subsidiaries. In total, 101 subsidiaries were classified as multidomestic and 186 as global. The variable was subsequently recoded as a dummy variable, where 0 = global and 1 = multidomestic.

Table 3: Cluster analysis of strategy variables (scale 1-5)

Cluster names	Global competition	Domestic competition	Differentiation	Economies of scale
Multidomestic	3.19	3.72	3.81	3.16
Global	4.08	2.27	3.30	3.81
t-value	-7.134, 0.000	14.807, 0.000	4.387, 0.000	-5.073, 0.000

After a review of the relevant literature, four main *control mechanisms*: personal centralized control, bureaucratic formalized control, output control and control by socialization and networks were identified. To measure various elements of these different control mechanisms empirically, we adapted and supplemented the questions that were used by Martinez & Jarillo (1991). The items formed a reliable scale (Cronbach's alpha = 0.74) and were averaged to form a composite score for the level of control.

Local responsiveness was measured with four items asking for the percentage of local R&D and local production incorporated in products sold by the subsidiary and the percentage of products and marketing that was substantially modified for the local market. The items formed a reliable scale (Cronbach's alpha = 0.73) and were averaged to form a composite score for the level of local responsiveness.

Three questions were used to assess the *presence of expatriates* in a given subsidiary. These questions asked respectively for the nationality of the managing director, the number of top five jobs held by expatriates and the total number of expatriates working in the subsidiary. Since the number of expatriates might be influenced by the size of the subsidiary, we calculated the number of expatriates as a percentage of the total workforce of the subsidiary. Since the items had different scales they were standardized before they were subjected to scale analysis. The scale proved to be reliable (Cronbach's alpha = 0.71) so the items were averaged to form a composite score for the level of expatriate presence.

Statistical Methods

To explore the influence of the variables described above on the likelihood of an acquisition as foreign entry, we conducted a binomial logistic regression analysis. The entry mode is captured by a dummy variable that takes the value of one if the entry is made by acquisition and zero if the entry is made by greenfield. In the binomial logistic model the probability of an acquisition is explained by the variables: R&D intensity, diversity, foreign experience, cultural distance between investing and target country, relative size of the investment, timing of the investment and international strategy. The regression coefficients estimate the impact of the independent variable on the probability that the entry mode is an acquisition. A positive sign for the coefficient means that a variable increases the probability of an acquisition, a negative sign indicates the reverse. The model can be expressed as:

$$P(Y) = 1/(1 + e^{-Z}),$$

where Y is the dependent variable (the selection/occurrence of an acquisition in this case), Z is a linear combination of the independent variables

$$Z = ß_0 + ß_1X_1 + ß_2X_2 + \dots + ß_nX_n,$$

where $ß_0$ is the intercept, $ß_1 .. ß_n$ the regression coefficients and $X_1 .. X_n$ the independent variables.

The models were estimated with SPSS 8.0 using the maximum-likelihood method. The null hypothesis that all ß's, except $ß_0$ are zero can be tested with the model χ^2. When the model χ^2 is significant, this null hypothesis can be rejected. A test that a specific coefficient is zero can be based on the Wald statistic. Significance levels of separate coefficients based on the Wald statistic are indicated in the models in Table 4. The partial correlation of each predictor variable with the dependent variable is indicated by R. R can range in value from –1 to +1. A positive value indicates that as the variable increases in value, so does the likelihood of the event occurring. If R is negative, the opposite is true.

To investigate the hypothesized differences in the internal characteristics of greenfields and acquisitions, Mann-Whitney tests were used. Non-parametric tests were used, because the distribution of many of the dependent variables included in the analysis was non-normal. Correlation analysis was used to investigate the hypotheses relating to subsidiary development.

RESULTS AND DISCUSSION

Factors Influencing the Choice between Greenfields and Acquisitions

The results of the binomial logistic regression are presented in Table 4. Since some cases had missing values for one or more variables the total number of observations is 277. The model has a high explanatory power, with a high and highly significant χ^2. Another way to assess the performance of the maximum likelihood models is to measure the percentage of correct observations and compare it to the classification rate that would be obtained by chance (the baseline rate, which is equal to $a^2 + (1-a)^2$, where a is the proportion of acquisitions [34.3%] in the sample). As Table 4 shows, our model predicts the likelihood of an acquisition better than a random model would, with a classification improvement of 45.24%, which is well above the minimum improvement of 25% as suggested by Hair et al. (1995). The specificity (its capacity to correctly predict greenfields) of the model is very good to excellent (86.26%), while its sensitivity (its capacity to correctly predict acquisitions) is good (67.37%). Pseudo R-square measures confirm that the model has a very good explanatory power.

Table 4: Logistic regression models

Variable	Coefficient (S.E)	Significance/ R-value		
Intercept	-243.633 (35.9787)	.0000***	Model χ^2	114.990 .0000***
R&D intensity	-.10.9841 (.4.4552)	.0068** -.1070	N	277
Diversification	-.0281 (.0429)	.5127 .0000	% correct	79.78%
Foreign experience	.8432 (.3276)	.0050** .1139	Base line rate Improvement	54.93% 45.24%
Cultural distance	-.3457 (.1325)	.0045** -.1162	Specificity Sensitivity	86.26% 67.37%
Relative size	.2089 (.0894)	.0097** .0986	Cox & Snell R^2 Nagelkerke R^2	.340 .470
Strategy (multidomestic)	.7466 (.3392)	.0138* .0894		
Year of investment	.1224 (.0180)	.0000*** .3514		

*** p <0.001, ** p < 0.01, * p < 0.05, † p <0.1, all one-tailed
positive signs indicate a higher likelihood of acquisitions, negative signs a higher likelihood of greenfields.

Six of the variables identified above receive significant support: R&D intensity, level of foreign experience, cultural distance, relative size, strategy and year of investment. Acquisitions are less likely for R&D intensive firms investing in culturally distant countries and more likely for firms with a high level of foreign experience that follow a multidomestic strategy, when the relative size of the investment is large and when the investment is recent. As can be verified in Table 1, four of these variables – R&D intensity, cultural distance, relative size and year of investment - have also received unambiguous support in previous studies, so we can have confidence in both the explanatory power of these variables and in the comparability of our sample to previous entry mode studies. Our results with regard to international strategy confirm our hypothesis 1: acquisitions are more likely for multidomestic companies and greenfields are more likely for global companies. Below, we will look at the implications of this in terms of the internal characteristics of greenfields and acquisitions.

The level of diversification does not show a significant result. This might be caused by the fact that we were unable to measure this variable at the time of investment, since the level of diversification might have changed over time. However, many of the studies discussed above also failed to find significant results for this variable, while studies that did find significant results showed contradictory findings. This factor therefore receives less support as a universal predictor for the choice between greenfields and acquisitions. Its explanatory power might be limited to certain home countries or time periods, but as our main focus is on the exploring the impact of international strategy, we will not explore this any further.

Foreign experience did show a significant positive result, thus confirming the argument that acquisitions are more likely for firms with more foreign experience. However, once the country-of-origin of the investing firm was included, this effect was no longer significant.[ii] This is largely caused by the fact that Japan combines a relatively high percentage of greenfields with a low level of foreign experience and Switzerland combines a relatively high percentage of acquisitions with a high level of foreign experience. Excluding these countries from the analysis results in a highly significant foreign experience variable.

Internal Differences between Greenfields and Acquisitions

The results of the Mann-Whitney tests are presented in Table 5. The direction of the difference is as predicted for all three variables and is (highly) significant in all comparisons. We can therefore accept hypotheses 2 to 4. Acquisitions experience a lower level of control from headquarters. This difference in overall levels of control was mainly due to a higher level of autonomy for acquisitions (Z-value = -2.342, $p = 0.01$, one-tailed) and a lower level of both shared values (Z-value = -3.156, $p = 0.001$, one-tailed) and standardization ($Z = 1.864$, $p = 0.031$, one-tailed). Acquisitions show a significantly higher level of local responsiveness than greenfields.

It is remarkable that the smallest difference is found with regard to the most limited form of local responsiveness: adaptation of marketing. Finally, acquisitions also show a lower level of expatriate presence. This is caused by two factors. First, a higher percentage of acquisitions have no expatriates at all among their workforce. Second for those acquisitions that *do* employ expatriates, the various measures show lower expatriate presence than for greenfields.

Table 5: Differences in internal characteristics between greenfields and acquisitions

Variable	Z-score	Expected direction	Significance
Level of control	-1.801	Yes	.0360*
Level of local responsiveness	-3.447	Yes	.0005***
Level of expatriate presence	-3.440	Yes	.0005***

*** p <0.001, ** p < 0.01, * p < 0.05, † p <0.1, all one-tailed

Overall, the results found in this section confirm the hypotheses that we put forward. Greenfields are more strongly controlled by headquarters than acquisitions and have a higher level of expatriate presence. For the subset of subsidiaries that have expatriates among their workforce, functions of expatriation that imply a dependent role on headquarters are more important for greenfields than for acquisitions although the differences are only marginally significant.[iii] Greenfields are probably more likely to be used in a "pipeline" role for headquarters. This is confirmed by the significantly higher level of purchases from headquarters by greenfields when compared to acquisitions (Z= -3.543, p = 0.000). Differences in local responsiveness again support this picture, with local responsiveness being significantly higher for acquisitions. The overall picture that emerges from our results is that of acquisitions as subsidiaries which have stronger external links with the local environment than internal links with headquarters, while the reverse is true for greenfields.

Subsidiary development

A correlation analysis between the time a subsidiary had been under headquarters ownership and the internal characteristics discussed above showed several significant results. For greenfields there was a negative relationship between length of ownership and expatriate presence (-.216, p = 0.003, 2-tailed). This is to be expected since expatriates are often used to set up operations, transfer knowledge and train local managers and expatriate presence would be expected to be much lower after this initial period. For acquisitions there was a positive relationship between the length of ownership and the level of control (.209, p = 0.042, 2-tailed) and a negative relationship with the level of local responsiveness (-.224, p = 0.029, 2-tailed). This would seem to indicate that acquisitions over time are becoming more integrated in the corporate network and more similar to greenfields.

However our hypotheses proposed that there might be a difference in subsidiary development for multidomestic and global companies. More specifically, we predicted that over time a subsidiary's internal characteristics would converge to the internal characteristics of the preferred entry mode option for that type of strategy. Hence in global companies acquisitions would become more similar to greenfields, while in multidomestic companies greenfields would become more similar to acquisitions. We did not expect any changes in the internal characteristics of the subsidiaries that were established according to the preferred entry mode for both strategies.

Table 6: Development of internal subsidiary characteristics over time

		Multidomestic	Global
Greenfield	Level of control	NC	NC
	Level of local responsiveness	NC	NC
	Level of expatriate presence	Negative (expected), p = 0.077†	Negative (reverse), p = 0.004**
Acquisition	Level of control	Positive (reverse), p = 0.099†	Positive (expected), p= 0.084†
	Level of local responsiveness	NC	Negative (expected), p = 0.019*
	Level of expatriate presence	NC	NC

NC= no significant change,
*** p <0.001, ** p < 0.01, * p < 0.05, † p <0.1, all one-tailed

Table 6 presents the results of this analysis. We see that in multidomestic firms, greenfields become slightly more similar to acquisitions over time, with a lower level of expatriate presence, while the level of control and local responsiveness do not change. We therefore find only very partial support for hypothesis 5a. As expected the internal characteristics of acquisitions in multidomestic companies do not change much. The only variable that shows a marginal change is the level of control by headquarters. A further analysis, however, showed that this higher level of control was mainly due to a higher level of subsidiary managers going on corporate training programs (.327, $p = .005$, 1-tailed) and a higher level of shared values (.233, $p = 0.05$, 1-tailed). An increase of these informal type of control mechanisms can be seen as a rather indirect consequence of the integration of acquisitions in the MNC as a whole and are not likely to be the result of a conscious effort of headquarters to limit the acquisition's "autonomy". The more direct control mechanisms such as centralization, direct surveillance, procedures and standardization do not show any change. We therefore find a high level of support for hypothesis 5b.

In global companies, no change is found for greenfields in the level of control by headquarters or the level of local responsiveness. The level of expatriate presence, however, is lower for subsidiaries that have been under ownership from headquarters longer. This is not what we predicted for greenfield subsidiaries in global companies, since we did not expect their internal characteristics to change. However, as mentioned before a decline in expatriate presence over time is logical, especially in greenfield subsidiaries where expatriates are often used to set up subsidiaries. Overall, we therefore find a high level of support for hypothesis 5c. In global companies both the level of control by headquarters and the level of local responsiveness change in the expected direction, i.e. become more similar to greenfields. There is no change in the level of expatriate presence. In contrast to acquisitions in multidomestic companies however, the type of control that does change in acquisitions of global companies is not the more indirect informal type of control, but the direct formal type of control in the form of standardization (.272, $p = 0.037$, 1-tailed) and procedures (.377, $p = 0.013$, 1-tailed). An increase in these types of control mechanisms can clearly be seen as an attempt of headquarters of global companies to get their acquisitions more in line with the company as a whole. We therefore find partial support for hypothesis 5d.

Overall, we find a high level of support for the "no change" hypotheses and a more limited level of support for the "change to preferred mode of entry" hypotheses. This could be partly due to small sample sizes (below 50) for the "less preferred mode of entry". However, the results do provide very interesting indications that MNCs might indeed try to mold internal characteristics of their subsidiaries over time. There is of course one important limitation to our study in this respect. Although we have been able to show that the time the subsidiary has been under headquarters ownership is related to development of internal characteristics, our research design does not allow us to verify whether individual subsidiaries do experience this change. In order to do so, a longitudinal design would be necessary.

CONCLUSIONS

This paper offered a multi-country test of a number of well-established factors that have been shown to influence the choice between greenfields and acquisitions. For four factors – R&D intensity, cultural distance, relative size of the investment and timing of the investment - our overall results confirm the general support found in previous studies, so that we can now have more confidence in generalizing these results to a larger number of (home and host) countries. Greenfields are more likely for firms with a high level of R&D intensity investing in countries that show a large cultural distance from their home country. Acquisitions are more likely when the relative size of the investment is large and when the investment was made more recently. The two remaining factors – diversification and the level of foreign experience - might have a more limited explanatory power. A new variable - the strategy followed by the MNCs in question - proved to have a significant explanatory power as well, with multidomestic companies preferring acquisitions and global companies preferring greenfields. A limitation of our study – which it shares with other entry mode studies – is that we have not been able to test whether our model has normative merits. There is a modest indication, however, that choosing the preferred entry mode for the type of strategy has a positive performance effect. Subsidiaries with the preferred entry modes had higher profits ($p = 0.059$, 1-tailed) in comparison to other subsidiaries than subsidiaries with the non-preferred entry mode. However, since performance was measured in a rather indirect way (a 1-5 scale in comparison to other subsidiaries [1= much lower-5=much higher]) we cannot accept these results without further verification.

The analysis of the differences in internal characteristics of acquisitions and greenfields provided a very coherent pattern that was clearly linked to the different strategies. Compared to greenfields, acquisitions were operating more independently with lower levels of control exercised towards them by headquarters. This was also reflected in the lower level of expatriate presence in acquisitions in general and the lower importance of functions of expatriation reflecting a dependence on headquarters for acquisitions that *did* have expatriates among their workforce. Consistent with this picture, acquisitions were displaying a higher level of local responsiveness in the form of local production and R&D and the modification of products and marketing for local markets. Although empirical support was more limited, there were some indications that over time subsidiaries converge to the internal characteristics of the "preferred" mode of entry for firms following a particular strategy, so that in multidomestic companies greenfields become more similar to acquisitions, while in global companies acquisitions become more similar to greenfields.

This study has been the first to provide data for entry modes on both sides of the picture: factors influencing the choice between two distinct entry modes and differences in internal characteristics for both entry modes, including the development over time of these characteristics. It showed that a comparison of internal characteristics offers a useful addition to the conventional entry mode studies and enhances our understanding of the daily operations of different types of subsidiaries. We therefore strongly recommend future researchers in this field to look beyond the initial choice of entry mode to include a further exploration of the operational challenges of managing greenfields and acquisitions.

REFERENCES

Agarwal, S., Ramaswami, S.N. (1992): The choice of foreign market entry mode: Impact of ownership, location and internationalization factors, *Journal of International Business Studies*, vol. 23, pp. 1-27.

Anderson, E., Gatignon, H. (1986): Modes of Foreign Entry: A Transaction Cost Analysis And Propositions, *Journal of International Business Studies* (Fall), pp. 1-26.

Andersson, T., Arvidsson, N.; Svensson, R. (1992): Reconsidering the choice between takeover and greenfield operations, *Working paper* (Sept.), Stockholm: The Industrial Institute for economic and social research.

Andersson, T., Svensson, R. (1994): Entry modes for direct investment determined by the composition of firm-specific skill, *Scandinavian Journal of Economics*, vol. 96 no. 4, pp. 551-560.

Barkema, H.G., Vermeulen, F. (1998): International expansion through start-up or through acquisition: a learning perspective, *The Academy of Management Journal*, vol. 41 (Feb.).

Bartlett, C.A., Ghoshal, S. (1992): Transnational Management: Text, Cases and Readings in Cross-Border Management, : Irwin.

Bell, J. (1996): Joint or single venturing? An eclectic approach to foreign entry mode choice, *Dissertation Tilburg University*, Tilburg: Tilburg University.

Benito, G. (1996): Ownership structures of Norwegian foreign subsidiaries in manufacturing, *International Trade Journal*, vol. 10 no. 2, pp. 157-198.

Brouthers, K.D., Brouthers, L.E. (2000): Acquisition of Greenfield start-up? Institutional, cultural and transaction cost influences, *Strategic Management Journal*, vol. 21, no. 1, pp. 89-97.

Caves, R. (1982): *Multinational Enterprise and Economic Analysis*, New York: Cambridge University Press.

Caves, R.E., Mehra, S.K. (1986): Entry of Foreign Multinationals into U.S. Manufacturing Indusries, in Porter, M.E.: *Competition in Global Industries*, pp. 449-481.

Cho, K.R., Padmanabhan, P. (1995): Acquisition Versus New Venture: The Choice of Foreign Establishment Mode by Japanese Firms, *Journal of International Management*, vol. 1 no. 3 (Fall), pp. 255-286.

Domke-Damonte, D. (2000) Interactive effects of international strategy and throughput technology on entry mode for service firms, *Management International Review*, vol. 40, no. 1, pp.41-

Directory of Corporate Affiliations: International public and private companies (1996): National Register Publishing.

Eramilli, M.K. (1996): Nationality and Subsidiary Ownership Patterns in Multinational Corporations, *Journal of International Business Studies*, vol. 27 no. 2 (Second Quarter), pp. 225-248.

Eramilli, K.M., Rao, C.P. (1993): Service firms' international entry mode choice: A modified transaction-cost anlaysis approach, *Journal of Marketing*, vol. 57 no. 3, pp. 19-38.

Forsgren, M. (1984): Foreign direct investment in an interorganizational perspective - a model for foreign acquisition behaviour, *CIF Working Papers* no. 1, Uppsala: Uppsala University.

Gomez-Casseres, B. (1989): Ownership Structures of Foreign Subsidiaries: Theory and Evidence, *Journal of Economic Behavior and Organization*, vol. 11, pp. 1-25.

Hair, J., Anderson, R.E.; Tatham, R.L.; Black, W.C. (1995): *Multivariate Data Analysis with Readings*, Englewood Cliffs, N.J.: Prentice Hall.

Harzing, A.W.K. (2000) An empirical test and extension of the Bartlett and Ghoshal typology of multinational companies, *Journal of International Business Studies*, vol. 31, no. 1, pp. 101-120.

Hennart, J.F., Larimo, J., Chen, S.-F. (1995): Does National Origin Affect the Propensity of Foreign Investors to Enter the United States Through Acquisition?, in Schiattarella, R.: *Proceedings of the 21th annual conference*, vol. 2 (December, 10-12), pp. 401-422, Urbino: EIBA.

Hennart, J.-F., Park, Y.-R. (1993): Greenfield vs. Acquisition: The Strategy of Japanese Investors in the United States, *Management Science*, vol. 39 no. 9 (Sept.), pp. 1054-1070.

Hill, C.W.L., Hwang, P.; Chan Kim, W. (1990): An Eclectic Theory of the Choice of International Entry Mode, *Strategic Management Journal*, vol. 11, pp. 117-128.

Kepos, P. (1995): *International directory of company histories*, vol. vol I-VIII, Chicago: St. James Press.

Kim, W. Chan, Hwang, P. (1992): Global Strategy and Multinationals' Entry Mode Choice, *Journal of International Business Studies* (First Quarter), pp. 29-53.

Kogut, B., Singh, H. (1988): The Effect of National Culture on the Choice of Entry Mode, *Journal of International Business Studies* (Fall), pp. 411-432.

Kwon, Y.-C., Konopa, L.J. (1993): Impact of host country market characteristics on the choice of foreign market entry mode, *International Marketing Review*, pp. 60-76.

Larimo, J. (1993): Foreign direct investment behavior and performance. An analysis of Finnish direct manufacturing investments in OECD countries, Vaasa: Univeristy of Vaasa, Acta Wasaensia no. 32.

Larimo, J. (1996): Mode of Entry in Foreign Direct Investments: Behavior of Finnish Firms in OECD Markets, *Innovation and International Business, Proceedings of the 22nd EIBA conference*, vol. 1, pp. 409-434, Stockholm: Stockholm School of Economics, IIB.

Larimo, J. (1998): Form of Investment Behavior by Nordic Firms in World Markets, *paper presented at the AIB 1998 Annual Meeting*, October 7-11 1998, Vienna, Austria.

Madhok, A. (1997): Cost, Value and Foreign Market Entry Mode: The Transaction and the Firm, *Strategic Management Journal*, vol 18, no 1, pp. 39-62.

Madhok, A. (1998): The nature of multinational firm boundaries: Transaction costs, firm capabilities and foreign market entry mode, *International Business Review*, vol. 7, no. 3, pp. 259-290.

Martinez, J.I., Jarillo, J.C. (1991): Coordination demands of international strategies, *Journal of International Business Studies* (Third Quarter), pp. 429-444.

NN, (1996): *Directory of Corporate Affiliations*, : Reed Elsevier, Inc..

Padmanabhan, P., Cho, K.R. (1995): Methodological Issues in International Business Studies: the Case of Foreign Establishment Mode Decisions by Multinational Firms, *International Business Review*, vol. 4 no. 1, pp. 55-73.

Rugman, A.; Verbeke, A. (1992): A note on the transnational solution and the transaction cost theory of multinational strategic management, *Journal of International Business Studies*, vol. 23, no. 4, pp. 761-771.

Stopford, J. (1992): *Directory of multinationals*, New York: Stockton Press, 4th ed..

Wilson, B. (1980): The propensity of multinational companies to expand through acquisitions, *Journal of International Business Studies*, vol. 12, pp. 59-65.

Zejan, M.C. (1990): New ventures or acquisitions: the choice of Swedish multinational enterprises, *The Journal of Industrial Economics*, vol. XXXVIII no. 3 (March), pp. 349-355.

APPENDIX

Construct: corporate strategy

(Likert scale 1-5, scale anchors: strongly disagree-strongly agree)

- *Our company's strategy is focused on achieving economies of scale by concentrating its important activities at a limited number of locations.*
- *Our company's competitive position is defined in world-wide terms. Different national product markets are closely linked and interconnected. Competition takes place on a global basis.*
- *Our company's competitive strategy is to let each subsidiary compete on a domestic level as national product markets are judged too different to make competition on a global level possible.*
- *Our company not only recognizes national differences in taste and values, but actually tries to respond to these national differences by consciously adapting products and policies to the local market.*

Construct: control mechanisms (Cronbach's alpha: 0.74)

(Likert scale 1-7)

Personal centralized control

- Centralization aspect (reversed scored): *In some multinational firms, (strategic) decision-making is largely centralized at headquarters, in other firms subsidiaries have a large amount of autonomy. In general, what is this subsidiary's autonomy to decide its own strategies and policies? (scale anchors: very little autonomy-very high autonomy)*
- Direct supervision aspect: *In some multinational firms headquarters' managers strive for a close personal surveillance on the behaviour of their subsidiaries. Other firms do not use this kind of direct personal supervision. Please indicate the degree of personal surveillance that headquarters' managers execute towards this subsidiary. (scale anchors: very little surveillance-very high surveillance)*

Bureaucratic formalized control

- Standardization aspect: *In some multinational firms, all subsidiaries are supposed to operate in more or less the same way. In other firms, such standardized policies are not required. In general, what is the degree of standardization that headquarters requires from this subsidiary? (scale anchors: very low standardization-very high standardization)*
- Formalization aspect: *Some multinational firms have written rules and procedures for everything and employees are expected to follow these procedures accurately. Other firms do not have such strict rules and procedures, or if they have, there is some leniency towards following them. Please indicate the kind of rules and procedures that headquarters exerts towards this subsidiary. (scale anchors: very loose/no procedures-very strict procedures)*

Output control

- Output evaluation aspect: *Some multinational firms exert a high degree of output control, by means of a continuous evaluation of the results of subsidiaries. Other firms exert very little output control beyond the requirement of occasional financial reports. Please indicate the degree of output control that headquarters exerts towards this subsidiary. (scale anchors: very little output control-very high output control)*
- Planning aspect: *Some multinational firms have a very detailed planning, goal setting and budgeting system, that includes clear-cut (often quantitative) objectives to be achieved at both strategic and operational level. Other firms have less developed systems. Please indi-*

cate the type of planning/goal setting/budgeting that headquarters uses towards this subsidiary. (scale anchors: very simple/no planning-very detailed planning)

Control by socialization and networks

- Socialization aspect: *Some multinational firms attach a lot of value to a strong 'corporate culture' and try to ensure that all subsidiaries share the main values of the firm. Others do not make these efforts (or, having made it, have had no success). To which extent do the executives in this subsidiary share the company's main values? (scale anchors: no shared values at all-fully shared values)*
- Informal communication aspect*: Some multinational firms have a very high degree of informal communication among executives of the different subsidiaries and headquarters. Other firms do not foster that kind of informal communication and rely exclusively on formal communication channels. Please indicate the level of informal communication between this subsidiary and headquarters/other subsidiaries of the group. (scale anchors: no informal communication at all-daily informal communication)*
- Formal networks aspect*: Some multinational firms make extensive use of committees/task forces/project groups, both temporary and permanent, made up by executives from different subsidiaries and headquarters. To what extent have this subsidiary's executives participated in this kind of groups in the past couple of years? (scale anchors: no participation at all-very high participation)*
- International management training: *Some multinational firms make extensive use of international (as opposed to purely national) management training programmes. In these programmes executives from different subsidiaries and headquarters follow courses that deal mostly with the transfer of company-specific knowledge. What has been the participation of this subsidiary's executives in these kinds of training programmes in the past couple of years? (scale anchors: no participation at all – very high participation)*

Construct: expatriate presence (Cronbach's alpha: 0.71)

- *How many of the top five jobs in this subsidiary are held by expatriates (employees on temporary assignment from either headquarters or other subsidiaries)? Tick boxes 0-5.*
- *What is the nationality of the managing director of this subsidiary? Tick boxes: nationality of parent/headquarters country, nationality of subsidiary country, other (third country) nationality*
- *Please indicate the number of expatriates currently working in this subsidiary.*

Construct: local responsiveness (Cronbach's alpha: 0.73)

(Six point scale 0%, 1-25%, 26-50%, 51-75%, 76-99%, 100%)

- *Please give your best estimate of the % of R&D incorporated into products sold by this subsidiary that is actually performed by this subsidiary.*
- *Please give your best estimate of the % of company products sold by this subsidiary that have been manufactured (to any degree) by this subsidiary.*
- *Please give your best estimate of the % of company products sold by this subsidiary that have been created or substantially modified for this market.*
- *Please give your best estimate of the % of marketing for company products sold by this subsidiary that is consciously adapted to local circumstances.*

[i] The questions used for the strategy construct and the internal characteristics can be found in the appendix.

[ii] Including the country-of-origin did not have an impact on the significance levels of the other variables.

[iii] These functions are knowledge transfer (transfer of specific technological or managerial knowledge from headquarters to the subsidiary, $Z= -1.251$, $p = 0.105$, one-tailed), position filling (sending an expatriate because headquarters feels local personnel is not qualified, $Z= -1.591$, $p = 0.056$, one-tailed) and training for a position at headquarters ($Z = -1.719$, $p = 0.043$).