Which Borders? The Effect Of Firm-Level and Country-Level Geographic Scope On Post-Acquisition Performance

(Research Note)

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Which Borders Affect Acquisition Outcomes? The Effect Of Firm-Level and Country-Level Geographic Scope On Post-Acquisition Performance

Abstract

Prior research has investigated the role of technology sourcing and market access as determinants of international acquisition performance. Using insights from the literature on organizational capabilities, we argue that multinational capability is itself a valuable resource that cannot be exchanged through the market, and should also be a driver of performance in international acquisitions. In this note, we investigate the sources of value creation in international acquisitions, using a multi-dimensional approach for multi-nationality. The study uses detailed survey data, rather than the more-common financial event study approach. We find that acquisitions across borders have a limited influence on post-acquisition capability enhancement, but access to the acquired geographically distributed resources and organizational capabilities of target firms matters substantially.
Which Borders Affect Acquisition Outcomes? The Effect Of Firm-Level and Country-Level Geographic Scope On Post-Acquisition Performance

This paper posits that the geographic scope of an acquired firm, defined as the multinational spread of its activities, influences post-acquisition capability improvement. Previous research has considered proprietary capabilities of the acquiring and acquired firms as key determinants of value creation potential in acquisitions (Seth, 1990; Harrison et al, 1991; Capron, Dussauge and Mitchell 1998). The research has paid little attention to organizational capabilities, however, focusing instead on functional resources such as marketing know-how and technical capabilities. Multinational geographic scope, which is the focus of this study, is one such valuable organizational capability. We argue that the geographic scope of the target will have a stronger influence on acquisition performance than will the simple dichotomy of domestic versus cross-border acquisitions that is the prior emphasis of research that has examined international acquisitions. In others words, target firms, be they domestic or foreign, with activities that spread across several country environments will tend to provide richer sets of resources than firms with more restricted geographic scope. We expect greater capability enhancement between acquired firms with multinational scope than those with a national scope.

The study emphasizes the role of geographic scope in reflecting the complexity of the process by which acquirers gain access to resources from heterogeneous foreign environments. The resource-based and evolutionary perspectives argue that complex and difficult to imitate resources and capabilities are often sought through acquisitions rather than through discrete factor markets (Wernerfelt, 1984; Dierickx and Cool, 1989). Our study develops this idea in the context of international acquisitions. The study draws from a survey of managers involved in 74 domestic horizontal acquisitions and 177 cross-border horizontal acquisitions.

Background and Proposition

The strategy literature commonly argues that acquisitions are one of the mechanisms by which firms gain access to new resources that reduce costs and increase revenues via resource redeployment (Chatterjee, 1986). Several empirical studies suggest that acquisitions create value by allowing the redeployment of resources to or from the acquired firm. Seth (1990) and Capron (1999) suggest that greater resource redeployment will lead to greater performance. Post-acquisition redeployment will tend to be greatest when either the acquired firm or acquiring firm have particularly strong resources (Capron, Dussauge and Mitchell, 1998).
International business researchers have extended the concept of resource opportunities to include a geographic component. This view recognizes that an extra benefit arises from gaining access to acquired firms with resources that encompass varied environment settings. The notion of geographic scope arises in internalization theory and, more recently, in the reverse internalization argument.

The internalization of intangible assets argument, originally advanced by Hymer (1960), posits that MNEs exist because of their ability to transfer and exploit knowledge more effectively in the intra-corporate context than through external market mechanisms (Buckley and Casson, 1976; Casson, 1987; Caves; 1971; Gupta and Govindarajan, 1991). This argument applies to acquisitions, as an acquisition represents one way of reproducing an intra-corporate context by taking control of an acquired firm, to which the acquirer can redeploy its intangible assets.

Recently, the international business literature has begun to consider a reverse-internalization argument. Since the publication of Cantwell’s (1989) thesis, the field has hypothesized that industries where host countries have advantages in resident technology attract foreign investment (Kogut and Chang 1991). While the traditional internalization focus takes the form of a sectoral “push” of the home country’s technological advantages, the more recent argument posits a geographical “pull” of the host country’s skills (Anand and Kogut, 1997). The acquired firm assets in the recipient country enable the MNE to sustain or add to their competitive advantages, as well as to exploit their current advantages. This flow of resources from host country to home country is becoming known as asset-seeking foreign direct investment or reverse-internalization (Eun, Kolodny, and Scheraga, 1996).

If it makes sense to posit that geographic scope amplifies the potential for acquisitions to improve firms’ capabilities, one can wonder why the empirical literature has reached inconclusive results regarding the potential of cross-border acquisitions to improve performance. Our main premise is that the usual distinction between cross-border and domestic acquisitions suggests a basic association between the geographic origin of the target and the geographic diversity of the target’s resources. Yet, the complexity of business activities speaks against such a simple dichotomy. For example, domestic targets sometimes have resources that encompass diverse geographic setting, while a foreign target might have resources that arise from only one local environment. Such variation suggests the need to cast the analysis at the level of the geographic scope of the target rather than the target’s country of origin.
An acquired firm’s geographic scope will tend to be a more relevant indicator of the geographic diversity to which an acquirer may gain access than the dichotomy between domestic and cross-border acquisitions. Acquired firm multinational scope is an indicator of three aspects of acquisition potential: (1) ownership opportunities stemming from possession of proprietary assets; (2) locational opportunities stemming from access to geographically distributed resource networks; and (3) organizational opportunities stemming from the ability to coordinate intra-corporate knowledge transfer.

First, consider ownership opportunities to gain possession of proprietary assets. Theorists argue that MNEs exist because the hazards associated with market transactions of the firms’ proprietary assets, particularly tacit assets such as R&D skills, make internalization a more efficient mechanism for redeploying those assets in international markets (Hennart, 1982; Caves, 1996). Empirical studies show that firms with greater multinational activity tend to possess more proprietary assets (Kogut and Chang, 1991; Morck and Yeung, 1992). This perspective implies that opportunities for gaining access to proprietary assets through an acquisition are likely to increase with the geographic scope of the acquired firm.

Second, consider locational opportunities to gain access to geographically distributed knowledge. Scholars focusing on the knowledge creation potential of the multinational firm stress the ability of foreign subsidiaries to generate innovations based on resources resident in the heterogeneous host country environments (Bartlett & Ghoshal, 1989; Kogut and Zander, 1995; Birkinshaw, 1997; Dunning, 1990; Frost; 2001). Localized technological and marketing capabilities frequently arise as key resources in studies of cross-border acquisitions (Delios and Beamish, 1999). Eun, Kolodny, and Scheraga (1996) and Morck and Yeung (1992) emphasize the role of acquirer and acquired firms’ technological assets. Marketing expertise, such as brand capital and distribution access, also provides critical resources for accessing new markets. Marketing expertise often involves substantial intangible know-how that it is risky and difficult to develop independently or to obtain in arms length transactions. While the marketing know-how is an intangible public good within the firm, foreign brands may be difficult to exploit in new markets (Caves and Mehra, 1986). Similarly, critical intangible know-how underlying a firm’s sourcing and distribution activities (e.g., supplier relationships, warehouses, and sales force personnel) may be difficult to develop in new markets.
Through their ongoing interaction with their host country environment, firms with greater multinational scope have developed networks of relationships with universities, firms, and suppliers. Participation in external networks in different countries provides the firm with a greater capability to scan the environment, screen new technologies and ideas, and gain access to local resources (Kostova and Zaheer, 1999). Acquired firms with high participation in foreign external networks are more likely to contribute to the innovative search of their acquirers.

Thus, the geographic spread of a target’s activities indicates the diversity of resources that arise in the heterogeneous host country environments of the target. We argue that the multinational scope of the acquired firm’s activities is more likely to account for the resource diversity provided by the acquired firm than the country of origin of the acquired firm per se. In other words, an acquired firm that is based in the same country as the acquirer can provide more international resource diversity if the acquired firm has a multinational scope than a acquired firm that is based in a different country from the acquirer but which has only local scope.

Third, consider organizational opportunities to coordinate intra-corporate knowledge transfer. While an extensive literature shows that multinational firms require substantial organizational and managerial capability to administer knowledge transfer effectively, the research has focused on the internal development of these capabilities rather than on their acquisition (Bartlett and Ghoshal, 1989). We propose that the acquisition of an acquired firm with multinational scope helps the acquiring firm obtain the acquired firm’s capability to manage the diversity of contexts, as well as the acquired firm’s technological and market capabilities. Such organizational capability is complex, unobservable, and difficult to imitate (Rivkin, 2000).

Several studies document the difficulties of integrating international units (Yoshida, 1987; Hennart and Park, 1993). The difficulties of creating a network of interdependent subsidiaries also tend to be extensive (Porter, 1987). Consequently, acquiring firms need to obtain a multinational organizational infrastructure as well as discrete multinational pieces. The existing literature has focused more on the acquisition of individual capabilities, than on the acquisition of coordination capabilities. Adoption of superior coordinative routines not only provides greater efficiency, but also enables different units to learn more quickly from experiments in other parts of the organization.

MNEs that operate in diverse settings can take advantage of accumulated organizational experience in transferring their resources across their units, from home headquarters to foreign
subsidiaries, from foreign units to home locations, and across subsidiaries. Research on international knowledge transfer shows that multinational firms develop skills and processes to carry out international knowledge transfer which takes place within the context of a network of differentiated units (Ghoshal and Bartlett; 1989; Hedlund; 1994; Gupta and Govindarajan, 2000). Such international knowledge transfer commonly implies the development of practices that allows firm to ‘decontextualize’ and ‘recontextualize’ the knowledge that they want to transfer and integrate into the acquired firmed units (Doz and Santos, 1997; Brannen, Liker and Fruin, 1998). Those practices make the firm’s resources less context-specific and more suitable to redeployment at an international scale.

The task of integrating globally dispersed knowledge is fraught with obstacles (Kogut and Zander, 1995; Gupta and Govindarajan, 2000), and development of organizational capability to facilitate this process can take a long time (Dierickx and Cool, 1989). Addition of multinational scope without the requisite organizational capabilities can be costly, but MNEs tend to develop an accumulated experience of intra-corporate knowledge transfer over time. This experience is a valuable asset when the acquirer wants to transfer knowledge to or from the acquired firm. An acquired firm with a multinational scope will tend to transfer and receive knowledge more effectively than an acquired firm with a national scope due to its experience in intra-corporate knowledge transfer.

The arguments suggest that the performance of acquisitions increases with the potential for international expansion of resources. Increased geographic diversity provides opportunities for enhancing capabilities by redeploying complementary resources and tapping new resources from the acquired firm itself and from its environment. Further, the multinational nature of an acquired firm provides opportunities to access coordinative routines and organizational systems that are otherwise difficult to develop internally. In other words, the higher the multinational diversity of the acquired firm, the greater the potential for capability enhancement at the acquirer and in the newly combined firm. Multinational diversity of the target amplifies the argument proposed by the FDI literature on cross-border acquisitions.

In sum, we argue that the multinational scope of the target firm is an important determinant of potential knowledge transfer between the two firms. Targets with multinational scope commonly possess specific proprietary resources, as well as complex coordinative routines and integrative capabilities. This approach includes the traditional emphasis on intangible
operating assets such as technology and marketing skills, while also viewing multinational scope as itself being a key complex and inimitable capability. Accordingly, we propose that the performance of an acquisition increases with the geographic scope of the acquired firm. We will also explore if, after taking into account the effect of the acquired firm’s multi-nationality on post-acquisition knowledge transfer, buying a domestic versus a foreign acquired firm also influences post-acquisition knowledge transfer. We expect little systematic additional influence, consistent with prior equivocal results concerning the performance of cross-border acquisitions.

**Research Design**

We conducted a top-management survey of acquirers involved in 253 acquisitions in Europe and North America between 1988 and 1992. The appendix contains a description of our data collection procedure and of the questions that we used for this study. Table 1 reports descriptive statistics.

********** Table 1 about here **********

We measured post-acquisition performance on two dimensions. First, to investigate the degree of resource transfer associated with acquisitions, we constructed a typology of resources drawing from previous research (Morck and Yeung, 1992; Chatterjee and Wernerfelt, 1991). From this research, we identified four intangible resources that indicate post-acquisition resource transfer: technical (R&D and manufacturing know-how), brand name, supplier relationships, and managerial resources. We measured the extent to which the acquirer uses resources from the acquired firm in each dimension using an ascending five-point scale. Measuring the extent of these transfers following the acquisition allows us to capture not only the quality of the resource fit (i.e., possession of resources and availability of opportunities to redeploy them into new uses) but also the capability of the merging firms to implement the redeployment of their resources into each other’s businesses (Chatterjee, 1986).

Second, we used four other variables to measure post-acquisition capability improvement of the acquirer: change in R&D capabilities, product quality, cost efficiency, and product line extension. Each performance measure consists of a five-point scale.

We measured the geographic variable of the acquired firm with a three-category variable: national scope (1), international scope within one region (2), and global scope (3). The regions were North America, European Union, and Asia-Pacific. In this sample, 40% of the acquired firms have national scope, 40% have international scope within one region, and 20% are global.
Several control variables addressed other influences on acquisition performance.

*Domestic versus cross-border acquisition.* As we mentioned earlier, we will explore whether the fact of buying a domestic versus a foreign acquired firm adds additional explanatory power to post-acquisition knowledge transfer. We used a binary variable.

*Pre-acquisition resource asymmetry.* The potential to create value from an acquisition will depend on the relative resource profile of the acquired and acquirer firms. We expect acquirers to draw knowledge from acquired firms on dimensions where acquired firms have relative strength. This argument arises from both the M&A and FDI literatures. We measured the pre-acquisition resource profile by evaluating the relative strength of the target to the acquirer in R&D, manufacturing, marketing, and managerial areas based on an ascending five-point scale.

*Product similarity.* Product relatedness will tend to lead to synergy. We used a five-point scale to measure the similarity of the products between the acquired and acquirer firms.

*Pre-acquisition acquired and acquirer firms' profitability.* The corporate governance literature has long noted the motive to restructure poorly performing firms through superior management (Jensen and Ruback, 1983). Therefore, we control for the acquired and acquirer firms' pre-acquisition profitability. We measured pre-acquisition profitability relative to industry average with a five-point scale, ranging from much more profitable to much less profitable.

*Past acquisition experience.* Previous acquisition experience may enable acquirers to be more effective in transferring knowledge (Lubatkin, 1987; Pennings, Barkema & Douma, 1994; Singh and Zollo, 1997). We accounted for past acquisition experience by taking the number of previous acquisitions that the acquirer made during the five years before the focal acquisition.

*Acquirer geographic scope.* MNE theory suggests that multinational acquirers may be more likely than domestic acquirers to redeploy resources to targets. We measured acquirer geographic scope with a three-category variable, parallel to target geographic scope: national scope, international scope within one region, and global scope. In the sample, 12% of the acquirers are domestic, 23% have international scope within one region, and 65% are global.

*Market growth.* Acquisitions that take place in industries with low prospects for growth could lead to overall weaker performance than acquisitions in fast growing markets. Firms also might be more likely to redeploy resources in growing industries, rather than in stable or declining industries. We measured expected industry sales growth with a five-point scale, ranging from rapidly growing to rapidly declining.
**Relative size of acquired firm to acquirer.** The acquisition of a relatively large acquired firm is likely to be a more important economic event for the acquirer than is the acquisition of a small target (Agrawal, Jaffe, and Mandelker 1992). Acquisitions involving large acquired firms are more likely to generate operational synergies than those involving smaller ones (Ahuja and Katila, 2001; Seth, 1990). We measured the relative sales of acquired firm to acquirer on a five-point scale (with 1 indicating acquired firm sales less than 10% of acquirer sales and 5 indicating acquired firm sales of more than 100%).

**Results**

Table 2 reports multivariate analyses of the proposition that acquisition performance increases with target geographic scope. The results in Table 2a strongly support the proposition, using redeployment of resources to the acquirer as the measure of acquisition performance. There is a significant positive relationship between greater geographic scope of the acquired firm and the extent to which the acquirer uses the target’s resources after the acquisition. The relationship holds across the four types of resources we investigate: technical skills, brand names, supplier relationships, and managerial expertise. The results hold after controlling for cross-border acquisitions, relative size, relative resource strength, pre-acquisition profitability, and other factors. Notably, we find no impact of cross-border acquisitions on resource transfer. Instead, the multinational scope of the acquired firm is the key driver.

********** Table 2 about here **********

The results in Table 2b, which use capability enhancement of the firm as the acquisition performance measure, also support the proposition. There are significant positive relationships between greater geographic scope of the acquired firm and the extent to which the capabilities of the newly combined firm improved following the acquisition. The result holds for R&D capabilities, product quality, product cost efficiency, and product line extension. As in the resource transfer analysis, we find little impact of cross-border acquisitions on capabilities. Again, the key driver is the multinational scope of the acquired firm.

The results suggest that acquired firms with activities that span different countries provide internationally diverse contexts in which acquirers can obtain new resources and skills that complement their knowledge bases, even if the acquirers are already international in scope. Intra-firm geographical knowledge transfer improves when the acquired firm has developed experience in knowledge transfer through its international expansion. The ability to absorb new
knowledge and transfer it across units depends both on the sender and the recipient of knowledge and their ability to engage in the transfer process (Szulanski, 1996; Lubatkin and Lane, 1998). An acquired firm with a national scope may not have been used to codify or, at least, made efforts to decontextualize its knowledge because the incentives for diffusing its knowledge across foreign units did not exist. Therefore, a firm with only national scope is more likely to possess context-specific resources that are more difficult to transfer back to the acquirer. In addition, most multinational targets possess processes, incentives, and culture to leverage geographically dispersed knowledge that enable the organization to un-bundle and rebundle activities in novel ways (Hagström, 1990). Utilizing dispersed resources requires a mental attitude built on the ability to treat knowledge residing in geographically dispersed units as valuable assets (Bartlett and Ghoshal, 1989). Given that 88% of the acquirers in the sample have at least one-region international scope, it is possible that those acquirers tend to share similar understandings of the capabilities of multinational acquired firms than of domestic firms.

The binary variable that accounts for domestic versus cross-border acquisitions does not have a significant impact on the extent of post-acquisition knowledge transfer and capability enhancement, with the single exception for R&D capabilities enhancement. Indeed, this variable remains insignificant even when the geographic scope variable is not introduced in the equation, i.e., when the domestic/cross-border variable is on its own. This result suggests that one should expect few systematic differences between domestic versus cross-border acquisitions in their potential for capability-based synergy. Further detailed comparative sensitivity analyses show a similar pattern of knowledge transfer between domestic and cross-border acquisitions.

**Conclusions**

This study shows that geographic scope helps account for resource transfers and capability enhancement following acquisitions. The null result for the domestic versus cross border acquisition dichotomy suggests that that simply crossing a border may not be a key issue, while accessing a acquired firm’s dispersed geographic resources has important influences on capability building. Multinational acquired firms provide additional sources of value creation by drawing on national differences and diverse environments, while acquired firms present in a foreign country may not provide the same degree of richness of resources.

Our results shed light on results obtained in empirical comparisons of domestic and cross-border acquisitions (Markides and Ittner, 1994; Eddy and Seifert, 1984; Dewenter, 1995;
Swenson, 1993; Seth, Song and Pettit, 2000). While the recent literature in international business has increasingly addressed the asset-seeking motive in international transactions and FDI, research has emphasized crossing borders rather than gaining access to skills and recombining firms’ recombining geographically-distributed resources. We are now shifting the focus from foreign market entry (country-level emphasis) to gaining and recombining geographically distributed resources that are embedded in acquired firms (firm-level emphasis).

Beyond the traditional ownership and locational advantages stressed in the international business literature, we emphasize the advantages pertaining to the access to the MNE’s organizational know-how, integrative mechanisms, and coordination routines that enables intra-corporate knowledge transfer. Such access does not eliminate problems of post-acquisition integration, but may ease some of the hurdles of knowledge diffusion across the merging firms. Outside the MNC context, the development of new technologies is much more rapid than the development of complex organizational skills in firms. While previous research has focused on market access by technology firms and vice-versa, the acquisition of organizational capital that firms require to manage multiple technologies and markets needs more attention.

Endnotes

1 Studies that have compared outcomes of domestic and cross-border acquisitions offer ambiguous conclusions. In a financial event study, Markides and Ittner (1994) find that the acquirers tend to gain value, counter to the common conclusion in the domestic acquisitions literature that acquiring firm shareholder value remains unchanged. Eddy and Seifert (1984) and Dewenter (1995), by contrast, find little difference between the returns of acquirers that purchase foreign firms and those that purchase domestic firms. In studying the acquisition of U.S. firms, Swenson (1993) reports that acquired firm shareholders benefit more when a foreign company takes over the firm than when the acquirer is a U.S. firm. Dewenter (1995), though, finds no significant difference in the mean level of acquired firm shareholder wealth gains in domestic versus foreign acquisitions. Finally, Seth, Song and Pettit (2000) find that cross-border acquisitions produce gains for acquired firms and acquirers that are quite similar in value to those in domestic cases.

2 Prior studies using this data focus have focused on resource restructuring (Capron, Dussauge, and Mitchell 1998; Capron and Mitchell 1998; Capron, Mitchell, and Swaminathan 2001) and overall performance (Capron 1999), rather than on the influence of multinational scope and cross-border acquisitions on post-acquisition capability improvements.
References


International Business Studies, 26: 417-426.
Table 1. Summary statistics and correlations

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<td>0.08</td>
<td>0.10</td>
<td>0.02</td>
<td>-0.10</td>
<td>0.04</td>
<td>0.28</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brand name transfer from target to acquirer</td>
<td>0.17</td>
<td>-0.03</td>
<td>0.00</td>
<td>0.15</td>
<td>0.00</td>
<td>-0.03</td>
<td>0.12</td>
<td>0.03</td>
<td>0.04</td>
<td>0.01</td>
<td>0.17</td>
<td>0.15</td>
<td>0.35</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supplier relationships transfer from target to acquirer</td>
<td>0.21</td>
<td>-0.05</td>
<td>0.19</td>
<td>0.16</td>
<td>0.26</td>
<td>0.04</td>
<td>0.04</td>
<td>0.08</td>
<td>0.01</td>
<td>-0.03</td>
<td>0.08</td>
<td>0.22</td>
<td>0.41</td>
<td>0.46</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Managerial expertise transfer from target to acquirer</td>
<td>0.21</td>
<td>-0.05</td>
<td>0.23</td>
<td>0.22</td>
<td>0.37</td>
<td>0.03</td>
<td>0.05</td>
<td>0.18</td>
<td>0.01</td>
<td>-0.12</td>
<td>0.10</td>
<td>0.34</td>
<td>0.48</td>
<td>0.30</td>
<td>0.47</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acquirer R&amp;D capability enhancement</td>
<td>0.36</td>
<td>0.10</td>
<td>0.27</td>
<td>0.15</td>
<td>0.06</td>
<td>0.07</td>
<td>0.18</td>
<td>0.04</td>
<td>-0.07</td>
<td>0.04</td>
<td>-0.09</td>
<td>0.29</td>
<td>0.44</td>
<td>0.24</td>
<td>0.24</td>
<td>0.33</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acquirer product quality capability enhancement</td>
<td>0.26</td>
<td>-0.07</td>
<td>0.14</td>
<td>0.01</td>
<td>0.04</td>
<td>0.06</td>
<td>0.13</td>
<td>-0.01</td>
<td>-0.06</td>
<td>0.06</td>
<td>-0.08</td>
<td>0.11</td>
<td>0.41</td>
<td>0.22</td>
<td>0.24</td>
<td>0.20</td>
<td>0.53</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acquirer product cost efficiency enhancement</td>
<td>0.25</td>
<td>-0.01</td>
<td>0.08</td>
<td>0.04</td>
<td>0.03</td>
<td>0.13</td>
<td>0.15</td>
<td>0.16</td>
<td>-0.01</td>
<td>0.03</td>
<td>0.02</td>
<td>0.25</td>
<td>0.31</td>
<td>0.22</td>
<td>0.24</td>
<td>0.23</td>
<td>0.48</td>
<td>0.59</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Acquirer product line scope extension</td>
<td>0.22</td>
<td>-0.01</td>
<td>0.03</td>
<td>0.07</td>
<td>0.01</td>
<td>-0.03</td>
<td>0.07</td>
<td>0.11</td>
<td>0.01</td>
<td>-0.01</td>
<td>-0.02</td>
<td>0.15</td>
<td>0.25</td>
<td>0.31</td>
<td>0.27</td>
<td>0.21</td>
<td>0.42</td>
<td>0.41</td>
<td>0.45</td>
<td>1</td>
</tr>
</tbody>
</table>

Mean 1.78 0.70 2.60 2.85 2.38 3.64 2.90 2.35 4.92 2.53 2.32 1.92 5.00 2.59 2.30 1.69 3.49 3.44 3.47 3.83
s.d. 0.76 0.46 1.19 1.11 0.98 1.27 1.10 0.94 6.62 0.70 0.85 1.29 2.39 1.57 1.26 1.02 0.80 0.68 0.74 0.87
Minimum 1 0 1 1 1 1 1 1 0 1 1 1 2 1 1 1 1 1 1 1
Maximum 3 1 5 5 5 5 5 5 50 5 5 5 10 5 5 5 5 5 5 5

(N varies from 230 to 248)
Table 2a. OLS influences on the extent of post-acquisition knowledge transfer (n=251)

<table>
<thead>
<tr>
<th>Post-acquisition transfer from target to acquirer of:</th>
<th>Technical skills (1a)</th>
<th>Brand names (1b)</th>
<th>Supplier relationships (1c)</th>
<th>Managerial expertise (1d)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Target geographic scope</td>
<td>0.14**</td>
<td>0.18**</td>
<td>0.17**</td>
<td>0.17**</td>
</tr>
<tr>
<td>2. Cross-border acquisition (0=domestic; 1=cross-border)</td>
<td>-0.05</td>
<td>0.01</td>
<td>-0.02</td>
<td>0.01</td>
</tr>
<tr>
<td>3. Relative innovation strength of target to acquirer</td>
<td>0.38***</td>
<td>-0.07</td>
<td>0.11</td>
<td>0.09</td>
</tr>
<tr>
<td>4. Relative commercial strength of target to acquirer</td>
<td>-0.07</td>
<td>0.16*</td>
<td>-0.03</td>
<td>-0.07</td>
</tr>
<tr>
<td>5. Relative managerial strength of target to acquirer</td>
<td>-0.04</td>
<td>-0.08</td>
<td>0.18**</td>
<td>0.28***</td>
</tr>
<tr>
<td>6. Product similarity</td>
<td>0.09</td>
<td>-0.03</td>
<td>0.04</td>
<td>0.01</td>
</tr>
<tr>
<td>7. Pre-acquisition target profitability</td>
<td>0.01</td>
<td>-0.02</td>
<td>-0.05</td>
<td>-0.05</td>
</tr>
<tr>
<td>8. Pre-acquisition acquirer profitability</td>
<td>0.03</td>
<td>-0.06</td>
<td>-0.01</td>
<td>-0.02</td>
</tr>
<tr>
<td>9. Acquirer acquisition experience</td>
<td>0.05</td>
<td>0.04</td>
<td>-0.07</td>
<td>-0.01</td>
</tr>
<tr>
<td>10. Acquirer geographic scope</td>
<td>-0.06</td>
<td>0.01</td>
<td>0.01</td>
<td>-0.09</td>
</tr>
<tr>
<td>11. Forecasted demand growth</td>
<td>0.05</td>
<td>0.18**</td>
<td>0.09</td>
<td>0.08</td>
</tr>
<tr>
<td>12. Pre-acquisition relative annual sales of target to acquirer</td>
<td>0.15**</td>
<td>0.09</td>
<td>0.12</td>
<td>0.22***</td>
</tr>
</tbody>
</table>

R-Square: 0.22 0.10 0.14 0.25

Table 2b. OLS influences on the extent of post-acquisition capability enhancement (n=251)

<table>
<thead>
<tr>
<th>Post-acquisition capability enhancement of acquiring firm</th>
<th>R&amp;D capabilities (2a)</th>
<th>Product quality (2b)</th>
<th>Product cost efficiency (2c)</th>
<th>Product line extension (2d)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Target geographic scope</td>
<td>0.25***</td>
<td>0.14*</td>
<td>0.19**</td>
<td>0.18**</td>
</tr>
<tr>
<td>2. Cross-border acquisition (0=domestic; 1=cross-border)</td>
<td>0.08</td>
<td>-0.10</td>
<td>0.05</td>
<td>0.06</td>
</tr>
<tr>
<td>3. Relative innovation strength of target to acquirer</td>
<td>0.22***</td>
<td>0.08</td>
<td>0.02</td>
<td>-0.06</td>
</tr>
<tr>
<td>4. Relative commercial strength of target to acquirer</td>
<td>0.05</td>
<td>-0.01</td>
<td>-0.07</td>
<td>0.08</td>
</tr>
<tr>
<td>5. Relative managerial strength of target to acquirer</td>
<td>-0.08</td>
<td>0.09</td>
<td>-0.02</td>
<td>-0.05</td>
</tr>
<tr>
<td>6. Product similarity</td>
<td>0.05</td>
<td>0.10</td>
<td>0.08</td>
<td>-0.06</td>
</tr>
<tr>
<td>7. Pre-acquisition target profitability</td>
<td>0.08</td>
<td>0.15*</td>
<td>-0.05</td>
<td>-0.04</td>
</tr>
<tr>
<td>8. Pre-acquisition acquirer profitability</td>
<td>-0.01</td>
<td>0.02</td>
<td>0.07</td>
<td>0.03</td>
</tr>
<tr>
<td>9. Acquirer acquisition experience</td>
<td>0.01</td>
<td>0.04</td>
<td>-0.06</td>
<td>-0.14*</td>
</tr>
<tr>
<td>10. Acquirer geographic scope</td>
<td>-0.04</td>
<td>0.03</td>
<td>-0.01</td>
<td>-0.03</td>
</tr>
<tr>
<td>11. Forecasted demand growth</td>
<td>-0.14*</td>
<td>-0.09</td>
<td>0.01</td>
<td>-0.05</td>
</tr>
<tr>
<td>12. Pre-acquisition relative annual sales of target to acquirer</td>
<td>0.22***</td>
<td>0.05</td>
<td>0.21***</td>
<td>0.12</td>
</tr>
</tbody>
</table>

R-Square: 0.24 0.09 0.11 0.08

*** p <0.01; ** p < 0.05; * p < 0.10 (two-tailed tests)
APPENDIX 1: SURVEY PROCESS

The use of a survey to account for post-acquisition knowledge transfer is an important difference between this study and several previous studies based on secondary data. These studies have revealed many important relationships between the pre-acquisition characteristics of the merging firms’ resource endowment (e.g., advertising or R&D expense ratio) and acquisition performance. Prior analysis has identified conditions that may eventually lead to a process of resource redeployment after the acquisition between the merging firms, but they do not explicitly capture the ability of those firms to effectively transfer knowledge and enhance their capabilities. Most large-sample research concerning acquisitions focuses on publicly-traded U.S. firms (e.g., Haunschild, 1994), often emphasizing larger firms and acquisitions (e.g., Davis and Stout, 1992; Cannella & Hambrick, 1993; Hayward and Hambrick, 1993). This research typically relies on publicly available financial and structural data, and lacks fine-grained information concerning post-acquisition behavior because determining the extent of knowledge transfer cannot be easily identified from the firm’s public announcements. Acquisitions research that includes archival information concerning non-U.S. firms and small private U.S. firms also typically lacks detailed internal information (e.g., Freeman, Carroll, & Hannan, 1983; Mitchell, 1994). To overcome these limits, we surveyed the managers of the acquiring firms. Survey data have been used previously in the strategic management literature to gather data on firms’ attributes and internal processes (Hunt, 1990; Datta, 1991; Very, Lubatkin, Calori and Veiga, 1997). Our survey methodology provides extensive information concerning post-acquisition behavior despite the substantial number and wide variety of firms.


The data collection process proceeded in four phases. First, we developed measurement scales by reviewing relevant literature and by completing 25 on site-interviews with CEOs from large firms, academics and consultants. We pre-tested these scales with a group of academics and consultants. Next, a bilingual researcher pre-tested the preliminary versions of the resulting questionnaires (in both English and French) with senior executives of large U.S. and European firms attending executive education programs in two major business schools located in the United States and in France. These pre-tests led to the revision of several items to improve their clarity as well as the addition of several new items identified during the interviews. The third stage consisted of on site-interviews with CEOs or executives in charge of their acquisition programs in 10 large firms, resulting in the final versions of the questionnaire. In the final stage, we mailed the survey to the acquiring companies included in the sampling frame described above. We addressed the surveys to the chief executives of the business units that undertook the acquisition. In the cover letter, we requested that the survey be completed either by the CEO or by a senior executive with overall responsibility for the acquisition case studied. Following
Dillman (1978), we mailed two follow-up letters and one replacement questionnaire following the initial mailing.

We used a single informant at the acquirer for information concerning each acquisition. Although the use of multiple respondents would have reduced concerns about potential response biases, respondents had to be knowledgeable about the firm and its competitive environment (Campbell, 1955), as well as the consolidation processes following the acquisition. In a large sample study such as ours, identifying and obtaining responses from multiple well-informed respondents is extremely problematic. The key methodological solution in using a single respondent approach is to find the most appropriate respondent (John and Reves, 1982). Thus, we qualified our respondents as individuals who held a CEO or equivalent position, or had been involved as senior managers of the acquisition process. We recognize that the survey records only the acquirers’ views of the acquisition. However, the managers from the acquiring firms tend to be the most knowledgeable about post-acquisition activities, owing to the high level of acquired firm CEO turnover following acquisitions (Walsh, 1988). From a practical standpoint, it is often next to impossible to track former executives of the acquired firm, since in many cases the acquired firm is no longer a separate entity.

From the initial sample, we mailed questionnaires to the 1,778 acquirers for whom we obtained addresses. We received a total of 273 completed questionnaires, representing a response rate of 15%. This response rate is comparable with the ones found in the most recent large-scale surveys involving executives (Gatignon, Robertson and Fein, 1997; Powell and Dent-Micallef, 1997; Robertson, et al., 1995). This response rate is a reasonable one given the dispersed setting of the survey in more than a dozen countries on two continents, the diversity of firms in the survey, the senior positions of the respondents (CEO, president, executive chair, vice president of finance, and managing director), and the sensitivity of the information. Following a check to ensure that these cases all represented horizontal acquisitions, we eliminated 20 responses. The final data set includes 253 unique acquired firms and 190 unique acquirers, with a smaller number of acquirers occurring because some firms acquired more than one acquired firm (and thus returned several questionnaires to analyze the different acquisition cases involved, answering one questionnaire for each case). Out of these 253 acquisitions, 177 are cross-border, 74 are domestic, and 2 could not be accurately identified.

We evaluated non-response biases by comparing the industries represented in our sample with the initial sample used. We found no differences in the industries represented. We also compared early respondents (first half) with late respondents (second half), following the Armstrong and Overton procedure (1977). We found no significant differences on key characteristics such as market conditions, acquisition motives or industry characteristics, suggesting that non-response bias should not be a problem. Overall, the data represent a wide range of industries, countries, firms, and scope of acquisition. A more detailed description is available upon request.
APPENDIX 2: SURVEY INSTRUMENTS

A. POST-ACQUISITION KNOWLEDGE TRANSFER MEASURES

The following sections ask questions about the transfer of resources, knowledge, and capabilities across the acquired business and your existing business. Please use the scale below to assess the extent to which people have been collaborating and resources have been transferred.

TRANSFER OF RESOURCES, KNOWLEDGE, AND CAPABILITIES

To what extent have you used resources from the acquired business to assist your existing business?

<table>
<thead>
<tr>
<th></th>
<th>NOT AT ALL</th>
<th>TO SOME EXTENT</th>
<th>TO A VERY LARGE EXTENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Use of acquired business’s product innovation capabilities</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Use of acquired business’s know-how in manufacturing processes</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Use of acquired business’s brand name</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Use of acquired business’s supplier relationships</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Use of acquired business’s general management expertise</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

B. POST-ACQUISITION PERFORMANCE

The following sections deal with the effects of the acquisition on performance.

Answer section (a) or section (b)

Answer section (a) if the acquired business has continued to operate mainly on a stand-alone basis.

Answer section (b) if the acquired business has been substantially integrated into your existing business.

(a) What has been the impact of the acquisition on the positions of the acquired and existing businesses?

<table>
<thead>
<tr>
<th></th>
<th>Acquired business</th>
<th>Your existing business</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NEGATIVE IMPACT</td>
<td>POSITIVE IMPACT</td>
</tr>
<tr>
<td>1. R&amp;D capabilities</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>2. Product quality</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>3. Product cost</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>4. Broadening of product line</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>

(b) What has been the impact of the acquisition on the position of the consolidated business?

<table>
<thead>
<tr>
<th></th>
<th>Impact on the consolidated business</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NEGATIVE IMPACT</td>
</tr>
<tr>
<td>1. R&amp;D capabilities</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>2. Product quality</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>3. Product cost</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>4. Broadening of product line</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>

C. ANTECEDENTS OF RESOURCE REDEPLOYMENT

Geographic scope of the merging firms

Geographical scope of the acquired firm’s operations
1. Domestic/national
2. International (but limited to one geographic zone; i.e., Europe, North America, or Asia)
3. International/global
Geographical scope of the acquiring firm’s operations
1. Domestic/national
2. International (but limited to one geographic zone; i.e., Europe, North America, or Asia)
3. International/global

**Resource profile.** Please assess the acquired business’s position, compared to your existing business’s position at the moment of the acquisition.

<table>
<thead>
<tr>
<th>The acquired business position was:</th>
<th>WEAKER</th>
<th>EQUAL</th>
<th>STRONGER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Innovativeness</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manufacturing processes</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Commercial assets</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Managerial capabilities</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Product similarity** Please compare your existing business with the acquired business just before the acquisition.

<table>
<thead>
<tr>
<th>Your products were similar</th>
<th>NOT AT ALL</th>
<th>ABSOLUTELY</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
</tbody>
</table>

**Pre-acquisition profitability of the merging firms.**
Profitability (profit/capital employed) of the acquired business relative to industry average before the acquisition:
1. Much more profitable
2. More profitable
3. Equivalent
4. Less profitable
5. Much less profitable

Profitability (profit/capital employed) of the acquiring firm relative to industry average before the acquisition:
1. Much more profitable
2. More profitable
3. Equivalent
4. Less profitable
5. Much less profitable

**Acquisition experience:** Number of businesses or firms acquired by the acquiring firm within the last five years

**Relative size.** Relative proportion of the acquired business’s annual sales in comparison to your firm’s sales before the acquisition (in the line of business concerned):
1. < 25%
2. 25-49%
3. 50-74%
4. 75-100%
5. > 100%

**Industry growth.** Forecasted demand in your industry within the next five years
1. A RAPIDLY GROWING MARKET
2. A SLOWLY GROWING MARKET
3. A STABLE MARKET
4. A SLOWLY DECLINING MARKET
5. A RAPIDLY DECLINING MARKET