THE EFFECT OF INNOVATION CAPABILITIES AND EXPERIENCE ON CROSS-BORDER ACQUISITION PERFORMANCE
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ABSTRACT

Due to the integration of the European market, the globalization process, and the rising importance of technological innovation, there has been a surge in cross-border acquisition strategy for European firms. Innovative technology and experience are the main drivers behind firms’ acquisition imperatives to realize sound performance. Based on the resource-based view and organizational learning perspective, our empirical research focuses on the effects of European firms’ innovative capabilities and experience on their acquisition performance when targeting United States firms. The results indicate that both innovative capabilities and experience have a positive effect on acquisition performance. This suggests that in order to have successful acquisition performance, European firms need to reinforce their innovative capabilities and experience in articulating cross-border acquisition strategy. In addition, we discuss the interaction effect that relatedness has on the acquisition performance of European firms. Our findings indicate that related acquisitions associated with redundant or similar innovative capabilities and acquisition experience hinder acquisition performance. We posit that relatedness has a negative moderating effect on acquisition performance.

JEL: M16

KEYWORDS: Resource-based view, organizational learning, cross-border acquisition, innovation capability, acquisition experience, relatedness.

INTRODUCTION

Merger and acquisition (M&A) has long been a key strategy for firms wishing to initiate strategic growth and expansion (Shimizu, Hitt, Vaidyanath, and Pisano, 2004). Acquisitions represent a significant strategic choice, with increased global activity over the last decade (Boeh, 2011). As the globalization of business radically increases, it is evident that firms encounter opportunities for growth through cross-border acquisitions (CBAs). The increasing globalization of business has heightened both the opportunities and the pressures for firms to engage in CBAs (Hitt, Ireland, and Lee, 2000). The recent decade has proven that the already unprecedented number of CBAs is continually increasing (UNCTAD, 2011). Typical phenomena observed with the current acquisitions streams include more global attributes, with the value of CBAs growing more significant (Bertrand and Zuniga, 2006). However, numerous studies suggest that the intended CBAs are not highly successful.

Various motives induce firms to pursue CBAs. Many acquirers pursue CBAs to enhance their capability to gain resources and knowledge (Bartlett and Ghoshal, 1988; Luo, 2000). Specifically, studies indicate that there is a high correlation between research and development (R&D) expenditures and M&A activity, with firms utilizing acquisition strategy to obtain technology (Blonigen, 1997; Blonigen and Taylor, 2000; Kogut and Chang, 1991). This suggests that a technology and innovation seeking motive can be considered as an important driver of CBA. Previous studies have examined technological and innovative asset seeking intent in the context of European acquisitions, and observations of European M&A indicate growth in CBA activities (Sleuwaegen and Valentini, 2006). Scholars have posited that the integration of
Europe, the introduction of the euro, the globalization process, and technological innovation are causal factors behind the increasing number of acquisitions in Europe (Petroulas, 2007; Sleuwaegen and Valentini, 2006). The integration of European markets has further contributed to the surge in CBAs as firms search beyond national borders for promising acquisition partners (Frey and Hussinger, 2011).

Innovation and technological motives have been found to be strong in the case of European CBAs. Narula (1999) asserts that the main imperative of the single European market initiative was to narrow the technological and economic gap between the European Union (EU) and the United States (US). Crescenzi, Rodriguez-Pose, and Storper (2007) also state that the significant gap in innovative capacity between the EU and the US provides the impetus for European firms to implement vigorous innovation seeking CBA strategies. Frey and Hussinger (2006) also note that enhanced technological competencies are the main drivers behind European CBA attempts. As CBA activities demonstrate firms’ strategic intent to vigorously search for technological innovation (Cefis and Marsili, 2006), the relationship between innovation capability and CBA performance has received escalating attention in the academic literature (Bertrand and Zuniga, 2006; Sleuwaegen and Valentini, 2006; Veugelers, 2006).

Strategic management and international business research has generated important findings relevant to the effects of acquisition experience on the performance of CBAs. CBAs are complex events which diverge in various dimensions (Zollo and Singh, 2004). European firms’ CBA strategies confront uncertainty and unfamiliar preferences that lead to the probability of acquisition failures (Barkema, Bell, and Pennings, 1996). In order to solve such failures, companies must prioritize the development of knowledge and the routines necessary for learning (Nelson and Winter, 1982; Nadolska and Barkema, 2007). Padmanabhan and Cho (1999) stressed that experienced acquirers may have developed the skills and capabilities to effectively manage CBAs. Accordingly, acquisition experience can indeed have an effect on performance (Haleblian and Finkelstein, 1999; Hayward, 2002). Lubatkin (1983) also suggested that a firm with prior acquisition experience may be more adroit regarding the management of the indispensable structural changes and therefore avoid administrative problems. It is therefore plausible that European firms with acquisition experience will likely have better performance in CBAs.

Our research questions focus on analyzing the effects of the innovative capabilities and experience of European firms targeting US on the acquisition performance. Intense global competition and technological advances have pressured European firms to adjust their economic organization and redefine their core competencies to construct technological assets (Bertrand and Zuniga, 2006). Through the combination of innovation capability and accumulated experience, European firms began utilizing CBAs as a strategic method to acquire new knowledge and innovative capabilities to enhance firm performance (Uhlenbruck, Hitt, and Semadeni, 2006; Vermeulen and Barkema, 2001).

We present our research in the following sequence. In the first section, we discuss the theoretical background and our hypotheses about the effect of innovation capability and acquisition experience, as well as the moderating effect of relatedness, on acquisition performance. In the second section, we discuss methodology and describe our variables and their measurements. In the third section, we present the results of our analysis including descriptive statistics and the hierarchical regression analysis. In the last section, we provide conclusions along with additional discussions.

LITERATURE REVIEW AND HYPOTHESES

Innovation Capabilities and CBA Performance

A substantial body of literatures asserts that firms are seeking to learn from knowledge sources beyond the boundaries of their own firms (Cassiman and Veugelers, 2002; Veugelers and Cassiman, 1999). Firms have their own knowledge bases (Levinthal and March, 1993; March 1991) which can be expanded
through knowledge enhancing investments and acquiring new knowledge (Cohen and Levinthal, 1989; Huber, 1991). Strategically, acquisitions expand and promote exploration which in turn helps firms overcome the inertia and rigidity that results from exploiting only the firm's existing knowledge base (Vermeulen and Barkema, 2001). Accordingly, CBAs are a fundamental management strategy for gaining competitive advantage (Driffield and Love, 2005) by providing access to foreign technological capabilities and knowledge (Neary, 2007; Kümmerle, 1999). Innovation capabilities and knowledge bases acquired through CBAs permit innovation combinations that potentially increase the chances that a firm will develop innovation driven performance (Nelson and Winter, 1978; Zahra, 1996). Previous research indicates that a firm’s absorptive capacity is developed over time through firms’ own innovation capabilities and acquiring other firms’ R&D capabilities enhances absorptive capacity and thus performance (Cohen and Levinthal, 1990; Tsai, 2001). In this vein, the acquiring firm’s existing innovative capability is necessary for learning and applying the acquired new knowledge (Bierly and Chakrabarti, 1996; Cohen and Levinthal, 1990, Dutta and Kumar, 2009). Innovation intensive firms demonstrate a propensity to engage in acquisitions for more innovation for sound performance implications (Dutta and Kumar, 2009). Following this reasoning, we claim that the innovation capabilities of European firms have a positive impact on the performance.

**Hypothesis 1:** The higher the innovation capabilities of European firms, higher the CBA performance.

**Acquisition Experience and CBA performance**

The significance of experience and learning in acquisitions has been explored in the literatures on organization learning (Cyert and March, 1963; Levitt and March, 1988; March, 1991; Nelson and Winter, 1982). Firms acquire experience through being exposed to past events, activities, and capabilities (Zahra and George, 2002). Acquiring firms gain experience from prior engagement in acquisitions. Based on organization learning theory, researchers assert that prior experience develops the absorptive capacity of a firm by providing a repertoire of past investments and routines that assists the firm in recognizing and selecting targets and successfully implementing the integration process (Barkema and Vermeulen, 1998; Cohen and Levinthal, 1990; Nelson and Winter, 1982). Nadolska and Barkema (2007) suggest that acquisition experience is crucial in the success and survival of CBAs. Padmanabhan and Cho (1999) posit that experienced acquirers develop the skills to effectively manage CBAs. Similarly, other researchers have found a positive relationship between acquisition experience and CBA performance (Bruton, Oviatt, and White, 1994; Fowler and Schmidt, 1989; Hitt, Keats, and DeMarie, 1998). Therefore, it is expected that acquisition experience and the routines created through strategic acquisition activity will enhance the performance of the acquiring firm.

**Hypothesis 2:** The higher the acquisition experiences of European firms, higher the CBA performance.

**Moderating Effect of Relatedness on CBA Performance**

Relatedness refers to the extent of similarity in strategy, resources, and knowledge a target firm has compared to an acquirer (Jemison and Sitkin, 1986). The arguments against relatedness contend that in related acquisitions firms become limited to targets that are similar in resources and R&D patterns (Harrison, Hitt, Hoskisson, and Ireland, 1991; Wolpert, 2002; Higgins and Rodriguez, 2006). This reasoning points to a resource redundant propensities between the combined firms (Zollo and Singh, 2004). Duplication of existing resources (King, Slotegraaf, and Kesner, 2008) has an adverse effect on acquisition performance. Relatedness between firms will weaken the innovative capabilities of an acquired firm to provide novel and innovative resources (King et al., 2008) and new knowledge (Ahuja and Katila, 2001; Cloodt, Hagedoorn, and Kranenburg, 2006) concerning other markets and industries. Basically, relatedness leads to over commitment to preexisting resources resulting in inflexibility, lowered adaptability, and poor responsiveness to changes, and consequently to negative performance (Hill and
Hoskisson, 1987).

Furthermore, Anand, Capron, and Mitchell (2005) suggest that access to heterogeneous resources and environments is important for CBA performance. It is imperative for acquiring firms to enhance capabilities by acquiring access to diverse resources and environments. Sorenson and Sorenson (2001) assert that distinctiveness between firms is an important attribute for the creation of complementary knowledge and the development of new products. It is of significance that a certain degree of differentiation in technological capabilities is required for better innovative capability and consequently enhanced acquisition performance (Ghoshal, 1987; Hitt, Hoskisson, Johnson, and Moesel, 1996). Unrelated acquisitions provide acquiring firms with a broader pool of intellectual capital providing more chances for synergies and better acquisition performance (Brage and Eckerstrom, 2008). Consistently, manifold scholars have found that relatedness does not play a significant role in better acquisition performance in the case of the European firm studies (Gregoriou and Renneboog, 2007; Yen and Andre, 2006). Related acquisitions are likely to be diminutive when firms in the same industry possess highly comparable intangible assets. Therefore, we reason that the moderating effect of relatedness impedes the CBA performance of European firms.

**Hypothesis 3a: Relatedness negatively moderates the positive relationship between innovation capabilities and CBA performance.**

Organizational learning theory suggests that when executing complex organizational tasks such as acquisitions, experience diversity (Hayward, 2002; Huber, 1991; Zahra and George, 2002) is crucial for performance. Diverse experiences provide rich data about the causes of acquisition success or failure (Cheng and Van de Ven, 1996; McGrath, 2001) and provide better solutions when problems related to acquisitions emerge. Beckman and Haunschild (2002) posit that CBA implementation is a very complex business process which requires heterogeneous experience, and they found that more effective learning between firms occurs when acquiring firms interact with firms that have experience in implementing diverse types of acquisitions. At the same time, however, related targets tend to provide firms with redundant or similar experience, and thus do not provide the diverse skills and knowledge required for better acquisition performance (Levinthal and March, 1993; Hayward, 2002). Firms tend to make inferences from a narrow range of acquisitions (Levinthal and March, 1993) causing them to erroneously generalize previous acquisition experience. Acquisitions with related firms hamper the exploration of novel markets and capabilities, rendering firms vulnerable to competitors whose acquisitions coevolve with markets and change from new and diverse experience (Leonard-Barton, 1992; Penrose, 1959). Therefore, we posit that relatedness of acquisition experience will have a negative moderating effect on acquisition performance.

**Hypothesis 3b: Relatedness negatively moderates the positive relationship between acquisition experience and CBA performance.**

Therefore, the following regression equation was estimated to identify the determinants of CBA performance:

\[
\text{ROA} = \alpha + \beta_1 (\text{innovation capability}) + \beta_2 (\text{acquisition experience}) + \beta_3 (\text{relatedness}) \\
+ \beta_4 (\text{innovation capability} \times \text{relatedness}) \\
+ \beta_5 (\text{acquisition experience} \times \text{relatedness}) + \epsilon. \quad (1)
\]
METHODOLOGY

Sample and Data

Cross-border acquisitions of US firms conducted by firms from the EU 27 were collected through the Thomson SDC database for the period of 1993 to 2007. Both the acquirer and target firms selected for our data are in the public domain. Our sample consists of 220 cross-border acquisition transactions of 146 acquiring firms from 12 European countries. While most other research mainly focuses on either the United Kingdom or one specific European country, our data cover acquisition transactions from a number of European countries. We maintain that the collected empirical data will contribute to current research on CBAs.

Dependent Variables

Cross-border acquisition performance was measured through the return on assets (ROA) of acquirer firms. Bromiley (1986) states that measures of ROA are suitable for research because firms rely on accounting performance measures when formulating and initiating strategic action such as acquisitions. Taking into consideration the long-term effects of knowledge transfer and integration of innovation post-acquisition, consistent with research of Singh and Zollo (1998) and Zollo and Singh (2004), our research renders the acquiring firm’s profitability empirically as post three years ROA. Zollo and Singh (2004) have used ROA to assess the effects of acquisition experience and Miller (2006) utilized ROA as a dependent variable to test for the effects of relatedness on acquisition performance. The ROA data were collected from the COMPUSTAT database.

Independent Variables

We measured innovation capability based on R&D intensity. Research contends that R&D intensity has a high level of effect on innovation (Hagedoorn and Duysters, 2002). Previous research has demonstrated R&D intensity as a measure of innovative capability (Bierly and Chakrabarti, 1996; Cohen and Levinthal, 1990; Dutta and Kumar 2009; Tsai, 2001). We posit that R&D intensity is an appropriate proxy to measure innovative capability. In our research, R&D intensity was defined as R&D expenditures divided by total sales. R&D intensity for the European acquiring firms for the three years prior to acquisitions was collected from the COMPUSTAT database. As for acquisition experience, consistent with prior research, it was measured by the number of acquisitions conducted by focal firms (Halebrian and Finkelstein, 1999; Hayward, 2002; Hitt et al., 1998; Nadolska and Barkema, 2007; Vermeulen and Barkema, 2001; Zollo and Singh, 2004). We assessed the number of recent acquisitions undertaken by the acquirer firm in the three years prior to transaction year. The data on acquisition experience were collected from the Thomson SDC database.

Moderating Variable

Business relatedness refers to similarities in markets and industries in acquisition transactions (Homberg, Rost, and Osterloh, 2009). The statistical data for this variable were input utilizing the SIC codes that reflect the primary line of business for the acquirer and target firms (Halebrian and Finkelstein, 1999; Homberg et al., 2009). Utilizing the four-digit SIC code obtained through the Thomson SDC database, we classified the acquisition as related if the four digits were identical and unrelated acquisitions if the digits differed. If the acquirer and target firms were in the same industry sector, we coded the acquisition transaction as “one,” meaning “related.” If they were not, we coded the transaction as “zero” meaning “unrelated.”
Control Variables

Several factors were controlled for analyzing CBA performance. Firm size was measured by the total assets of acquirer and target firms. This variable was controlled because larger firms tend to have higher ROA or R&D intensity due to their size (Hayward, 2002; Nadolska and Barkema, 2007). We also operationalized the R&D intensity as innovation capacity; however Lev (2001) measured innovation capability by intangible assets as a proxy, while other researchers measured innovation capacity by expenditures on intangible assets (Arundel, Lorenz, Lundvall, and Valeyre, 2007). Due to this conflicting view, we controlled for the intangible assets of acquirer and target firms as they can pose an influence when measuring innovation capacity by R&D intensity. The R&D intensity of US target firms was controlled in order to assess the effects of the innovation capacity of European acquiring firms on CBA performance. Makri, Hitt, and Lane (2010) stated that innovation capabilities are particularly crucial in the high-tech environment. Therefore, we assumed that the effects of knowledge integration on post-acquisition performance in high-tech industries and controlled the acquirer and target firms in the high-tech industry as a dummy variable. The information was collected from the Thomson SDC database and we gave firms in high-tech industries a score of “one,” and those in non-high-tech industries a “zero.”

Analysis

A hierarchical regression analysis was used to examine our hypotheses (Cohen, Cohen, West, and Aiken, 2003). The control variables were entered first, followed by the independent variables (innovative capabilities and acquisition experience) in Step 2. Relatedness was entered in the third step and, finally, in Step 4 the interaction term was included in order to discern the moderating effect of related-unrelated acquisitions. As our hypotheses assume interaction terms based on relatedness between the acquiring and target firms, a regression analysis is appropriate when analyzing these effects (Aiken and West, 1991; Jaccard, Turrisi, and Choi, 1990). The hierarchical regression analysis has been utilized before in other research, such as that conducted by Sarala and Vaara (2010) and Casal and Fontela (2007) to analyze the impact of independent and control variables in CBAs, and distinguish between direct and interaction effects.

RESULTS

Table 1 presents the descriptive statistics of the empirical analysis. Table 2 reports the results of the hierarchical regression analysis to test the hypotheses. Multicollinearity was checked for the variance inflection factor (VIF) (Aiken and West, 1991), which evaluates the extent to which the relationships among the independent variables inflate the standard error. We found that they were all lower than 10 (Neter, Kutner, and Wasserman, 1990), which indicates that there is no problem in implementing the regression analysis. In Step 1, where the effect of control variables was tested, we found that except for cases in which the acquirer was in a high-tech industry, all other control variables were insignificant, suggesting that an acquiree’s acquisition performance is independent of variables such as the assets of the participating firms or innovative capability of the target. Step 2 presents support for Hypothesis 1 and indicates that an acquiring firm’s innovative capability is positively related to the acquisition performance ($\beta=0.164; p<0.01$), thus we posit a firm’s innovative capabilities are of crucial importance for successful acquisition performance. Step 2 also examines Hypothesis 2 and reports evidence that an acquiring firm’s acquisition experience has a positive and significant effect on performance ($\beta=0.190; p<0.01$). To verify Hypothesis 3a and 3b, about the moderating effect of relatedness on acquisition performance, an interaction term was added in Step 4. Step 4 represents the full estimation of our research and, as shown in the table, innovative capability and acquisition experience of the acquiring firm continue to be significant in the proposed directions. The results from Step 4 support that moderating effect of relatedness through a regression analysis of the interaction between independent and moderating variables to the dependent variables (Baron and Kenny, 1986). Moderating effects prevail if the increment of $F(\Delta F)$
and the interaction term are significant, which is consistent with other CBA research (Casal and Fontela, 2007).

Table 1: Descriptive Statistics and Correlation Matrix

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACQ High Tech</td>
<td>0.47</td>
<td>0.40</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TAR High Tech</td>
<td>0.55</td>
<td>0.49</td>
<td>0.627**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ACQ Asset</td>
<td>2371.</td>
<td>496.</td>
<td>0.010</td>
<td>-0.011</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TAR Asset</td>
<td>1460.</td>
<td>337.44</td>
<td>-0.154'</td>
<td>-0.173'</td>
<td>0.275**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ACQ Int Asset</td>
<td>3386.</td>
<td>496.50</td>
<td>-0.009</td>
<td>-0.094</td>
<td>0.515**</td>
<td>-0.018</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TAR Int Asset</td>
<td>111.97</td>
<td>19.76</td>
<td>-0.057</td>
<td>-0.151'</td>
<td>0.133'</td>
<td>0.524**</td>
<td>0.020</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TAR Intensity</td>
<td>0.04</td>
<td>0.00</td>
<td>0.191**</td>
<td>0.167'</td>
<td>-0.072</td>
<td>-0.048</td>
<td>-0.071</td>
<td>-0.066</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ACQ Intensity</td>
<td>1.16</td>
<td>0.43</td>
<td>0.609**</td>
<td>0.509**</td>
<td>-0.037</td>
<td>-0.060</td>
<td>-0.149'</td>
<td>-0.033</td>
<td>0.136'</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ACQ EXP</td>
<td>1.30</td>
<td>0.12</td>
<td>0.232**</td>
<td>0.199**</td>
<td>0.020</td>
<td>-0.083</td>
<td>0.001</td>
<td>-0.108</td>
<td>0.260**</td>
<td>0.306**</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Related</td>
<td>0.26</td>
<td>0.03</td>
<td>0.001</td>
<td>-0.148'</td>
<td>0.016</td>
<td>0.159'</td>
<td>-0.012</td>
<td>0.181**</td>
<td>-0.040</td>
<td>0.108</td>
<td>-0.074</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>ACQ ROA</td>
<td>0.02</td>
<td>0.00</td>
<td>0.224**</td>
<td>0.134'</td>
<td>-0.143'</td>
<td>-0.062</td>
<td>-0.115</td>
<td>-0.041</td>
<td>0.272**</td>
<td>0.095</td>
<td>0.253**</td>
<td>-0.043</td>
<td>1</td>
</tr>
</tbody>
</table>

This table represents the mean and standard deviation and correlations of the independent and dependent variables.
Table 2: Results of Hierarchical Regression Analysis

<table>
<thead>
<tr>
<th>Variable entered</th>
<th>Step 1</th>
<th>Step 2</th>
<th>Step 3</th>
<th>Step 4</th>
<th>VIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>2.967**</td>
<td>2.082*</td>
<td>2.273*</td>
<td>1.092</td>
<td></td>
</tr>
<tr>
<td>ACQ High-Tech</td>
<td>0.234</td>
<td>0.271**</td>
<td>0.125</td>
<td>0.129</td>
<td>1.175</td>
</tr>
<tr>
<td>TAR High-Tech</td>
<td>-0.026</td>
<td>-0.300</td>
<td>-0.069</td>
<td>-1.340</td>
<td>1.27</td>
</tr>
<tr>
<td>ACQ Asset</td>
<td>-0.118</td>
<td>-1.430</td>
<td>-1.030</td>
<td>-1.340</td>
<td>1.30</td>
</tr>
<tr>
<td>TAR Asset</td>
<td>0.013</td>
<td>0.152</td>
<td>0.009</td>
<td>0.107</td>
<td>1.46</td>
</tr>
<tr>
<td>ACQ Intangible</td>
<td>-0.051</td>
<td>-0.641</td>
<td>-1.336</td>
<td>-1.539</td>
<td>1.58</td>
</tr>
<tr>
<td>TAR Intangible</td>
<td>-0.019</td>
<td>-0.237</td>
<td>-0.064</td>
<td>-0.028</td>
<td>1.62</td>
</tr>
<tr>
<td>TAR intensity</td>
<td>0.042</td>
<td>0.616</td>
<td>-0.012</td>
<td>-0.001</td>
<td>1.11</td>
</tr>
<tr>
<td>ACQ R&amp;D intensity (A1)</td>
<td>0.164</td>
<td>1.906*</td>
<td>0.179</td>
<td>0.204*</td>
<td>2.443</td>
</tr>
<tr>
<td>ACQ M&amp;A EXP(A2)</td>
<td>0.190</td>
<td>2.718**</td>
<td>0.184</td>
<td>2.627**</td>
<td>1.48</td>
</tr>
<tr>
<td>Related-unrelated (B)</td>
<td>-0.062</td>
<td>-0.919</td>
<td>0.181</td>
<td>2.142*</td>
<td>1.88</td>
</tr>
<tr>
<td>A1*B</td>
<td>-0.241</td>
<td>-2.415**</td>
<td>2.619</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A2*B</td>
<td>-0.237</td>
<td>-2.766**</td>
<td>1.941</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

This table shows the hierarchical regression analysis of our research. ***, **, and * indicate the significance at the 1, 5 and 10 percent levels and can be shown as * p< .10, ** p<0.05, *** p<0.01. The total number of the sample was 220 and the Durbin-Watson was 1.424.

In Step 4 we can see that compared to Step 3 the increment of F (ΔF) was 10.336 and significant (p<0.01). We find support for Hypothesis 3a, as the interaction between the degree of innovative capability and relatedness exists, and its impact on CBA performance is statistically and negatively significant (β=-0.241; p<0.05). We contend that relatedness has a negative moderating effect on the relationship between innovative capabilities and an acquirer's performance. As depicted in Figure 1, in unrelated acquisitions when the acquirer’s innovative capabilities (R&D intensity) increased, acquisition performance (ROA) increased as well. In related acquisitions, even if the acquirer’s innovative capabilities increased there was no change in acquisition performance. The results prove that relatedness can function as a moderating variable in terms of an acquirer’s innovative capabilities and performance.

Accordingly the empirical evidence shows that the interaction term of an acquirer’s acquisition experience and the acquirer’s ROA is also negatively significant (β=-0.237; p<0.05). This supports Hypothesis 3b, that relatedness will have a negative moderating effect on the relationship between an acquirer’s acquisition experience and performance. As shown in Figure 2, as an acquirer’s experience in related acquisitions increases the acquirer’s performance decreases, whereas in unrelated acquisitions, an acquirer’s performance increases substantially as experience increases. Therefore this proves that relatedness can be a moderating variable in the relationship between an acquiring firm’s experience and performance.
Figure 1: Moderating Effect of Relatedness between R&D Intensity and ROA

Figure 1 shows the interaction effects of relatedness and R&D intensity on acquisition performance. In unrelated acquisitions, acquisition performance substantially increases along with the acquirer’s innovative capabilities compared to related acquisitions.

Figure 2: Moderating Effect of Acquisition Experience between Acquisition and ROA

Figure 2 shows the interaction effects of relatedness and acquisition experience on acquisition performance. In related acquisition, the acquirer’s performance is decreased according to experience whereas in unrelated acquisitions, an acquirer’s performance substantially increased as experience increases.

CONCLUSION

The objective of this research paper is to analyze the determinants of European firms’ CBAs targeting US firms and the performance of those CBAs, scrutinizing particularly on the moderating effect of relatedness. Our empirical findings indicate that European firms’ acquisition strategies reveal a technology and innovation asset seeking motive for targeting firms in a developed economy, and also show that acquisition experience positively affects acquisition performance. We also investigate the moderating effect of relatedness to articulate the significance of considering relatedness as a factor when considering CBA strategy in both developed economy domains, using data collected from the Thomson SDC database and COMPUSTAT. We conducted a hierarchical regression analysis to show that European acquiring firms with higher innovative capabilities and prior acquisition experience demonstrate improved acquisition performance. We delve deeper to ascertain whether relatedness between firms plays a moderating role in CBA performance. The results indicate that relatedness has a negative and significant interaction effect on acquisition performance.

Our research contributes to the current literature as it provides a European acquisition lens of study that
complements previous literatures on acquisition research that tended to focus on the US or the UK. Furthermore, while most studies focus on emerging economies conducting CBA strategy toward developed countries with a logic similar to that described here, our study is unique in analyzing CBAs between two developed economies, European Union and the US. Our research suggests that both innovative capability and acquisition experience have a positive effect on the acquisition performance of firms and that these qualities are important preconditions for acquiring firms to initiate successful innovation-seeking CBAs. To the best of our knowledge, we provide insights into how European CBA relatedness with the US firms can have negative effects on acquisition performance. This suggests that European firms should be cautious when deciding whether they should engage in related acquisitions, though considerations of innovation capabilities and prior experience seem to be positively certain. Furthermore, although our study focuses on CBAs between developed economies we believe that it provides important implications for CBAs in general and that it gives valuable insights to those many firms from developing and emerging economies that are actively engaging in CBAs.

Limitations and Future Research

Although the insights revealed by this study complement existing literatures, our research possesses limitations associated with generalization. The research setting of European acquiring firms and US targets may provide meaningful context to investigate determinants of CBAs in both domains of developed economy, however due to sample restrictions our analysis is unable to satisfy the logic of generalization as our data include US acquisitions by European firms only. This limitation enables better control and thus better analysis of our hypotheses, but the generalization of our results to CBAs conducted by firms from different countries remains an empirical question for further research. Furthermore, the findings of our study indicate that innovation capability, prior experience, and relatedness are important determinants when it comes to acquisition performance in the case of developed economies. Therefore it would be interesting to research if these finding apply to other cases such as between developing economies or between other developed economies. Other limitations might be the lack of control variables and our focus on mainly internal factors affecting CBA performance, while external factors such as economic conditions could affect CBA performance as well. Future research would benefit by providing more control variables and measures and taking into consideration external forces. In addition, although our research provides implications for the innovation seeking intent of European firms, we do not directly prove that European firms are innovation motivated when entering the US, as our data consist mainly of available secondary data and we believe that more explicit and diverse configurations of operationalization of variables are necessary to derive rigorous research. It is imperative for future research to expand our study in terms of methodological complementation and by further testing the various motivations behind CBAs.

REFERENCES


Gregoriou, Greg N. and Luc Renneboog (2007) “Understanding mergers and acquisitions: activity since


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