

# ANTECEDENTS OF M&A SUCCESS: THE ROLE OF STRATEGIC COMPLEMENTARITY, CULTURAL FIT, AND DEGREE AND SPEED OF INTEGRATION

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*In this paper, we develop a comprehensive model of M&A success. We integrate fundamental constructs of different schools and discuss their interdependencies with M&A success. Our theoretical framework was tested empirically across a sample of 106 SME transactions in the machinery, electronic, and logistic industries in the German-speaking part of Central Europe. The results of our study support the demand for an integrative perspective and theory on M&A. M&A success is a function of strategic complementarity, cultural fit, and the degree of integration. Strategic complementarity also positively influences cultural fit and the degree of integration. Cultural fit positively influences M&A success, but surprisingly has a negative impact on the speed and degree of integration. The degree of integration is positively related to speed of integration. Copyright © 2013 John Wiley & Sons, Ltd.*

## INTRODUCTION

Next to strategic alliances and joint ventures, mergers and acquisitions (M&A) are an important source of external growth and corporate development. For more than a hundred years, they have represented an essential part in strategic management practice and research (Cartwright, 2006). Although the number of transactions has declined through the current financial and economic crisis, there is strong evidence that a new M&A wave has already started. However, it is not the big transactions—which are quite prominent in the media—that create the enormous volume in the market for corporate control (e.g., US\$1.78 trillion in 2011, according to

Bloomberg), but it is rather the small and medium sized enterprise (SME) transactions from which this amount mainly derives (Jansen, 2008). Even though SMEs play an important role for the European economy—e.g., they represent 99 percent of all European companies (Avram and Kühne, 2008), and the last M&A wave was mainly SME driven (Jansen, 2008; Salvato, Lassin, and Wiklund, 2007)—they are broadly ignored in current research. Success rates of M&As are poor in general, and it is regularly reported that on average 40–60 percent of M&As fail in creating value (Bagchi and Rao, 1992; Bower, 2001); some authors even speak of failure rates between of 70 and 90 percent (Christensen *et al.*, 2011).

Since the 1970s, the amount of research in M&A has increased enormously, and the M&A phenomenon has been studied through several theoretical lenses (Barkema and Schijven, 2008; Birkinshaw, Bresman, and Håkanson, 2000; Larsson and Finkelstein, 1999). With the growing body of research and literature, four schools

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of thought, which reduce the complexity of the research field, have become well established (Haspeslagh and Jemison, 1991; Schewe, Lohre, and Ortwein, 2007). Firstly, the financial economic school—as the most prominent stream in literature (Cartwright and Cooper, 2001; Stahl and Voigt, 2008)—analyzes the performance and wealth effects of M&As on the basis of stock market-based measures (Dixon Wilcox, Chang, and Grover, 2001; Haspeslagh and Jemison, 1991). In so-called event studies, the share prices of buyer and bidder companies are investigated in a certain time frame around the announcement day (Aktas, de Bodt, and Cousin, 2007; Halebian and Finkelstein, 1999). Secondly, scholars of the strategic management school have studied the effect of premerger relatedness, perceived similarity, or complementarity on performance (Cartwright, 2006; Chatterjee, 2009; Haspeslagh and Jemison, 1991; Larsson and Finkelstein, 1999). Thirdly, the organization behavior school investigates the effects of transactions on organizations, organizational culture, and individuals (Birkinshaw *et al.*, 2000; Haspeslagh and Jemison, 1991) or the impact of organization-related variables, e.g., acquisition experience (Halebian and Finkelstein, 1999; Halebian, Kim, and Rajagopalan, 2006) on performance. Studies on international M&As look at the impact of cultural distance on M&A success. Barkema, Bell, and Pennings (1996), for instance, taking an organizational learning perspective, study the impact of cultural distance and expansion experience on the longevity of international market entries via acquisitions. The organization behavior school picks up premerger issues (e.g., cultural fit or compatibility) as well as postmerger issues (e.g., degree of integration). Lastly, the process school (or perspective) has derived from the strategic management and the organization behavior school (Haspeslagh and Jemison, 1991). Following the arguments of scholars in this field, M&A performance is fostered by the M&A process (Haspeslagh and Jemison, 1991; Jemison and Sitkin, 1986). An effective and efficient integration process is decisive for the postmerger integration phase and, therefore, for the success of a transaction (Birkinshaw *et al.*, 2000).

These schools of thought are not mutually exclusive. However, most scholars usually follow an isolated perspective (Larsson and Finkelstein, 1999; Schewe *et al.*, 2007). Even though the call for an integrative perspective is not

new (Buono and Bowditch, 2003; Cartwright and Cooper, 2001), very little research has been done in developing a holistic understanding of M&As and their performance (Larsson and Finkelstein, 1999; Sarkar *et al.*, 2001). Next to the specialization on the schools of thought, M&A research is strongly fragmented concerning the scope of analysis (Cartwright and Schoenberg, 2006). Next to the focus on premerger issues, there is a growing perception of the importance of the postmerger or integration phase (Cartwright, 2006; Larsson and Finkelstein, 1999; Stahl and Voigt, 2008). Even though this development should be favored, there is clear evidence that an isolated perspective on a single phase disregards the interdependencies of the M&A process (Cartwright, 2006; Cartwright and Cooper, 2001; Haspeslagh and Jemison, 1991; Larsson and Finkelstein, 1999). As prior work clearly shows, M&A success depends on premerger issues as well as on postmerger issues (Barkema and Schijven, 2008; Bower, 2001; Stahl and Voigt, 2008). However, the fragmentation concerning schools of thought and the isolation of certain phases “has been at the cost of a more holistic understanding of what determines their performance and what consequences they bring” (Cartwright, 2006). Against the fragmented and specialized background of M&As, the aim of this paper is to (1) develop an integrative and more holistic research model that connects central constructs of three schools of thought (strategic management, organizational behavior, and process), and (2) generate a deeper understanding of the interdependencies of the M&A phases and their effects on M&A performance. Due to the importance of SMEs for the Central European economy and the deficit of attention in the current literature, we test our research model with a sample of SME transactions. Our paper is organized as follows: After presenting the theoretical framework, we test a complex network of antecedents of M&A success derived from three different schools of thought. The model tests the interdependencies of strategic complementarity, cultural fit, speed of integration, degree of integration, and M&A success. The results shed light on the mechanisms through which the constructs influence success, and it becomes evident that taking an integrative perspective is an important step forward in M&A research. A better understanding of how and why these constructs explain M&A success also yields important implications for managers.

M&A Issue	Premerger phase	Postmerger phase	M&A success
<b>School of thought</b>			
<b>Financial economic school</b>	Wealth effects for shareholders; Timeframe: around the announcement day.		M&A performance measures: • Stock market-based (e.g., CAPM, CAR) • Accounting-based • Survey based
Prominent literature: Mandelker (1974), Hassan <i>et al.</i> (2007), Jensen and Ruback (1983), Jensen (1988)			
<b>Strategic management school</b>	Strategic Fit: • Relatedness • Similarity • Complementarity		
Prominent literature: Singh and Montgomery (1987), Kim and Finkelstein (2009), Larsson and Finkelstein (1999) and Shelton (1988)			
<b>Organizational behavior school</b>	Cultural Fit: • Cultural Distance • Similarity • Compatibility	Integration: • Cultural Integration • Task Integration • Degree of Integration	
Prominent literature: Chatterjee <i>et al.</i> (1992), Datta (1991), Appelbaum <i>et al.</i> (2000), Shrivastava (1986)			
<b>Process (perspective) school</b>		Process: • Speed of integration • Other topics e.g. communication, etc.,	
Prominent literature: Angwin (2004), Ellis, Reus and Lamont (2009), Homburg and Bucerius (2006) and Jemison and Sitkin (1986)			

Figure 1. Research foci in M&amp;A literature

## DEVELOPING A MORE HOLISTIC PERSPECTIVE ON MERGERS AND ACQUISITIONS

Our study focuses on SMEs, which are usually not listed on the stock market or publicly traded and which have lower valuation rules concerning less stringent requirements for transparency as well as for financial disclosures. Therefore, the financial economic school cannot be taken into consideration. The remaining three schools of thought have different scopes of analysis and heterogeneous research foci as shown in Figure 1. Even though some researchers have begun to synthesize issues of different research streams (Larsson and Finkelstein, 1999), there is still a lack of a broader and more holistic perspective (Bower, 2001; Cartwright and Schoenberg, 2006; Larsson and Finkelstein, 1999). We argue that M&A success depends on the central constructs of the schools of thought and derives from premerger issues (strategic complementarity and cultural fit) as well as from postmerger issues (degree of integration and speed of integration). In the following section, we develop the theoretical framework and the hypotheses of our research model.

### Strategic complementarity

A very prominent research stream in strategic management literature presumes the strategic fit as decisive for M&A success (Homburg and Bucerius, 2006; King *et al.*, 2004; Seth, 1990). The central argument is that a high fit enlarges

market power and productivity (Cartwright, 2006). Representatives of the market-based view usually determine “fit” with branch codes and argue that branch relatedness has a positive effect on success via economies of scale and the reduction of redundancies (Capasso and Meglio, 2005). To date, there is no clear and valid empirical evidence of a positive relationship between branch relatedness and M&A success (Stimpert and Duhaime, 1997). The main reason for the inconclusive results lies in the discrepancy of branch relatedness and perceived internal fit (Robins and Wiersema, 1995). Researchers using the resource-based perspective operationalize the construct of fit with product market, resource, and/or supply chain-related similarity (Pehrsson, 2006; Stimpert and Duhaime, 1997). Scholars regularly argue that similarity is an indicator for the synergy potential of a transaction (Meyer and Altenborg, 2008). Even though a higher similarity (independent from its measurement) seems to provide for better results (Capron, Mitchell, and Swaminathan, 2001; Prabhu, Chandy, and Ellis, 2005; Swaminathan, Murshed, and Hulland, 2008; Tanriverdi and Venkatraman, 2005), there are no overall consistent findings. Despite the dominant logic that strategic similarity fosters value creation, there are fundamental arguments that complementary differences are more crucial for M&A success. Complementarity, as a relatively new concept in the M&A literature, has a promising denotation (King *et al.*, 2004; Larsson and Finkelstein, 1999).

In the similarity literature, the strategic fit concept (related or similar businesses share similarities in management styles, organizational

culture, and administrative processes) enables companies to effectively leverage resources and capabilities (Palich, Cardinal, and Miller, 2000). Therefore, researchers from this stream argue that strategic fit improves M&A performance. Even though literature shows a tendency that similarity has a positive impact on M&A success, empirical evidence remains mixed. Another research stream argues that complementary differences offer valuable resource redeployment (Larsson and Finkelstein, 1999). Here, the value creation mechanisms are quite different. While similarity is seen as an indicator for efficiency-based synergies (scale and scope), complementarity provides firms with both efficiency synergies *and* value created from those differences that are mutually supportive (enhancement-based synergies). Studies following this dominant logic give clear empirical evidence that complementarities are a significant factor for M&A success. Thus, as Kim and Finkelstein (2009) note, complementarities offer merging firms a “wider array of business opportunities to develop competencies that either firm could not create alone” (p. 618, see also Capron and Mitchell, 1998; Harrison *et al.*, 1991; King, Slotegraaf, and Kesner, 2008). Additionally, Larsson and Finkelstein (1999) point out that complementarity increases M&A success by boosting synergy realization. They draw more attention to “economies of fitness” than to “economies of sameness.”

Complementarity has been studied in terms of top management team complementarity (Krishnan, Miller, and Judge, 1997), technological complementarity (Makri, Hitt, and Lane, 2010), strategic and market complementarity (Kim and Finkelstein, 2009), or product complementarity (Wang and Zajac, 2007). Most empirical evidence on complementarity has been gained from large transactions with publicly traded companies. Interestingly, even though SMEs are quite different from large companies in terms of ownership profiles, innovativeness, and risk attitudes (Weitzel and McCarthy, 2011), there is only poor empirical evidence concerning complementarity. From a resource-based perspective, complementary differences are the basis for resource redeployment and exploitation (Kim and Finkelstein, 2009; Sarkar *et al.*, 2001). Complementarity is defined as different characteristics that are independent and mutually supportive (Tanriverdi and Venkatraman, 2005;

Wang and Zajac, 2007). Through the interaction of complementary characteristics, value creation does not only derive from cost savings, value is also created by a growing turnover and market share (Helfat, 1997). So far, studies have given clear evidence that strategic complementarity has a positive impact on M&A success through enhancement-based synergies (Jemison and Sitkin, 1986; Kim and Finkelstein, 2009; Sarkar *et al.*, 2001; Tanriverdi and Venkatraman, 2005; Wang and Zajac, 2007). Krishnan *et al.* (1997) studied top management team complementarity of publicly traded companies. Makri *et al.* (2010) tested technology complementarity with a sample of 96 high technology M&As. In their sample of publicly traded U.S. acquirers, they measured technology complementarity as the overlap in patents in the same subcategory, but in a different class. Kim and Finkelstein (2009) analyzed strategic and market complementarity in the U.S. commercial banking industry. All acquiring companies were publicly traded in the United States. Market complementarity was operationalized with the Mahalanobis distance (MD) between the loan portfolio of the acquirer and the target markets; strategic complementarity was measured with the MD in the loan portfolio between target and acquirer. Tanriverdi and Venkatraman (2005) operationalized complementarity as a second order construct consisting of internal product, external product, customer, risk and investment, and alliance management knowledge relatedness. They used a multibusiness sample from Fortune 1000. King *et al.* (2008) examined publicly traded high technology firms with a minimum market capitalization of the target of US\$10 million. They analyzed resource complements (R&D and marketing), operationalizing it with secondary data. In their study on “alliance or acquisition,” Wang and Zajac (2007) focus on product relatedness (in terms of similarity and complementarity) and use the categorization level of the four-digit NAICS for measurement with data from the largest U.S. firms from 1991 to 2000. Our study differs in two respects from previous work. First, we apply the concept of complementarity in a different empirical context. To the best of our knowledge, this is the first study explicitly examining SME transactions with this concept. M&A behavior and success within SMEs are quite different from large deals, which are the focus of most studies. SMEs differ from big firms



in terms of ownership profiles, innovativeness, and risk attitudes (Johnson, 2007). Weitzel and McCarthy (2011) come to the conclusion that SME M&As are quite different from larger deals. Thus, they point out that M&A theory has to be adapted to SME transactions (Weitzel and McCarthy, 2011). Second, to the best of our knowledge, our study is the first one in which the concept of complementarity is broadened in a way that product market, resource-related, and value chain issues are considered and measured from a managerial perspective. We therefore propose:

*Hypothesis 1 (H1): The greater the strategic complementarity, the greater the M&A success.*

There is an interdependency of culture and its more tangible characteristics such as strategy (Rowlinson, 1995). Rowlinson (1995) argues that “culture can be seen as the meanings attached to more tangible aspects of organizations, such as strategies, structures, and labor management practices” (p. 123). If the strategies of the two companies involved are complementary, they are mutually supportive. Hence, the cultures of the two organizations are likely to be compatible. Therefore, we argue that strategic complementarity indicates a higher cultural fit (Stahl and Voigt, 2008). This leads us to the following hypothesis:

*Hypothesis 2 (H2): The greater the strategic complementarity, the greater the cultural fit.*

Next to the positive relation of strategy and organizational culture, strategic complementarity has an impact on the integration process. The fit of strategic characteristics fosters the speed of integration (Bragado, 1992). Homburg and Bucerius (2006) state that internal relatedness has a moderating effect on speed of integration. We assume a positive relationship between strategic complementarity and integration speed for two reasons. First, with a high degree of strategic complementarity, the need for postmerger modification is lower, and, secondly, with a high degree of complementary characteristics, mutual support can be generated faster than with low complementarity (Cording, Christmann, and King, 2008; Homburg and Bucerius, 2006). Thus, we propose:

*Hypothesis 3 (H3): The greater the strategic complementarity, the greater the speed of integration.*

The underlying assumption of our next hypothesis is that, in the postmerger phase, complementary firms can use their common potential better than noncomplementary firms (Pablo, 1994). Larsson and Finkelstein (1999) point out that complementarities increase M&A success by boosting synergy realization. Value creation takes place in the postmerger integration phase (Haspeslagh and Jemison, 1991; Larsson and Finkelstein, 1999). Therefore, we conclude that firms with complementary characteristics try to reach a high degree of integration to benefit from both synergies and potentials (Ellis *et al.*, 2009; Larsson and Lubatkin, 2001; Zollo and Singh, 2004):

*Hypothesis 4 (H4): The greater the strategic complementarity, the greater the degree of integration.*

## Cultural fit

Cultural incompatibility or misfit is one of the most cited reasons for the low success rates of M&As (Bijlsma-Frankema, 2001; Cartwright and Schoenberg, 2006; Lodorfo and Boateng, 2006; Nguyen and Kleiner, 2003). This enormous impact originates from the influence of organizational culture on nearly all organizational practices, directives, leadership styles, and administration processes (Chatterjee *et al.*, 1992). Literature argues that national and organizational culture are separate constructs with “different attitudinal and behavioral correlates and, possibly, different implications for the postmerger integration process” (Stahl and Voigt, 2008). In a recent literature review (Teerikangas and Very, 2006) and in a meta-analytic study (Stahl and Voigt, 2008), it was found that differences in national culture have a less negative impact on sociocultural integration, synergy realization, and shareholder value than cultural differences on an organizational level. In this paper, therefore, we focus on the organizational dimension of culture, defined as beliefs, values, and assumptions shared by the members of an organization (Schein, 1985).<sup>1</sup> The cultural

<sup>1</sup> Companies in our sample are from Austria, Germany, and Switzerland. Whereas there are cultural differences between

fit is relevant for the realization of the synergies and potentials (Cartwright, 2006; Cartwright and Cooper, 2001; Datta, 1991). Although it seems obvious that cultural similarity fosters integration and success, there is empirical evidence that cultural differences have a strong positive impact on synergy and potential realization and, therefore, on value creation (Cartwright and Cooper, 2001; Schraeder and Self, 2003; Teerikangas and Very, 2006). For this reason, we rely on cultural fit—which allows similarities as well as differences that mutually support each other—rather than on cultural similarity. As mentioned above, cultural fit has a strong impact on the realization of potentials and synergies and on M&A success (Chatterjee *et al.*, 1992; Schraeder and Self, 2003; Teerikangas and Very, 2006). This leads us to the following hypothesis:

*Hypothesis 5 (H5): The greater the cultural fit, the greater the M&A success.*

As organizational culture influences organizational practices, directives, leadership styles, and administrative processes (Chatterjee *et al.*, 1992), a high cultural fit goes along with lower organizational resistance in the postmerger integration phase (Bijlsma-Frankema, 2004). On the other hand, cultural misfit would lead to less acceptance of the other organization, and to the desire to remain in the former culture. This circumstance would cause the necessity of a longer change period as employees would have to become familiar with the other culture and, therefore, accept it (Homburg and Bucerius, 2006; Olie, 1994). On the one hand, in the case of high organizational cultural misfit, a high speed of integration would have detrimental consequences (Homburg and Bucerius, 2006). One negative effect that could occur is ingroup/outgroup bias (Elsass and Veiga, 1994). On the other hand, with a high cultural compatibility, employees are more likely to abandon their former culture and to accept the other culture faster. Therefore, we argue that with a higher cultural fit, a faster integration is possible (Bijlsma-Frankema, 2004; Bragado, 1992; Jemison and Sitkin, 1986). Thus:

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these countries (Hofstede, 1991), they still belong to the same culture cluster with similar cultural profiles (Schneider and Barsoux, 1997).

*Hypothesis 6 (H6): The greater the cultural fit, the greater the speed of integration.*

As the degree of integration goes in one line with the scope of interaction and coordination between the two merging firms (Shrivastava, 1986), the above-mentioned relation of culture and organizational practices, directives, leadership styles, and administrative processes allows a higher degree of integration. The risk of a cultural or organizational clash with a high degree of integration is lower with compatible organizational cultures than with incompatible ones (Aguilera and Dencker, 2004; Lodorfos and Boateng, 2006; Olie, 1994). Furthermore, we argue that firms with a high cultural fit seek a deeper integration, as they could better leverage efficiency- and enhancement-based synergies. Therefore, we propose that a high cultural fit fosters the ambition of a high degree of integration (Slangen, 2006; Teerikangas and Very, 2006). Thus, we propose:

*Hypothesis 7 (H7): The greater the cultural fit, the greater the degree of integration.*

## Degree of integration

The postmerger integration phase is often cited to be decisive for M&A (Haspeslagh and Jemison, 1991; Stahl and Voigt, 2008). In the postmerger integration phase, well-established operational sequences and patterns are partially or completely changed and, throughout the new company, harmonized (Buono and Bowditch, 2003; Haspeslagh and Jemison, 1991). Therefore, this phase is—due to employee resistance and a cultural clash—very risky. But without any integration, resource redeployment and exploitation, as well as the elimination of redundant resources, are not feasible (Cording *et al.*, 2008; Homburg and Bucerius, 2006; Karim, 2006; Pablo, 1994). Apart from this argument, it must be stated that the degree of integration is a mixed blessing. On the one hand, there is a positive effect on synergy and potential realization and therefore on success (Larsson and Finkelstein, 1999), while on the other hand, a high degree of integration leads to more change and more coordination costs (Pablo, 1994; Slangen, 2006; Teerikangas and Very, 2006). Nevertheless, there is empirical evidence that shows that at least some degree of integration is decisive for M&A success (Chatterjee *et al.*, 1992;

Singh and Montgomery, 1987; Zollo and Singh, 2004). We argue that a high degree of integration leads to better resource redeployment and exploitation (King *et al.*, 2004) and, therefore, to value creation (which derives from operative efficiency and market power; Meyer and Altenborg, 2008). Therefore, we propose:

*Hypothesis 8 (H8): The greater the degree of integration, the greater the M&A success.*

Due to the fact that a high degree of integration means a high degree of change on different organizational levels (sociocultural, production, marketing, and system integration), it is questionable whether integration can be reached at the same time on all organizational levels (Birkinshaw *et al.*, 2000). The harmonization of accounting systems could possibly be realized quickly, but a complete sociocultural integration would last much longer (Teerikangas and Very, 2006). Even though it is typically argued that a fast integration is beneficial for the M&A outcome, a few—mainly qualitative—studies address the positive effects of a slow integration (Inkpen, 2000; Olie, 1994). Beyond the effects of integration speed, the determinants that influence speed are broadly neglected in academic literature. We argue that a high degree of integration causes enormous changes in the organizations that lead to the necessity of higher efforts for coordination and interaction (Larsson and Finkelstein, 1999). Bragado (1992) argues that employees need time to study and understand the other organization. Thus, the demand for studying and understanding is higher with a high degree of integration. Following these arguments, we claim that:

*Hypothesis 9 (H9): The greater the degree of integration, the slower the speed of integration.*

### Speed of integration

Even though speed of integration seems to be a key driver of M&A transaction success, it is an underresearched topic and has been addressed by only a handful of academic studies (Angwin, 2004; Gerpott, 1995; Homburg and Bucerius, 2005, 2006; Inkpen, McClelland, and Rockwood, 2000; Olie, 1994; Ranft and Lord, 2002). The speed of

integration describes the time period from the closing of the deal to the desired degree of integration (Homburg and Bucerius, 2006). It is argued that speed of integration can lead to faster exploitation of synergies and to faster returns on investment (Angwin, 2004). From a behavioral psychology perspective, speed of integration can reduce uncertainty among employees (Angwin, 2004; Homburg and Bucerius, 2005). A faster integration also minimizes time spent in a suboptimal condition and takes advantage of the momentum in the early enthusiasm phase after the deal (Angwin, 2004). Homburg and Bucerius (2005, 2006) empirically test the role of integration speed in marketing and sales, arguing that speed lowers customer's uncertainty and should therefore increase market-related performance (i.e., market share and customer loyalty), which in turn influence M&A performance. They find a strong relationship between speed of integration and performance, however, which is moderated by internal and external relatedness. As their study is limited to marketing and sales integration, the results are not necessarily generalizable to the integration of other functions. We follow the argument that faster integration leads to less uncertainty, lower resistance of employees, faster and more effective synergy and potential realization, and competitor's inability to profit from the internal organizational change phase (Angwin, 2004; Cannella and Hambrick, 1993; Cording *et al.*, 2008; Homburg and Bucerius, 2005). This leads us to the following hypothesis:

*Hypothesis 10 (H10): The greater the speed of integration, the greater the M&A success.*

As control variables, we use type of transaction, relative size, industry growth, and institutional distance. We chose these particular controls due to their potential impact on the M&A process and success. Acquisition experience has been used as a control variable in previous M&A studies (Uhlenbruck, Hitt, and Semadeni, 2006; Wright *et al.*, 2002) as it influences M&A outcomes. As in our sample of SME transactions where only 10 percent of the companies made more than two transactions within one year, and only 13 percent made more than four transaction in the last ten years, we could not use acquisition experience as a control variable. Figure 2 shows the hypotheses of our study.

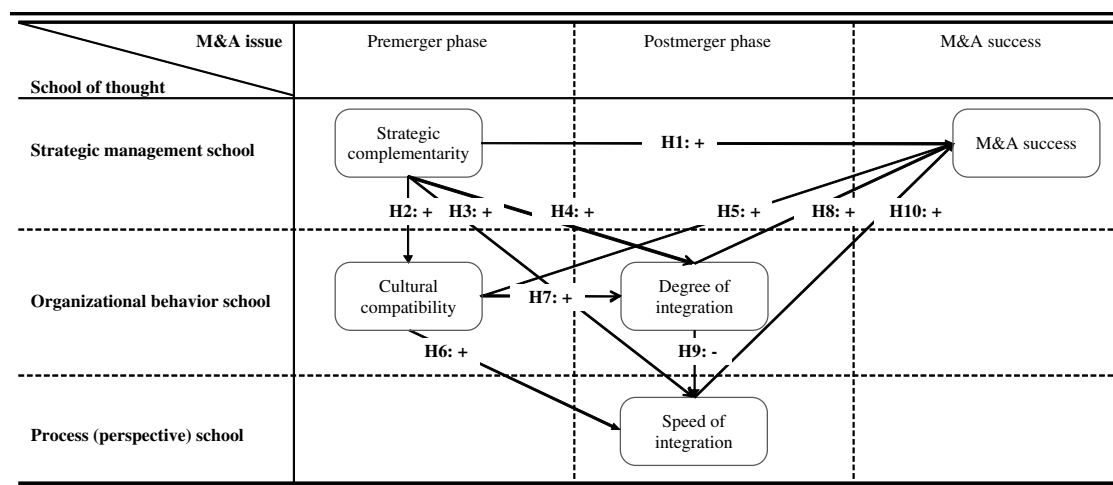


Figure 2. Research model

## METHODOLOGY

### Sample and data

We used mail and internet survey methodology for data collection, which was conducted in summer 2010. As already mentioned, we focused on SME transactions that took place between January 2005 and April 2008. We chose this period to guarantee that the integration process would either be in a final stage or already completed (Ellis *et al.*, 2009; Homburg and Bucerius, 2005; Zollo and Meier, 2008) and that the capacity for recollection would still be sufficient (Krishnan *et al.*, 1997; Reus and Lamont, 2009). In our survey, we focused on the German-speaking part of Central Europe (Austria, Germany, and Switzerland) and transactions in the machinery, electronic, and logistic industries. As respondents, we chose managers from the acquiring firms, as they are most knowledgeable about the intentions of transaction and postmerger integration (Ellis *et al.*, 2009; Walsh, 1988). We would have preferred to interview managers from buying and corresponding target firms, but due to managerial turnover, in most cases it was impossible to identify former target executives (Homburg and Bucerius, 2006). The transaction details were identified with the Zephyr database. In sum, we could identify 976 transactions from which 524 were relevant (the others were simply financial transactions, transactions without contact details, or transactions where the firm was going bankrupt). To test our survey questionnaire, we conducted a

two-step pretest in spring 2010 (Churchill, 1995). Concerning the design and structure of our questionnaire, we followed the recommendations of Dillman (2000). After sending out the questionnaire, we received 41 complete answers. After a two-week period, we conducted follow-up telephone calls and sent reminder e-mails. In the second wave, we gathered 55 questionnaires, and in a final wave an additional 10 questionnaires were received. In sum, 106 completed questionnaires were collected, which represents a response rate of 20.23 percent. Nonresponse bias was tested by comparing the respondents of our three survey waves (Armstrong and Overton, 1977). The results of the test indicate that nonresponse bias is not a problem. Item nonresponse bias was tested by using Berdie and Anderson's item response-rate index (1976). The maximum number of missing values of one item was 5.6 percent and the relation of values to missing values is 104–1. Therefore, we conclude that item nonresponse bias is not a problem.

### Measurement development

In developing the measurement models, we followed the advice of King and colleagues that “future M&A researchers would be well advised to build on past research models and not simply create new models” (King *et al.*, 2004). For this reason, we selected applicable and already-tested measurement models from a literature review.



### Strategic complementarity

The construct of complementarity has been mostly studied in more narrow terms as top management team, technological, strategic, and market or product complementarity. In our study, we wanted to broaden the concept of complementarity in a way that product market, resource-related, and value chain issues are considered. For assessing strategic complementarity, we used the constructs and items developed by Pehrsson (2006). We changed the wording in a way that we could assess complementarity instead of similarity. Strategic complementarity is a second order construct consisting of product market (measured with six items) and resource-related dimensions (measured with six items) as well as value chain attributes (measured with four items). Strategic complementarity is assessed on a 5-point scale.

### Cultural compatibility

Up to now, there has been no consistent conceptual agreement on how to measure cultural fit or compatibility (Teerikangas and Very, 2006). After comparing different measurement models used in the literature, we decided to use the scales developed by Jöns and colleagues (Jöns, Froese, and Pak, 2007; Jöns, Hodapp, and Weiss, 2005). Cultural fit is a second order construct, which consists of four dimensions: strategy (measured with four items), structure (measured with two items), leadership (measured with five items), and interrelationship (measured with four items). Cultural fit is assessed on a 5-point scale.

### Degree of integration

The degree of integration, as one of the central constructs of the postmerger phase, is assessed on different organizational levels. To display the different levels of integration, we adopted the measurement model of Cording *et al.* (2008), which again is a second order construct. The four dimensions are: sociocultural integration (measured with three items), integration of production (measured with two items), marketing integration (measured with three items), and system integration (measured with three items). The degree of integration is assessed on a 7-point scale, ranging from 1 = *no integration at all* to 7 = *complete integration*.

### Speed of integration

As with the degree of integration, there are different speeds for the different organizational levels. The desired degree of integration is not reached for all levels at the same time (Olie, 1994; Ranft and Lord, 2002). Therefore, our measurement model consists of the same levels as the degree of integration. Following Cording *et al.* (2008), we assess speed of integration with four items and measure it on a 5-point scale ranging from 1 = *longer than 24 months* to 5 = *shorter than 7 months*.

### M&A success

M&A success and performance—as the dependent variable of our study—is a broadly discussed issue in the M&A literature. Its measurement reaches from stock market and accounting-based measures to the assessment of key informants. By now, there is no consensus about the nature of the relation of M&A and firm success (Larsson and Finkelstein, 1999). Research based on stock market and accounting-based measures (so called quantitative objective indicators) usually focuses on short-term periods around the announcement day and, therefore, ignores the importance of the integration phase. Furthermore, most performance measures are one-dimensional stock market-based, and therefore “potentially relevant dimensions of firm performance” are ignored (King *et al.*, 2004). Even though one would use a multiple set of stock market and accounting-based measures, the problem of interpretation still remains. If a study sample involves companies from more than one country, due to different valuation rules, the data would be difficult to compare. For instance, Weetman and Gray (1991) found that accounting principles differ from country to country, leading to quantitative differences in profits reported. Basu, Hwang, and Jan (1998) find that differences in accounting measurement rules affect the predictability of earnings, and Leuz, Nanda, and Wysocki (2003) show that earnings management varies systematically across institutional clusters.

For these reasons, we decided to measure M&A performance from a managerial perspective. Managers from the acquiring firms tend to have an enormous knowledge about the transaction and the integration phase (Datta, 1991; Homburg and

Bucerius, 2005), and, furthermore, many studies give clear evidence that their rating correlates (highly and significantly) with objective success measures (Datta, 1991; Homburg and Bucerius, 2005). Further validation of the success measure with the PDI database developed by Homburg and Bucerius (2005) was not feasible due to the missing disclosure requirement of most of the companies in our sample. As already mentioned, M&A success should consist of multiple measures. With self-reported data, researchers suggest at least two success dimensions, one objective and one subjective (Datta, 1991; Reinartz, Krafft, and Hoyer, 2004). For this reason, we decided to assess M&A success with the measurement model developed by Becker consisting of the two dimensions—each measured with four items (Becker, 2005). The objective dimension was assessed using a 7-point scale ranging from 1 = *strong negative development* to 7 = *strong positive development*; the subjective dimension was measured on a 7-point scale ranging from 1 = *completely disagree* to 7 = *completely agree*.

### Control variables

The controls *type of transaction*, *relative size*, and *industry growth* were measured as single items. The *institutional distance* (Kostova, 1999; Kostova, Roth, and Dacin, 2008) influences strategies and behavior and survival rates of multinational enterprises (Gaur and Lu, 2007; Xu and Shenkar, 2002). Gaur and Lu (2007), for instance, argue that institutional distance may present opportunities of institutional arbitrage but also necessitates learning about new environments and has performance effects for foreign subsidiaries depending on ownership positions. To assess institutional distance, we used secondary data. We chose the data from the global competitive index developed by the World Economic Forum, which consists of three factors (basic requirements, efficiency enhancers, and innovation and sophistication). The World Competitiveness Yearbooks have been widely used by researchers to measure differences in institutional environments (Delios and Beamish, 1999; Gaur and Lu, 2007). Distance was assessed as the deltas of buying country index and target country index. The three deltas were bundled into one construct.

## RESULTS

### Descriptive data and research approach

In Table 1, we show the descriptive data of our research. We show the position of the respondents, the seat of the buying company, the type of transaction, the type of industry, the average growth three years prior to the transaction, the relative size, and the actual annual turnover of the consolidated business.)

We used structural equation modeling for testing our research model. We decided to apply a variance-based approach (with SmartPLS; Ringle, Wende, and Will, 2005), instead of a covariance-based approach for four reasons: (1) PLS is better suited for more complex models (Haenlein and Kaplan, 2004); (2) sample size requirements are lower (Fornell and Bookstein, 1982; Haenlein and Kaplan, 2004; Tenenhaus *et al.*, 2005); (3) we only use reflective measurement models; therefore, the accuracy of the results can be compared with the accuracy of covariance-based approaches (Vilares, Almeida, and Coelho, 2010); and (4) our objective is to explain M&A success—PLS optimizes the dependent construct locally, and not the whole structural model—therefore, PLS has a higher predictive character. Even though higher order constructs reduce the accuracy, we applied them to increase the possibility of generalization (Gorsuch, 1983). For assessing the second order constructs, we chose the hierarchical components approach suggested by Lohmöller (1989) instead of the often-used two-step approach (Agarwal and Karahanna, 2000) for the reason that the two-step approach employs two independent approximations. Therefore, several underlying assumptions that are inherent (Fornell and Yi, 1992) can lead to confusing interpretations (Burt, 1973). The hybrid approach, even though it is a promising perspective for higher order constructs, is not applicable for our study due to missing guidelines for assessment and reporting. Before evaluating our research model in two steps (assessment of the measurement models and assessment of the structural model) following the guidelines of Hulland (1999) and the guidelines for assessing higher order constructs employed by Wetzels *et al.* (2009), we tested our data for a potential common method bias.

Table 1. Sample description

Sample description					
Buyer and target country		Industry	%	Relative size	%
<b>Austria</b>	<b><i>n</i></b>	Machinery	36.8	<25%	48
Switzerland	2	Electronics	28.3	25–49%	33
Germany	14	Logistics	17	50–74%	11
Austria	5	Others	16	75–100%	5
Others	2	Missing	1.9	>100%	2
<b>Germany</b>	<b><i>n</i></b>			Missing	1
Switzerland	17				
Germany	28	Average growth	%	Annual revenues of consolidated business in €	%
Austria	9				
Others	9	> –15%	3	<25 million	6
<b>Switzerland</b>	<b><i>n</i></b>	–10% to –5%	—	25–49 million	30
Switzerland	14	–5% to 0%	7	50–99 million	28
Germany	5	0% to 5%	45	100–249 million	19
Austria	—	5% to 10%	38	250–499 million	—
Others	1	11% to 20%	3	500–1,000 million	7
		21% to 30%	2	>1,000 million	5
		Missing	2	Missing	5

### Common method bias

We applied two statistical analyses to assess a potential common method bias. First, we conducted a Harman's single factor test (Podsakoff and Organ, 1986). The results indicate no common method bias problem. In addition, we used the stricter ad hoc approach suggested by Podsakoff *et al.* (2003) and followed the guidelines for assessment in PLS developed by Liang *et al.* (2007). The ratio of substantive variance to method variance is 46 to 1 (for details, see Appendix Table A1). We therefore conclude that common method bias is not a problem in our data.

### Assessing the measurement models

Before assessing the structural model, we evaluated each second order construct individually. The evaluation shows that all manifest indicators of the first order constructs have clear loadings above 0.7, therefore, indicator reliability is given. Construct reliability, assessed with composite reliability and Cronbach's alpha, is fulfilled for all first and second order constructs as all values are clearly above 0.7. Construct validity is given due to average variance extracted (AVE) values above 0.5. Discriminant validity for the second order constructs was assessed with cross loadings and the Fornell and Larcker (1981) criterion (see also Appendix

Table A2). All second order constructs are convergent and valid. Table 2 shows the evaluation criteria for all second order constructs.

Speed of integration is the only first order construct in the structural model. After the deletion of two items, the measurement model was sufficiently reliable and valid. Before assessing the structural model, we evaluated discriminant validity using cross loadings and the Fornell-Larcker criterion for all items and constructs used in our research model. The cross loadings criterion is fulfilled. Table 3 shows the assessment of the Fornell-Larcker criterion.

As the data shows, discriminant validity is given. Therefore we could start with the evaluation of the structural model and the hypotheses testing.

### Assessing the structural model

Figure 3 represents the estimations obtained from PLS analysis. The  $R^2$  value of 0.575 of the dependent construct indicates a substantial amount of variance for M&A. The Stone-Geisser criterion shows that the empirical data reconstructs the theoretical model in a substantive way (all values above 0).

The goodness of fit index (GoF) developed by Tenenhaus and colleagues is relevant for the assessment of the model fit (Tenenhaus *et al.*, 2005). The GoF value of 0.505 indicates a

Table 2. Overview of second order constructs

	Strategic complementarity	Cultural compatibility	Degree of integration	M&A success	Recommended value
Composite reliability	0.959	0.959	0.951	0.939	>0.6
Cronbach's alpha	0.953	0.954	0.943	0.912	>0.6
Average variance extracted	0.593	0.611	0.640	0.744	>0.5
Cross loadings	OK	OK	OK	OK	—
Fornell-Larcker criterion	OK	OK	OK	OK	—
Product market-related issues	0.963***	—	—	—	Loadings of first order constructs
Resource-related issues	0.921***	—	—	—	
Value chain issues	0.876***	—	—	—	
Dimension strategy	—	0.936***	—	—	
Dimension structure	—	0.809***	—	—	
Dimension leadership	—	0.858***	—	—	
Dimension interrelationship	—	0.929***	—	—	
Sociocultural integration	—	—	0.823***	—	
Production integration	—	—	0.859***	—	
Marketing integration	—	—	0.915***	—	
System integration	—	—	0.841***	—	
Objective success	—	—	—	0.956***	
Subjective success	—	—	—	0.952***	

\* $p < 0.05$ ; \*\* $p < 0.01$ ; \*\*\* $p < 0.001$ .

n.s. not significant.

substantial fit for our research model (Wetzels *et al.*, 2009).

### Hypotheses testing

Our data show strong support for H1. The path coefficient is very strong with a value of 0.368\*\*\*,<sup>2</sup> whereas the effect size  $f^2$  with 0.11, as well as the prediction relevance  $q^2 = 0.063$ , are medium. Therefore, we conclude a strong positive effect from strategic complementarity to M&A success. The data shows clear evidence for H2 as well. Strategic complementarity has a strong impact on cultural compatibility (path coefficient = 0.781\*\*\*). The influence of strategic complementarity on speed of integration (H3) can only be verified on a 0.1 significance level. Although the path is 0.164<sup>+</sup>, it must be stated that the  $f^2$  and  $q^2$  values are quite low. Our proposed relation from strategic complementarity to the degree of integration (H4) finds strong support in the empirical data. The path for H4 is 0.652\*\*\*, the effect size is 0.24, and the  $q^2 = 0.133$ . This leads us to the conclusion that there is a strong interrelation between the two constructs. H5 states a positive relationship

between strategic complementarity and the degree of integration. The path is positive (0.296) and significant at a 0.001 level.  $F^2$  and  $q^2$  are at a medium level. We find no empirical support for H6, which suggests a positive relationship between strategic fit and speed of integration. Instead, the path is strongly negative (−0.351\*\*\*), and the effect size as well as the predictive relevance are medium. Therefore, we conclude that cultural fit lowers the speed of integration. This is a surprising finding and could be attributed to the fact that organizational cultures are compatible and speed is attributable to other factors. To test this assumption, we analyzed “cultural fit” regarding mean values, median, and standard deviation. The range of the mean values is between 3.1 and 3.52 (on a scale from 1 to 7, with a standard deviation between 0.92 and 1.2) for all items; the median value is between 3 and 4. Therefore, it can be concluded that a high cultural fit is not responsible for the negative relationship between cultural fit and speed of integration. Another—although surprising—result is the negative path from cultural fit to the degree of integration (H7; −0.109\*). Our results do not support the vast body of research in this area (Aguilera and Dencker, 2004; Homburg and Bucerius, 2006; Lodorfo and Boateng, 2006). Our data show that a high degree of cultural fit

<sup>2</sup> \*\*\* $p < 0.001$ ; \*\* $p < 0.01$ ; \* $p < 0.05$ ; + $p < 0.1$ .



Table 3. Fornell-Larcker criterion

	Fornell-Larcker criterion													
	AVE	A	B	C	D	E	F	G	H	I	J	K	L	N
A Product market-related issues	<b>0.694</b>	1												
B Marketing integration	<b>0.938</b>	0.356	1											
C Dimension strategy	<b>0.688</b>	0.377	0.106	1										
D Dimension leadership	<b>0.828</b>	0.315	0.070	0.462	1									
E Dimension structure	<b>0.872</b>	0.262	0.071	0.583	0.352	1								
F Dimension interrelationship	<b>0.755</b>	0.378	0.094	0.730	0.512	0.462	1							
G Production integration	<b>0.938</b>	0.365	0.603	0.045	0.091	0.005	0.089	1						
H Objective success	<b>0.844</b>	0.277	0.159	0.316	0.338	0.102	0.326	0.243	1					
I Resource-related issues	<b>0.711</b>	0.661	0.204	0.398	0.500	0.257	0.426	0.292	0.450	1				
J Value chain issues	<b>0.671</b>	0.468	0.142	0.490	0.529	0.373	0.493	0.091	0.391	0.666	1			
K Sociocultural integration	<b>0.811</b>	0.185	0.403	0.114	0.062	0.033	0.128	0.416	0.146	0.131	0.129	1		
L Subjective success	<b>0.793</b>	0.312	0.135	0.364	0.476	0.147	0.374	0.212	0.673	0.536	0.375	0.096	1	
M System integration	<b>0.832</b>	0.274	0.374	0.117	0.176	0.084	0.183	0.460	0.226	0.287	0.138	0.340	0.301	1
N Speed of integration	<b>0.621</b>	0.008	0.071	0.013	0.015	0.024	0.022	0.065	0.002	0.001	0.010	0.000	0.013	0.000

Bold figures indicate the quality of the measurement models.

leads to a lower degree of integration. However, our results affirm Puranam *et al.*'s study, who showed that a "common ground" (we assume that cultural compatibility is an indicator for common ground) makes a formal integration through informal coordination mechanisms more or less obsolete (Puranam, Singh, and Chaudhuri, 2009). We find strong empirical evidence for H8, suggesting a positive relationship between the degree of integration and M&A success. The path is positive and significant (0.211\*\*\*) and  $f^2$  and  $q^2$  show a medium effect (0.08 and 0.038). The proposed negative relation from the degree of integration to speed of integration is not supported (H9). The path is 0.200\*, the effect size is 0.056, and  $q^2$  is 0.024. This leads us to the conclusion that firms tend to integrate as fast as possible if the desired degree of integration is high. Finally, H10 must also be rejected. There is no empirical evidence for a positive relationship between the speed of integration and M&A success.

The controls have an influence, to some extent, on the latent variables of the model. Interestingly, relative size has a strong negative influence on cultural fit ( $-0.103^{***}$ ). This result indicates that cultural fit depends on relative size. Taking Puranam *et al.*'s (2009) findings into consideration, it seems that the potential for a common ground decreases with an increase of relative size. Firms in fast-growing industries do not tend to integrate as deeply as firms in slow-growing or negative-growth industries ( $-0.116^{***}$ ). Even though institutional distance between the countries is rather small, it has at least some impact on our model. The less the target country has developed compared to the buyer country, the higher the need for integration (coefficient 0.079\*;  $f^2 = 0.010$ ). Furthermore, it seems that M&As with targets from less-developed countries are more successful (coefficient 0.084\*;  $f^2 = 0.014$ ). In the following section, we discuss the results of our study.

## DISCUSSION

### Limitations

As with all retrospective survey data, our empirical data is faced with the problem of decreasing capacity of recollection. This problem is inherent with all M&A research based on surveys due to the fact that it takes three to five years subsequent to a transaction to measure success. The

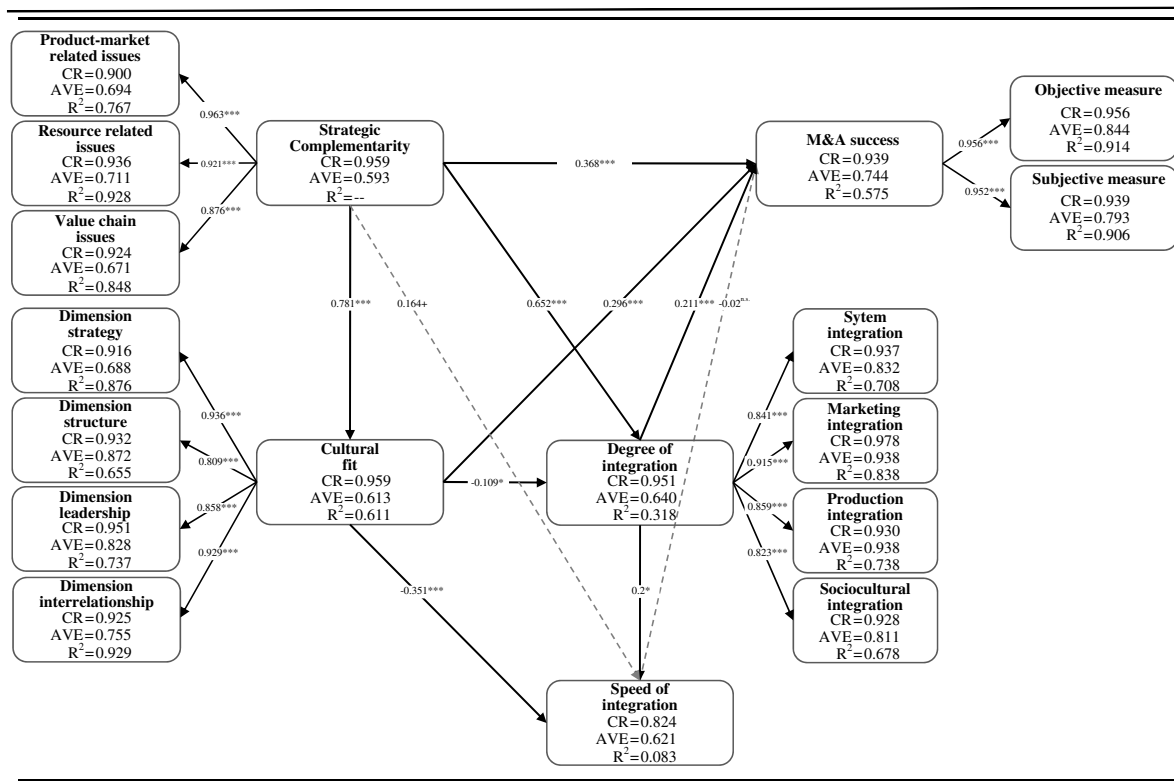


Figure 3. Results of PLS analysis

main reason for this delayed measurement is the duration of the integration process (Ellis *et al.*, 2009). Therefore, survey-based research in M&A is always in the area of conflict between reliable measurement and capacity of recollection. To work against this effect, we operationalized the items in the premerger phase with only a 5-point scale instead of a 7-point scale. Another retrospective survey-inherent problem is that informants tend to make more positive assessments in the long term (Golden, 1992). However, we find empirical evidence in our data that shows that the success rates are as low as they are regularly reported. Therefore, we conclude that the discussed assessment effect is not a substantial problem in our data. Furthermore, a longitudinal research design seems to be more recommendable as a cross-sectional design. However, longitudinal studies in the M&A context are problematic due to managerial turnover in the postmerger phase, and the problem of practicability (due to the lack of willingness of managers to participate in such a study). Furthermore, the effects of M&A on success depend on integration. Literature points out

that it takes three to five years to measure M&A success in a sufficient way (Ellis *et al.*, 2009; Homburg and Bucerius, 2005; Zollo and Meier, 2008). Therefore, a longitudinal design is very difficult and problematic to implement. A final limitation is the number of observations and the statistical power. We assume that at least the relation between strategic complementarity and speed of integration could become significantly stronger with a larger number of observations. Previous work in the M&A literature has studied the impact of acquisition experience on M&A success. The results are mixed (King *et al.*, 2004), ranging from uniformly positive (Barkema *et al.*, 1996; Fowler and Schmidt, 1989), U-shaped (Haleblian and Finkelstein, 1999), inverted U-shaped (Hayward, 2002), to negative (Kusewitt, 1985; Uhlenbruck *et al.*, 2006), or not significant (Zollo and Singh, 2004). Muehlfeld, Rao Sahib, and Van Witteloostuijn (2012) find that learning from acquisition failures and success is highly context-specific and outcome-dependent. In their comprehensive literature review, Haleblian *et al.* (2009) conclude that,

although a positive relationship between acquisition experience and performance seems intuitive, results of empirical studies are mixed, suggesting moderating influences. Acquisition experience is often used as a control variable in M&A studies (Uhlenbruck *et al.*, 2006; Wright *et al.*, 2002). Acquisition experience is usually measured by the number of acquisitions the firm has made in the past (Haleblian and Finkelstein, 1999). However, studies on experiential learning show that several acquisitions are required to experience a learning effect (Laamanen and Keil, 2008) and that “corporate forgetting frequently makes experience gained from acquisitions more than five years in the past unavailable” (p. 667). As in our sample, there were very few companies with acquisition experience, and we could not control for the effect of acquisition experience.

## Implications

### *Theoretical implications*

First, the results of our study underline the relevance of an integrative perspective on M&A. There is clear empirical evidence that shows that it is not one single success factor that makes M&A work, but rather the interdependencies of several constructs that determine M&A success. Therefore, our study is in line with other integrative research (Larsson and Finkelstein, 1999). Secondly, our study supports the notion that complementarity is a promising area in M&A research (King *et al.*, 2004; Larsson and Finkelstein, 1999). We show empirical evidence that proves that strategic complementarity is decisive for postmerger integration and M&A success. To our knowledge, this is the first time strategic complementarity has been operationalized in such a broad way that market-related, resource-related, and value chain characteristics are included in a second order construct. Up to now, a broader perspective on strategic issues of the premerger phase could only be found in the literature on similarity (Pehrsson, 2006; Stimpert and Duhaime, 1997). Our results indicate that there is clear demand for conceptual work on the construct of complementarity. Furthermore, the results of strategic complementarity, in combination with cultural fit, give clear evidence that it is not only economies of sameness that foster value creation in M&As but, moreover, it is economies of fitness that make

M&As work. Future research should highlight the mechanisms of how these economies of fitness foster value creation. Third, our results support the previous research of Puranam *et al.* (2009). High cultural fit as an indicator for common ground leads to lower “formal” organizational integration. We go along with Puranam and colleagues, assuming that this effect occurs due to informal coordination mechanisms. We found further evidence that this effect decreases with the relative size of the target. Future research should focus on how this effect works. Fourth, even though we found no empirical evidence on the relation of speed to success, we assume that conceptual work on the construct speed as well as on the interdependencies with other constructs of different phases is necessary.

When determining the optimal mode of an economic organization, managers face two interrelated problems (Leiblein, 2003): Identify and assemble a bundle of resources that create value, and decide on how to capture value through the governance of this bundle. From a transaction cost perspective, a higher level of uncertainty leads to a higher need of monitoring and control, and cultural differences can make “managerial digestibility” (Vanhaverbeke, Duysters, and Noorderhaven, 2002) a serious problem. Hence, monitoring and control ties between the acquirer and the target may be an important moderator of the cultural fit–M&A success relationship and should be the subject of future studies.

Our empirical results on institutional distance support those of Gaur and Lu (2007) indicating that, with high regulative distance, the effort for control increases (in their study in terms of ownership). Our study gives empirical evidence that the need for integration—and, therefore, the transfer of organizational practices—is higher if the target country is less developed than the buyer country. On the other hand, this need decreases when the target country is more developed than the buyer country.

### *Managerial implications*

A first managerial implication arises from the holistic perspective of our research. Managers should focus on premerger issues as well as on postmerger issues. Even though the integration phase is cited to be most decisive for M&A

success, managers should consider the interdependencies in this phase and characteristics of the whole M&A process. Secondly, we stated that cultural fit—through informal coordination mechanisms—leads to a lower demand for formal integration. However, managers should not automatically rely on this mechanism for two reasons: (1) this effect decreases with an increase of the relative size of the target, and (2) informal coordination mechanisms cannot guarantee the desired integration and the proposed synergy realization (from a manager's perspective). Therefore, managers should be aware of the role of integration. Finally, we state that, even though we did not find empirical evidence on the relationship between speed and success, managers should be aware of this topic. It seems that among many managers there is an implicit assumption that M&A success strongly depends on speed of integration as this managerial statement shows, for instance: "There are three things that matter the most here, and they are speed, speed, speed" (Chase, 1998). Some consulting firms and some companies (e.g., GE Capital) strictly follow the 100-day rule: Within 100 days, the integration has to be completed (Ashkenas, DeMonaco, and Francis, 1998). It is argued that speed leads to a faster exploitation of synergies and returns on investment, reduces uncertainty among employees, minimizes time spent in a suboptimal condition, and takes advantage of the momentum in the direct aftermath of a deal (Angwin, 2004; Homburg and Bucerius, 2006). There are, however, also negative effects of speed. A slower integration might minimize conflicts between partners, enhance trust building, and reduce disruption of existing resources and process in both firms (Homburg and Bucerius, 2006). Hence, speed comes at a cost, and there may be situations in which the costs of speed outweigh the benefits. Setting the right speed of integration requires a holistic understanding of all processes surrounding the focal deal. Therefore, speed should not be chosen intuitively.

Overall, this study has shown that M&A success is a function of the interplay among strategic complementarity, cultural fit, and integration, and it furthermore supports the need for an integrative perspective and theory on M&A. Success depends on decisions in different M&A phases. To successfully manage M&As, managers need to be aware of these complex relationships—there are no simple solutions to complex problems. We hope that

this study stimulates further research to develop a more holistic understanding of M&A success.

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## APPENDIX

Table A1

Common method bias							
Construct	Item	Substantive factor			Common method factor		
		Loading R1	Sig.	Loading R1 <sup>2</sup>	Loading R2	Sig.	Loading R2 <sup>2</sup>
Value chain attributes	VCA1	0.827	***	0.684	0.299	+	0.089
	VCA2	0.831	***	0.691	0.113	n.s.	0.013
	VCA3	0.891	***	0.794	−0.070	n.s.	0.005
	VCA4	0.779	***	0.607	−0.359	*	0.129
Product market-related issues	PMR1	0.857	***	0.734	−0.104	n.s.	0.011
	PMR2	0.896	***	0.804	−0.204	+	0.042
	PMR3	0.739	***	0.546	0.106	n.s.	0.011
	PMR4	0.849	***	0.720	0.083	n.s.	0.007
	PMR5	0.866	***	0.750	0.074	n.s.	0.005
	PMR6	0.844	***	0.712	0.069	n.s.	0.005
Resource-related issues	RRI1	0.758	***	0.574	0.138	n.s.	0.019
	RRI2	0.764	***	0.584	0.268	*	0.072
	RRI3	0.844	***	0.713	−0.088	n.s.	0.008
	RRI4	0.847	***	0.718	−0.221	n.s.	0.049
	RRI5	0.814	***	0.662	−0.290	n.s.	0.084
	RRI6	0.881	***	0.777	0.213	n.s.	0.045
Dimension leadership	CDL1	0.826	***	0.682	0.030	n.s.	0.001
	CDL2	0.864	***	0.746	−0.153	n.s.	0.023
	CDL3	0.889	***	0.790	−0.162	n.s.	0.026
	CDL4	0.729	***	0.531	0.223	n.s.	0.050
	CDL5	0.830	***	0.689	0.108	n.s.	0.012



Table A1 Continued

Common method bias							
Construct	Item	Substantive factor			Common method factor		
		Loading R1	Sig.	Loading R1 <sup>2</sup>	Loading R2	Sig.	Loading R2 <sup>2</sup>
Dimension structure	CDST1	0.944	***	0.891	0.053	n.s.	0.003
	CDST2	0.923	***	0.852	0.055	n.s.	0.003
Dimension strategy	CDS1	0.901	***	0.812	0.040	n.s.	0.002
	CDS2	0.906	***	0.821	0.114	+	0.013
	CDS3	0.915	***	0.837	−0.150	*	0.023
	CDS4	0.909	***	0.826	−0.120	n.s.	0.014
Dimension interrelationship	CDI1	0.802	***	0.643	−0.004	n.s.	0.000
	CDI2	0.898	***	0.806	0.084	n.s.	0.007
	CDI3	0.849	***	0.721	−0.098	n.s.	0.010
	CDI4	0.921	***	0.848	0.101	n.s.	0.010
Integration of production	IOP1	0.923	***	0.852	−0.054	n.s.	0.003
	IOP2	0.941	***	0.885	0.052	n.s.	0.003
Marketing integration	IMA1	0.958	***	0.918	−0.010	n.s.	0.000
	IMA2	0.971	***	0.943	−0.038	n.s.	0.001
	IMA3	0.975	***	0.951	0.047	*	0.002
Sociocultural integration	SCI1	0.898	***	0.806	−0.089	n.s.	0.008
	SCI2	0.892	***	0.796	0.147	n.s.	0.022
	SCI3	0.913	***	0.834	−0.057	n.s.	0.003
System-integration	SYI1	0.891	***	0.794	−0.057	n.s.	0.003
	SYI2	0.911	***	0.830	0.012	n.s.	0.000
	SYI3	0.933	***	0.870	0.041	n.s.	0.002
Speed of integration	SIOP	0.941	***	0.885	0.054	n.s.	0.003
	SIMA	0.851	***	0.724	−0.063	n.s.	0.004
Objective success	OBJ1	0.952	***	0.906	0.018	n.s.	0.000
	OBJ2	0.941	***	0.885	0.020	n.s.	0.000
	OBJ3	0.943	***	0.889	0.031	n.s.	0.001
	OBJ4	0.832	***	0.692	−0.079	n.s.	0.006
Subjective success	SUB1	0.921	***	0.848	0.036	n.s.	0.001
	SUB2	0.861	***	0.741	0.056	n.s.	0.003
	SUB3	0.871	***	0.759	−0.103	n.s.	0.011
	SUB4	0.906	***	0.821	0.009	n.s.	0.000
Sum		45.619		<b>40.198</b>	<b>0.121</b>		0.867
Mean		0.877		0.773	0.002		0.017
				<b>Ratio:</b>	<b>46</b>		<b>1</b>

+ $p < 0.10$ ; \* $p < 0.05$ ; \*\* $p < 0.01$ ; \*\*\* $p < 0.001$ .

Table A2

## Cross loadings

## Loadings and cross loadings

	OBJ	SUB	Speed	IOP	IMA	SCI	SYI	VCA	PMR	RRI	CDL	CDST	CDS	CDI
<b>OBJ1</b>	<b>0.952</b>	0.765	0.073	0.418	0.482	0.397	0.470	0.517	0.631	0.595	0.557	0.324	0.543	0.548
<b>OBJ2</b>	<b>0.941</b>	0.771	-0.010	0.359	0.425	0.345	0.453	0.485	0.617	0.616	0.557	0.325	0.570	0.570
<b>OBJ3</b>	<b>0.943</b>	0.793	0.042	0.335	0.442	0.344	0.478	0.524	0.668	0.599	0.541	0.323	0.538	0.544
<b>OBJ4</b>	<b>0.832</b>	0.680	0.048	0.354	0.465	0.318	0.337	0.399	0.544	0.478	0.397	0.193	0.481	0.426
<b>SUB1</b>	0.757	<b>0.921</b>	-0.004	0.383	0.407	0.271	0.504	0.528	0.684	0.608	0.544	0.416	0.675	0.523
<b>SUB2</b>	0.694	<b>0.861</b>	-0.119	0.417	0.553	0.355	0.491	0.537	0.677	0.525	0.484	0.248	0.578	0.491
<b>SUB3</b>	0.786	<b>0.871</b>	-0.154	0.201	0.312	0.230	0.462	0.412	0.562	0.493	0.534	0.321	0.545	0.573
<b>SUB4</b>	0.679	<b>0.906</b>	-0.129	0.309	0.374	0.249	0.499	0.516	0.688	0.552	0.586	0.376	0.658	0.592
<b>SIOP</b>	-0.022	-0.161	<b>0.941</b>	0.273	0.212	-0.018	-0.006	0.026	0.005	-0.121	-0.141	-0.155	-0.177	-0.188
<b>SIMA</b>	0.130	-0.012	<b>0.851</b>	0.193	0.261	0.018	0.040	0.167	0.081	-0.048	-0.043	-0.117	-0.009	-0.054
<b>IOP1</b>	0.343	0.265	0.261	<b>0.923</b>	0.652	0.613	0.465	0.515	0.353	0.354	0.338	0.306	0.175	0.302
<b>IOP2</b>	0.398	0.410	0.238	<b>0.941</b>	0.788	0.573	0.663	0.592	0.482	0.350	0.273	0.197	0.311	0.272
<b>IMA1</b>	0.459	0.435	0.198	0.733	<b>0.958</b>	0.637	0.625	0.559	0.528	0.297	0.184	0.052	0.284	0.284
<b>IMA2</b>	0.434	0.422	0.287	0.757	<b>0.971</b>	0.612	0.647	0.604	0.512	0.252	0.190	0.057	0.262	0.271
<b>IMA3</b>	0.537	0.479	0.254	0.765	<b>0.975</b>	0.624	0.697	0.593	0.530	0.326	0.243	0.100	0.329	0.313
<b>SCI1</b>	0.299	0.186	-0.079	0.516	0.549	<b>0.898</b>	0.450	0.335	0.255	0.282	0.273	0.089	0.190	0.280
<b>SCI2</b>	0.484	0.458	0.081	0.611	0.593	<b>0.892</b>	0.569	0.439	0.403	0.387	0.365	0.235	0.294	0.391
<b>SCI3</b>	0.245	0.182	-0.020	0.583	0.597	<b>0.913</b>	0.549	0.384	0.312	0.298	0.271	0.162	0.187	0.291
<b>SYI1</b>	0.430	0.468	0.012	0.495	0.621	0.442	<b>0.891</b>	0.457	0.495	0.297	0.236	0.204	0.342	0.314
<b>SYI2</b>	0.410	0.540	-0.084	0.476	0.553	0.501	<b>0.911</b>	0.488	0.485	0.352	0.323	0.310	0.443	0.417
<b>SYI3</b>	0.458	0.496	0.093	0.682	0.675	0.635	<b>0.933</b>	0.487	0.488	0.363	0.370	0.279	0.369	0.432
<b>VCA1</b>	0.567	0.620	0.030	0.504	0.567	0.384	0.538	<b>0.827</b>	0.768	0.634	0.493	0.359	0.552	0.528
<b>VCA2</b>	0.454	0.509	0.101	0.465	0.504	0.331	0.418	<b>0.831</b>	0.724	0.571	0.508	0.500	0.514	0.547
<b>VCA3</b>	0.431	0.427	0.065	0.575	0.526	0.418	0.420	<b>0.891</b>	0.671	0.599	0.587	0.468	0.434	0.573
<b>VCA4</b>	0.263	0.261	0.114	0.435	0.396	0.289	0.347	<b>0.779</b>	0.514	0.452	0.449	0.375	0.344	0.376
<b>PMR1</b>	0.607	0.722	0.006	0.327	0.461	0.298	0.482	0.608	<b>0.857</b>	0.660	0.490	0.338	0.602	0.538
<b>PMR2</b>	0.581	0.673	0.015	0.384	0.497	0.290	0.490	0.694	<b>0.896</b>	0.719	0.464	0.328	0.636	0.496
<b>PMR3</b>	0.438	0.463	0.094	0.418	0.461	0.340	0.402	0.706	<b>0.739</b>	0.604	0.529	0.414	0.474	0.534
<b>PMR4</b>	0.509	0.540	0.080	0.483	0.483	0.421	0.405	0.793	<b>0.849</b>	0.699	0.610	0.565	0.515	0.600
<b>PMR5</b>	0.613	0.662	-0.027	0.312	0.402	0.274	0.457	0.634	<b>0.866</b>	0.771	0.582	0.456	0.676	0.599
<b>PMR6</b>	0.638	0.637	0.032	0.365	0.433	0.208	0.474	0.678	<b>0.844</b>	0.717	0.517	0.462	0.663	0.534
<b>RRI1</b>	0.426	0.446	-0.083	0.182	0.137	0.233	0.269	0.556	0.618	<b>0.758</b>	0.696	0.635	0.612	0.681
<b>RRI2</b>	0.595	0.601	-0.096	0.266	0.323	0.296	0.362	0.501	0.732	<b>0.764</b>	0.507	0.312	0.669	0.573
<b>RRI3</b>	0.527	0.461	-0.040	0.309	0.189	0.337	0.286	0.542	0.628	<b>0.844</b>	0.615	0.591	0.608	0.574
<b>RRI4</b>	0.442	0.434	-0.100	0.370	0.188	0.303	0.261	0.555	0.658	<b>0.847</b>	0.580	0.560	0.503	0.528

Table A2 Continues

Cross loadings														
Loadings and cross loadings														
	OBJ	SUB	Speed	IOP	IMA	SCI	SYI	VCA	PMR	RRI	CDL	CDST	CDS	CDI
<b>RRI5</b>	0.431	0.462	−0.103	0.301	0.188	0.200	0.253	0.514	0.640	<b>0.814</b>	0.454	0.446	0.506	0.458
<b>RRI6</b>	0.632	0.592	−0.081	0.408	0.427	0.380	0.380	0.679	0.772	<b>0.881</b>	0.593	0.473	0.668	0.635
<b>CDL1</b>	0.471	0.588	−0.092	0.227	0.093	0.214	0.243	0.498	0.534	0.608	<b>0.826</b>	0.679	0.609	0.686
<b>CDL2</b>	0.456	0.432	−0.121	0.239	0.117	0.248	0.224	0.563	0.496	0.543	<b>0.864</b>	0.647	0.532	0.715
<b>CDL3</b>	0.389	0.437	−0.137	0.275	0.136	0.276	0.266	0.498	0.489	0.593	<b>0.889</b>	0.684	0.572	0.775
<b>CDL4</b>	0.510	0.567	−0.011	0.266	0.284	0.291	0.384	0.447	0.563	0.520	<b>0.729</b>	0.471	0.575	0.632
<b>CDL5</b>	0.516	0.490	−0.099	0.344	0.268	0.375	0.316	0.536	0.543	0.636	<b>0.830</b>	0.669	0.534	0.729
<b>CDST1</b>	0.323	0.381	−0.109	0.246	0.047	0.135	0.252	0.506	0.499	0.608	0.777	<b>0.944</b>	0.595	0.692
<b>CDST2</b>	0.271	0.333	−0.186	0.251	0.092	0.212	0.294	0.446	0.445	0.529	0.640	<b>0.923</b>	0.508	0.568
<b>CDS1</b>	0.446	0.594	−0.064	0.271	0.260	0.214	0.345	0.540	0.676	0.711	0.656	0.584	<b>0.901</b>	0.694
<b>CDS2</b>	0.599	0.687	−0.156	0.277	0.346	0.336	0.417	0.532	0.672	0.677	0.619	0.513	<b>0.906</b>	0.634
<b>CDS3</b>	0.511	0.622	−0.145	0.182	0.224	0.180	0.353	0.461	0.587	0.602	0.588	0.499	<b>0.915</b>	0.619
<b>CDS4</b>	0.563	0.609	−0.086	0.233	0.268	0.179	0.415	0.506	0.635	0.652	0.609	0.561	<b>0.909</b>	0.654
<b>CDI1</b>	0.498	0.497	0.055	0.297	0.224	0.332	0.433	0.508	0.521	0.584	0.711	0.617	0.549	<b>0.802</b>
<b>CDI2</b>	0.435	0.510	−0.262	0.220	0.216	0.260	0.315	0.547	0.563	0.643	0.772	0.658	0.640	<b>0.898</b>
<b>CDI3</b>	0.466	0.473	−0.189	0.221	0.292	0.335	0.301	0.514	0.544	0.573	0.688	0.494	0.571	<b>0.849</b>
<b>CDI4</b>	0.582	0.637	−0.113	0.326	0.307	0.321	0.435	0.564	0.634	0.637	0.794	0.589	0.715	<b>0.921</b>

Bold italic figures belong to the underlying construct.