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#### Networking and Partnering

##### **Explaining Alliance Partner Selection: Fit, Trust and Strategic Expediency**

*Paul E. Bierly III and Scott Gallagher*

##### **Stimulating Dynamic Value: Social Capital and Business Incubation as a Pathway to Competitive Success**

*Mathew Hughes, R. Duane Ireland and Robert E. Morgan*

##### **Multiple Network Leadership as a Strategic Asset:**

##### **The Carlo Gavazzi Space Case**

*Anna Nosella and Giorgio Petroni*

##### **Integrating Cross-Border Acquisitions: A Process-oriented Approach**

*G. Colombo, V. Conca, M. Buongiorno and L. Gnan*

#### Exploiting the Internet

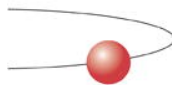
##### **The Structural and Performance Effects of Internetworking**

*Peter J. Brews and Christopher L. Tucci*

##### **Tailoring Online Retail Strategies to Increase Customer Satisfaction and Loyalty**

*Vangelis Souitaris and George Balabanis*

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# Integrating Cross-Border Acquisitions: A Process-oriented Approach

G. Colombo, V. Conca, M. Buongiorno and L. Gnan

Acquisitions and mergers of equals often fail to deliver shareholder value, largely because poor integration practices do not allow synergies to be created. The issue has been addressed by several studies from two different research streams: the first looks at the combination of resources after the acquisitions and the second focuses on the human factor. We propose an integrated model where the effects of these key aspects are tested simultaneously and where three independent variables are included: the extent of planning and knowledge from previous acquisitions and knowledge from previous relationships. We believe that through the model managers can prioritise their actions and select an appropriate time horizon for the integration.

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## Introduction

In the last 20 years many managers have been involved in acquisitions, and a significant number of them are under attack because of their poor performance. In addressing this issue, our paper stresses two research questions: what are the determinants of merger success; and what are the drivers of such determinants? For the first question, we selected the most recurrent explanations in the literature: the role of resources according to the resource-based view and the role of a favourable climate.<sup>1</sup> We tested the effects of the two issues on performance simultaneously on a sample of cross-border deals.

We found a positive effect on performances resulting from two processes aimed at redeploying valuable resources (first of all managerial resources redeployment from the target to the bidder) and at creating a favourable organisational climate for both the parties involved. Given that, another research question arises: what are the factors that may have a role in affecting these two processes (i.e. resource redeployment and favourable climate generation)?

A considerable number of studies focus on the difficulties in post-merger integration, (and propose contextual approaches) where the structural variables, such as the strategic fit or the cultural distance of the combining firms are related to the intermediate variables and consequently to

merger performance.<sup>2</sup> Little attention has been paid to the process itself as a source of value. Yet most managers have a clear idea that fit is not enough for a perfect deal. Even a set of initially favourable conditions can be undermined by poor process management. On the other hand, skilful managers can create value even in a difficult merger, leveraging on the integration process.

In this paper we focused on the approach a company may take towards the integration process. This approach may be oriented to the planning dimension, which means forecasting all the organisational and cultural impediments and possibly finding a solution. Alternatively, it might be oriented to the emergent dimension, which means solving the problems as they come up, or a mix of the two. Planning-oriented firms tend to elaborate an integration plan before the deal is closed and revise the plan immediately after the closing. They also involve the target's managers in the planning to facilitate goal sharing and communication (both formal and informal). Emergent-oriented firms usually rely on the knowledge they have acquired through previous acquisitions and through any previous relationships with the target.

Despite the relevance of both the items, empirical analyses are infrequent or ambiguous. Apart from some handbooks, the planning has been studied essentially through clinical cases. We have two kinds of knowledge, one coming from previous acquisition and the other coming from previous equity and governance relationships with the target. The first kind of knowledge has been deeply studied in quantitative analysis on the previous acquisitions dimension, even if the results are not definitive, while the second has been relatively neglected.<sup>3</sup> Thus, we propose a structural model where the dependent variable is the acquisition performance, the intermediate variables are the managerial resource redeployment and the organisational climate; the three independent variables are merger planning, pre-acquisition experience, pre-acquisition equity and governance relationships. In our model a relevant role is played by an additional variable specifying how rapid a firm is in starting the integration process. This variable represents one of the managers' major concerns, as shown in many recent papers and we believe that the longer senior management waits before offsetting the directions and the extent of post-merger actions, the more the climate deteriorates and the resource transfer becomes unproductive. So the problem is not only what to do, but also how and when. Obviously in cross-border M&As these aspects become particularly critical.

In the first section of this paper we review the literature on post-merger management, introduce the research hypotheses and describe the model. The second section illustrates the sample and the methodology. The final section presents and discusses the findings, both in terms of theory building and managerial implications.

### **Theoretical background and hypothesis**

Past studies have indicated that acquisitions often do not achieve their expected goals. This uncertainty on acquisition performance for the acquiring company has resulted in a major revision of merger motives and of the determinants of merger success (or failure). The resource-based view (RBV) indicates that a basic merger motive can be found in the exchange of firm-specific resources.<sup>4</sup> As some resources are not easy to trade on the market, the most effective way to get control over them is to acquire the whole company. Thus market failures at resources' level are one of the main motives of M&As. Such failure derives from difficulties in resource valuation and in opportunistic behaviour by contracting parties. A similar concept can be found in the Transaction Cost Economics (TCE) too: the hierarchy is preferable to the market when it proves a failure.<sup>5</sup> This paper is positioned within the RBV according to the view proposed by Foss and Foss towards a strong integration with TCE so that the theory of merger we support implies that acquisitions are made to acquire valuable resources subject to market failure, that these resources are redeployed from the target to the bidder after the closing and that this process can create value for the bidder.<sup>6</sup> Empirical studies show the existence of a significant positive relationship between the extent of the resource redeployment among the involved companies and the acquisition performance.<sup>7</sup>

In our study we investigated the transfer of managerial resources from the target to the bidder. RBV studies do not consider managerial resources *per se* as situations subject to market failure. Two major reasons explain our decision. First, according to Hambrick the more superior resources are

embodied in tacit routines or in codified systems, the more the effectiveness of the transfer is related to the people who know the routines and who are able to manage systems and procedures.<sup>8</sup> The concept of dynamic capabilities as “the firm’s ability to integrate, build and reconfigure internal and external competencies to address rapidly changing environments” reinforces the fact that management teams are not only repositories of static routines but also a key factor of change.<sup>9</sup> In this way, managerial transfer is related to total resource redeployment (for example of R&D, marketing and manufacturing resources). Finally, international acquisitions stress the role of management because they need more business co-ordination.<sup>10</sup>

We consider the managerial redeployment only in one direction – i.e. from the target to the bidder – in order to avoid those transfers motivated only by control reasons. According to this reading of the RBV, a first explanation of merger success relies on managerial resources and their redeployment; in such terms we can hypothesise as follows:

**Hypothesis 1.** *the greater the managerial resource redeployment, the greater the acquisition performance*

Parallel to the explanation of the rationale of mergers, and of merger success, a different stream of studies focuses on the organisational climate management.<sup>11</sup> Marks and Mirvis (1985) assert that the combination of uncertainty and the likelihood of change due to an acquisition produce stress and affect perceptions and judgments of the people involved. The defensive reaction to such stress and uncertainty is called “merger syndrome”, normally lethal to any merger. According to this literature, a successful integration depends on several factors. First, the communication should be complete and open, perceived as reliable, frequent and managed through a post-merger committee, able to send the “right signals”. The “positive” use of communication can reduce the anxiety and uncertainty usually associated with mergers, even friendly ones.<sup>12</sup> Another crucial ingredient is the ability to fulfil expectations in both organisations (especially in the management team).<sup>13</sup> The role and the involvement of the management team should be able to mediate between the two organisations and to create a sort of “transformational leadership”.<sup>14</sup> Finally, it is vital to create a common organisational culture, using many rituals, such as introduction programmes, cross visits, celebrations, etc.<sup>15</sup> Thus, after an acquisition, a favourable change in organisational climate is as crucial as the changes in processes and procedures. Accordingly, we propose:

**Hypothesis 2.** *the more favourable the change in organisational climate is to the acquisition, the greater the acquisition performance.*

Looking carefully at the two predictors of the merger performance, they turned out to be the result of a process: resources can be fully redeployed along a medium period of time and consensus to acquisition is created through a series of consecutive steps. Given that, what are the key elements affecting these processes and, indirectly, merger performance? Much of the literature is focused on contextual variables such as the *ex-ante* strategic and organisational fit between the two companies, the synergistic potential and complementary resources, the relative size, the differences in corporate cultures and management styles. According to this view, the final results depend basically on the starting point and on the merger potential.

A different view sustains that merger potential and *ex-ante* relative distance, even if necessary, are not sufficient because the process itself must be taken into account and superior acquisition performance also depends on process management capabilities.<sup>16</sup> In other words, the acquisition success or failure lies in understanding and better managing the processes by which acquisition decisions are made and by which firms are integrated.<sup>17</sup>

The process-based literature is relatively rich in works dealing with what should and should not be done during the integration process, but little attention is paid to the general workable approaches to the integration. We believe that the two main alternatives are: carefully planning the integration or managing the emergencies relying on the knowledge. The latter, as we said, comes both from the acquisition experience and from the previous relationships with the target.

Planning is normally associated with two main purposes: to promote constructive thinking or to attain and maintain an aligned environment between firms and to help managers to integrate and control various parts of the firm.<sup>18</sup> Planning tends to be more significant when the environmental and internal complexity is growing: Grant underlines the role of planning in turbulent environments and Miller and Cardinal found a positive relationship between growth process and planning.<sup>19</sup> Thus, it is reasonable to assume that planning will be most valuable during the turbulent process of an acquisition.

Effective acquisition planning should be double-faced. On the one hand, Shrivastava emphasises a number of actions an acquirer should undertake during the pre-merger phase; on the other hand, Shrallow prescribes a detailed plan to provide guidance for the post-closing activities.<sup>20</sup>

In other words, planning is not a magic wand but it simply helps managers to forecast impediments and to find *ex-ante* solutions to make the process smoother. Thus our hypothesis is that planning has no direct effect on performance but it influences the two process variables (organisational climate and resource redeployment). More specifically, a plan is helpful:

- to allocate managerial resources more rapidly and appropriately;
- to share objectives among the top and middle management of the two companies;
- to communicate the information required by the different phases of the acquisition process (pre and post-closing).

Given that, we propose:

**Hypothesis 3a.** *the greater the acquirer's efforts towards planning, the higher the managerial resource redeployment*

**Hypothesis 3b.** *the greater the acquirer's efforts towards planning, the more successful the creation of a favourable organisational climate*

The second general approach to post-merger integration relies on the acquirer's knowledge about the acquisition process and about the target firm. Like planning, knowledge affects performance only through the process variables. We identify two sources of knowledge. The first derives from previous acquisition experience and it is well established in literature.<sup>21</sup> The second source lies in the previous relationships with the target and it has been neglected in acquisition literature. However, we think that the governance and the equity previous relationships may be relevant because of the following reasons:

- they provide broad knowledge about several areas of the target;
- they give the opportunity to access inside information;
- they provide better perception of the organisational climate.

The two sources of knowledge can be considered as "prior knowledge" according to Shane's view and thus explain different post-merger performance. Consequently, we hypothesise:

**Hypothesis 4a.** *the greater the knowledge from previous acquisitions, the greater the managerial resource redeployment.*

**Hypothesis 4b.** *the greater the knowledge from previous acquisitions, the more successful the creation of a favourable organisational climate.*

**Hypothesis 5a.** *the greater the knowledge from previous relationships with the target, the greater the managerial resource redeployment.*

**Hypothesis 5b.** *the greater the knowledge from previous relationships with the target, the more successful the creation of a favourable organisational climate.*

There is general acceptance among practitioners that the temporal lag between the closing of a deal and the start of post-merger integration is a critical factor. Hinterhuber, an Aventis manager, claims that “if after three to six months integration is not complete, it will never occur”.<sup>22</sup> Bert, MacDonald and Herd, consultants for A.T. Kearney, are less drastic but convinced that “after year two, the window of opportunity for forging merger synergies has all but closed”.<sup>23</sup> From many case studies it appears that a maximum temporal lag of about three months is generally associated with successful experiences.<sup>24</sup> Haspeslagh and Jemison show that immediately after the deal closes a period starts called “setting the stage” when it is crucial to set out rapidly the premises for the future integration. Even if the integration process follows, top managers of both companies have to define the rules as soon as possible.

The temporal lag depends on some contextual variables such as the complexity of the deal or the integration mode and on the competencies the acquirer has in addressing the acquisition approach. It is reasonable to suppose that when the temporal lag exceeds six months it is a sign of unexpected difficulties in the complexity of the integration process; thus one could assume that performance is influenced not by the temporal lag, but by the integration complexity. On the other hand, we consider that the passing of time is *per se* a problem because acquisitions are subject to a “honeymoon effect”. According to Fichman and Levinthal, “there are durations of time at the beginning of a relationship during which the relationship is relatively immune to negative outcomes”.<sup>25</sup> After this period the likelihood of stress and conflicts rises. Thus, in our view, it is not enough to undertake the correct actions to achieve acquisition goals; they should be undertaken with the maximum urgency, given that the level of expectations in the two organisations immediately after closing is so high that every delay could be considered as evidence of a lack of a clear integration design. We therefore propose:

**Hypothesis 6a.** *the longer the temporal lag between closing and the start of integration, the lower the acquisition performance*

**Hypothesis 6b.** *the longer the temporal lag between closing and the start of integration, the less successful the creation of a the organisational climate*

On the basis of these hypotheses we developed a theoretical model to capture the systemic effects and the indirect relationships among the above described variables. Our model is illustrated in Figure 1.

The model can explain performance of M&A requiring both full and partial integration. We did not test for different behaviour across integration modes due to the limited size of our sample. We assume that our findings are applicable to the whole value chain in the first case and only to some activities in the second case.

## Research methodology

### *Sampling frame and achieved sample*

The initial sample consisted of 751 cross-border deals closed in the period 1988-1992 involving Italian companies as either the acquired or acquiring company (see Table 1). These deals were extracted from the database of the “Osservatorio M&A” of Bocconi University: acquisitions of minor interest were excluded as well as operations in which no integration was implemented after the deal. Thus our sample includes only full and partial integration M&As, excluding the preservation and holding approach, using the Haspeslagh and Jemison terminology.

The survey was conducted by sending the senior managers (one per side) of both companies involved a detailed qualitative and quantitative questionnaire, aimed at capturing the degree of satisfaction achieved through the deals. A pilot was tested with a panel of experts from the investment banking sector, and one case was elaborated in depth to enrich the comprehension of the

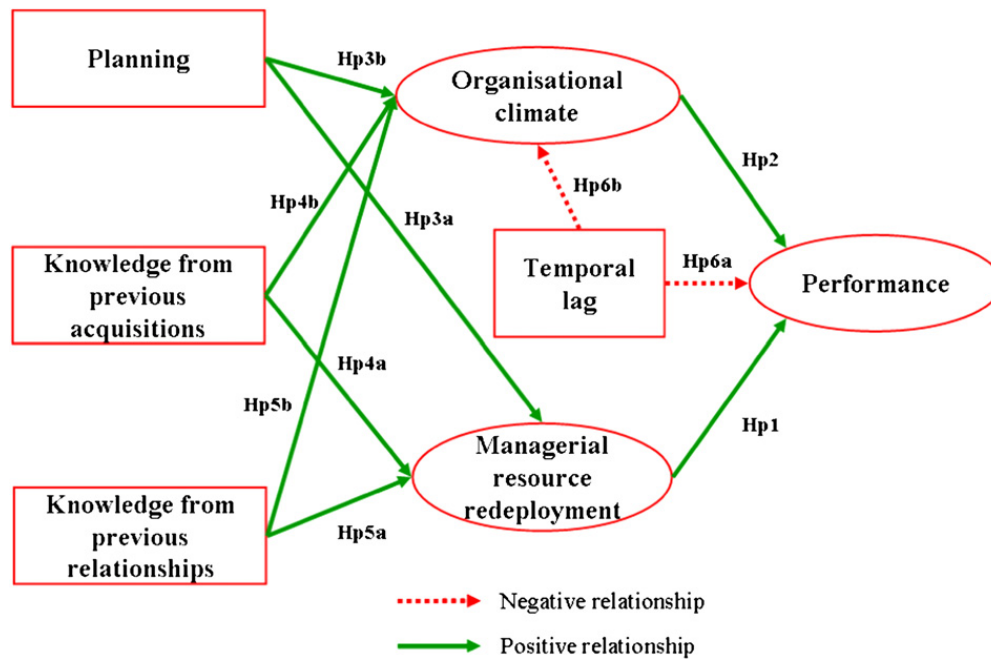


Figure 1. The Theoretical Model

post-merger phenomenon and to check if our questionnaire covered the majority of relevant situations. The data collection was made through a mail questionnaire conducted between January and early June 1994. The final sample consisted of 67 acquisitions, representing a response rate of 9 per cent: 47 acquisitions by foreign companies in Italy and 20 by Italian companies abroad. The distributions by acquirer's and target's countries of origin were found to be consistent with the reference universe (see Table 2).

To align the assessing of post-acquisition performance on the same timeline for the whole sample, we asked the respondents to evaluate it within two years after the closing.

Table 1. Cross-border deals involving Italian companies

Industry	N.	%
Services	43	5.7%
Steel	18	2.4%
Media, Publishing	36	4.8%
Parma, Cosmetics	43	5.7%
Furniture, Interior Design	19	2.5%
Transport	22	2.9%
Textile, Clothing	56	7.5%
Food	70	9.3%
Electronic/Telecommunication	45	6.0%
Insurance & Banking	70	9.3%
Others	92	12.3%
Chemical, Paper	106	14.1%
Energy, Waste Management	7	0.9%
Industrial Machinery	124	16.5%
<b>Total</b>	<b>751</b>	<b>100.0%</b>

**Table 2. Final sample**

Industry	N.	%
Services	1	1.5%
Steel	2	3.0%
Media, Publishing	2	3.0%
Parma, Cosmetics	2	3.0%
Furniture, Interior Design	2	3.0%
Transport	2	3.0%
Textile, Clothing	2	3.0%
Food	5	7.5%
Electronic/Telecommunication	6	9.0%
Insurance & Banking	6	9.0%
Others	7	10.4%
Chemical, Paper	9	13.4%
Energy, Waste Management	10	14.9%
Industrial Machinery	11	16.4%
<b>Total</b>	<b>67</b>	<b>100.0%</b>

**Measures**

Questions from the original survey that are relevant are presented in [Appendix 1](#). The means and standard deviations of the variables are shown in [Table 3](#).

*Endogenous variables.* The survey provided the information needed to measure the independent variables. While self-reported measures involve some methodological limitations (respondent bias, performance overestimation) we decided to use perceptual measures because of the difficulties

**Table 3. Means, standard deviations**

Id	Variable	N	Mean	Median	Std. Deviation	Percentiles	
						25	75
X1	Number Of Acquisitions	67	2.77	3.00	1.27	2.00	4.00
X2	Governance Relationships	67	0.06	0.00	0.24	0.00	1.00
X3	Minority Shareholding	67	0.25	0.00	0.44	0.00	1.00
X4	Speed	67	2.37	2.00	2.10	1.00	3.00
Y1	Market Share	67	1.45	3.00	0.58	2.00	3.00
Y2	Roi	67	2.06	2.00	0.86	2.00	3.00
Y3	Competitive positioning	67	2.72	3.00	0.52	2.00	3.00
Y4	Market coverage	67	2.78	3.00	0.45	3.00	3.00
Y5	Customer satisfaction	67	2.34	2.00	0.49	2.00	3.00
Y6	Risk Perception	67	3.43	3.00	1.44	2.00	3.00
Y7	Weakness/Strength	67	2.76	3.00	1.92	2.00	3.00
Y8	Poverty/Wealth	67	3.56	3.00	1.58	2.00	5.00
Y9	Key People Redeployment	67	1.55	4.00	0.88	3.00	4.00
Y10	Pre-Acquisition Planning	67	0.79	1.00	0.41	1.00	1.00
Y11	Discussion On Post-Merger Impediments	67	0.55	1.00	0.49	0.00	1.00
Y12	Detail	67	0.30	1.00	0.45	0.00	1.00
Y13	Organizational matching	67	0.55	1.00	0.50	0.00	1.00



associated with “objective” measures in assessing post-acquisition performance.<sup>26</sup> First, the capital market values used in event studies are expectations of the magnitude, nature and viability of consolidation processes; thus they are *ex-ante* measures. However, we decided to study the *ex-post* effects of acquisitions two years after the closing. Second, despite the fact that several studies use accounting measures, they are typically available only in aggregate form, making it difficult to isolate the performance of the acquisition from that of other units and the impact of exogenous events.<sup>27</sup> Instead, using managerial judgments provided a unique opportunity for gathering information on the multiple facets of acquisition performance and isolating the impact of an acquisition *per se* on performance from other exogenous variables.

#### *Acquisition performance*

In line with the literature, the acquisition performance is measured by self-reported measures of changes in market shares (Y1 - MARKET SHARE) and intrinsic profitability (Y2 - ROI) from the acquisition.<sup>28</sup> These indicators are reflective in nature, which is consistent with arguments developed in previous studies.<sup>29</sup> In addition, we used the relative position in the industry (Y3 - COMPETITIVE POSITIONING), the market coverage (Y4 - MARKET COVERAGE) and the customer satisfaction (Y5 - CUSTOMER SATISFACTION) to measure the performance because one of the most common basic goals of related acquisitions is to gain competitive advantage. These indicators were based on a three-point scale from the point of view of the acquirer; one indicating significant decline, two stable, and three significant increase.

#### *Organisational Climate*

We isolated organisational climate using a construct operationalised through six variables, summarised by two indicators. The six variables are:

- Pre-acquisition risk and safety perception of the merger;
- Post-acquisition risk and safety perception of the merger;
- Pre-acquisition weakness and strength of the merger;
- Post-acquisition weakness and strength of the merger;
- Pre-acquisition poverty and wealth of the merger;
- Post-acquisition poverty and wealth of the merger.

These variables are based on a six-point scale. One means that acquisition is perceived as highly risky and/or very weak and/or very poor while six means very secure and/or very strong and/or very rich. The three indicators we used are the difference between the two situations, pre and post-acquisition moment (Y6 - RISK PERCEPTION, Y7 - WEAKNESS/STRENGTH, and Y8 - POVERTY/WEALTH).

#### *Managerial resource redeployment*

We measured managerial resource redeployment using an indicator based on a four-point scale, where one means no redeployment to the acquired firm and four means a total redeployment (i.e. all the key managers changed) (Y9 - KEY PEOPLE REDEPLOYMENT).

#### *Exogenous variables. Planning*

We defined planning using a construct operationalised through four dichotomised indicators:

- A pre-acquisition plan (Y10 - PRE-ACQUISITION PLANNING);
- Formal discussion about possible post-merger impediments (Y11 - DISCUSSION ON POST-MERGER IMPEDIMENTS);
- A detailed post-acquisition plan (Y12 - DETAIL).
- A pre-acquisition discussion on organisational structures and mechanisms matching (Y13 - ORGANISATIONAL MATCHING)

### *Knowledge from previous acquisitions*

We captured this dimension through one variable: the number of international acquisitions closed by the acquirer in the past (X1 - NUMBER OF ACQUISITIONS).

### *Knowledge from previous relationships*

We defined knowledge from previous relationships using a construct operationalised through two indicators. The first is the specific knowledge of the target as captured by the pre-acquisition presence/absence on the target board of people related to the acquirer (X2 - GOVERNANCE RELATIONSHIPS). We consider that interlocked directorships are the best opportunity of acquiring information that is critical for M&A.<sup>30</sup> The second is the knowledge of the target as captured by having a position as a minority shareholder (X3 – MINORITY SHAREHOLDING).

### *Temporal lag*

To reduce the bias due to different perceptions related to the actual starting time of different integrating procedures after the closing, we measured the temporal lag between closing time and the beginning of the integration process (X4 - SPEED) through a seven-point scale where:

- 1 = by the end of the first week;
- 2 = by the end of the first month;
- 3 = by the end of the first quarter;
- 4 = by the end of the sixth month;
- 5 = by the end of the first year;
- 6 = by the end of the second year;
- 7 = no attempt at integration was undertaken.

In other words, we assume that the perception of the real moment when the integrating processes started is less accurate as time goes on.

*Control variables for sources of sample heterogeneity.* We used three control variables, two related to the size of the target firm (turnover and number of employees) and one to the nationality of the firms involved. It is widely accepted that the potential to create value from an acquisition depends upon the size of the merging firms. For example, if the targets are small, actions to restructure the target may simply be unnecessary or very restricted.

### **Model structure**

We chose a structural modelling approach and estimated the model using LISREL 8.52.<sup>31</sup> LISREL belongs to the second generation of the multivariate analysis family of techniques, which also includes AMOS (see [Appendix 2](#)).

### **Findings**

In this section, we report and evaluate the full version of our model, as expressed in [Figure 1](#). The analysis and interpretation of a structural equation model with latent variables take place in two stages: (1) assessment of the individual item dimensionality, reliability, consistency and validity of the measurement model; and (2) assessment of the causal relationships within the structural model.

Consistent with the two-step approach, we estimated a measurement model prior to examining structural model relationships.<sup>32</sup> We modelled the six constructs as six correlated first-order factors.

### *Measurement model results*

We tested the measurement model by examining individual item dimensionality, convergent validity, reliability, internal consistency and discriminant validity. The multi-item measures were subjected to a series of exploratory and confirmatory factor analyses to assess dimensionality, convergent validity. The initial maximum likelihood exploratory factor analysis (with direct

oblimin rotation) of 17 (15+2) items produced three factors with eigenvalues larger than one.<sup>33</sup> The factors collectively accounted for 68.46 per cent of the total variance. However, since our *a priori* expectation was the emergence of four underlying factors (i.e. Acquisition performance, Organisational climate, Planning, and Knowledge from previous relationships), the analysis was repeated by forcing a four-factor solution. The resulting structure accounted for 79.34 per cent of the variance.

Based on the results of exploratory factor analysis, we decided to keep the entire set of 17 (15+2) items for further analysis. Next, the items were subjected to confirmatory factor analysis (CFA) using LISREL. We utilised a CFA model to assess the quality of measurement model prior to hypothesis testing. Although this would ideally have been done with a second, independent sample even use of the same sample provided a more rigorous assessment than the exploratory factor analysis of the fit of the measures would have done.<sup>34</sup> As Chi-Square is sensitive to sample size, we followed Bollen's recommendation of using multiple indices for interpreting the fit of the model with data.<sup>35</sup> The model presents a RMSEA value of 0.048 and RMSR of 0.035. All the goodness of fit indices are higher than the accepted international standards (Minimum Fit Function Chi-Square = 245.012,  $p = 0.0$ ; Normal Theory Weighted Least Squares Chi-Square = 185.108,  $p = 0.0$ ; GFI = 0.98; AGFI = 0.93; PGFI = 0.79). Model fit statistics suggest that the hypothesised measurement model fits the data convincingly well. All factor loadings were significant ( $t$ -values  $> 2$ , i.e., ranging from 2.07 to 11.49,  $p < 0.05$ ) suggesting convergence of the indicators with appropriate underlying factors. The results for individual item reliability, internal consistency, and discriminant validity are reported in Table 4 and Table 5. All the non-fixed indicator loadings for each construct are significant. A common rule of thumb is to accept items as valid with more explanatory power than the relative error variance.<sup>36</sup> This criterion is met for all items. Evidence of internal consistency is provided by a measure suggested by Fornell and Larcker, which is deemed acceptable if it is higher than 0.70.<sup>37</sup> As reported in Table 4, all scales demonstrate adequate internal consistency. Also included in Table 4 are the average variance extracted estimates, which assess the average amount of variance in the indicators explained by the latent variable (relative to their average measurement error), and the correlations among the latent constructs in the model.<sup>38</sup> All estimates are higher than the 0.50, the threshold recommended by Fornell and Larcker to demonstrate convergent validity.

Last, to assess discriminant validity, we verified that each construct shares more variance with its measures than it shares with other constructs. Discriminant validity is supported when the correlation between two constructs ( $\phi$  estimates) is less than the square root of the average variance extracted of the two constructs.<sup>39</sup> This criterion is met across all possible pairs of constructs. Table 4 shows the correlation matrix for the constructs. The diagonal of this matrix reports the square root of the Average Variance Extracted. Our constructs (except for the three one item variables) exhibit adequate discriminant validity as the diagonal elements are generally greater than the off-diagonal elements in the corresponding rows and columns.

Collectively, the measurement model results suggest that our measures are unidimensional, reliable and exhibit convergent and discriminant validity. Moreover, the model fits the available data reasonably well.

### *Structural model results*

We tested our hypotheses by evaluating the structural model shown in Figure 1. We also compared the proposed model against several alternative models on the basis of Chi-Square difference tests, as well as examining any changes in fit indices. Figure 2 reports the results for the structural model depicted in Figure 1. Only the significant relationships (with standardised coefficients) are reported. Figure 2 indicates that the variance in acquisition performance explained by the model is 53.2 per cent. The model presents a RMSEA value of 0.046 and RMSR of 0.033. All the goodness of fit indices are higher than the accepted international standards (Minimum Fit Function Chi-Square = 262.637,  $p = 0.0$ ; Normal Theory Weighted Least Squares Chi-Square = 197.295,  $p = 0.0$ ; GFI = 0.96; AGFI = 0.93; PGFI = 0.78). The mediating variable, managerial resource redeployment, has a positive and significant impact on acquisition performance ( $\beta_{31} = 0.613$ ,

**Table 4. Model measurements results**

Latent variables	Number of Items	Internal consistency	Average variance extracted	Correlations between latent variables							
				KSI1	KSI2	KSI3	ETA1	ETA2	ETA3	ETA4	
KSI1 Knowledge from previous acquisitions	1	1.000	1.000	1.000							
KSI2 Knowledge from previous relationships	2	0.824	0.705	0.251	0.839						
KSI3 Temporal lag	1	1.000	1.000	0.070	-0.372	1.000					
K3I4 Planning	4	0.788	0.567	0.377	0.332	-0.118	0.753				
ETA1 Acquisition performance	5	0.811	0.513	0.163	0.277	-0.309	0.663	0.716			
ETA2 Organisational climate	3	0.894	0.157	-0.264	0.085	-0.405	0.149	0.368	0.870		
ETA3 Managerial resources redeployment	1	1.000	1.000	-0.218	0.000	-0.260	0.126	0.149	0.153	1.000	

Measurements paths	Parameters	Unstandardized estimates	t	Error Variance	Sig.	Item reliability
KSI1 Knowledge from previous acquisitions						
Number Of Acquisitions	$\lambda X_{11}$	1.000	Fixed	0.000	***	True
KSI2 Knowledge from previous relationships						
Governance Relationships	$\lambda X_{22}$	0.410	11.533	0.000	***	True
Minority shareholding	$\lambda X_{32}$	0.315	6.793	0.112	***	True
KSI3 Temporal lag						
Speed	$\lambda X_{43}$	1.000	Fixed	0.000	***	True
KSI4 Planning						
Pre-Acquisition Planning	$\lambda Y_{104}$	0.100	2.674	0.068	***	True
Discussion On Post-Merger Impediments	$\lambda Y_{114}$	0.299	6.502	0.102	***	True
Detail	$\lambda Y_{124}$	0.117	2.346	0.106	***	True
Organisational matching	$\lambda Y_{134}$	0.498	49.086	0.000	***	True
ETA1 Acquisition performance						
Market Share	$\lambda Y_{11}$	0.590	Fixed	0.000	***	True
Roi	$\lambda Y_{21}$	0.239	3.001	0.134	***	True
Competitive positioning	$\lambda Y_{31}$	0.171	2.502	0.106	***	True
Market coverage	$\lambda Y_{41}$	0.241	3.493	0.190	***	True
Customer satisfaction	$\lambda Y_{51}$	0.310	6.470	0.129	***	True
ETA2 Organisational climate						
Risk Perception	$\lambda Y_{62}$	0.303	Fixed	0.178	***	True
Weakness/Strength	$\lambda Y_{72}$	0.735	3.741	0.000	***	True
Poverty/Wealth	$\lambda Y_{82}$	0.630	3.704	0.153	***	True
ETA3 Managerial resource redeployment						
Key People Redeployment	$\lambda Y_{93}$	1.000	Fixed	0.000	***	True

Table 5. Nested models results

#	Model	Chi-Square	df	CFI	RMSEA	SRMSR	ΔChi-Square
1	<b>Final model</b>	<b>262.637</b>	<b>112</b>	<b>0.88</b>	<b>0.046</b>	<b>0.067</b>	
2	Hypothesized model Final model and Tempora lag →	261.956	110	0.87	0.049	0.069	-0.681
3	Managerial resource redeployment	184.58	111	0.82	0.062	0.082	-77.376
4	Planning → Organisational climate	191.83	111	0.88	0.050	0.079	-70.126
5	Hypothesized model and Knowledge from previous relationships → Organisational climate	192.28	111	0.86	0.052	0.081	-69.676

t = 7.301). Hypothesis 1 is therefore supported. The mediating variable, organisational climate, has a positive and significant impact on acquisition performance ( $\beta_{21} = 0.216$ ,  $t = 2.007$ ). The temporal lag variable has a negative, and significant impact on acquisition performance ( $\gamma_{31} = -0.149$ ,  $t = 1.663$ ). Hypotheses 2 and 6a are therefore supported. The temporal lag variable has a negative, and significant impact on organisational climate ( $\gamma_{32} = -0.389$ ,  $t = 2.386$ ). Hypothesis 6b is therefore supported. The mediating variable, planning, has a positive and significant impact on managerial resource redeployment ( $\gamma_{43} = 0.205$ ,  $t = 1.992$ ), but not a significant impact on organisational climate. Hypothesis 3a is supported and hypothesis 3b is therefore not supported. The two mediating variables, knowledge from previous acquisitions and knowledge from previous relationships, have a positive and significant impact on managerial resource redeployment ( $\gamma_{13} = 0.360$ ,  $t = 2.884$ ;  $\gamma_{23} = 0.241$ ,  $t = 2.240$ ). Hypotheses 4a and 5a are therefore supported. Only the mediating variable, knowledge from previous acquisitions, has a negative and significant impact on organisational climate ( $\gamma_{12} = -0.237$ ,  $t = 2.771$ ). Hypotheses 4b and 5b are therefore not supported.

In addition to assessing the overall fit and path estimates of the proposed theoretical model, we compared this model with several possible alternative models (cf. Anderson & Gerbing, 1988). The alternative models were compared with the final model based on Chi-Square difference tests, as well as examining any changes in fit indices. In the first alternative model (Model 2), we tested the hypothesised theoretical model. In the next three models (Model 3, 4, and 5) we tested different patterns of relationships with the variables. The results of these alternative models are shown in Table 5.

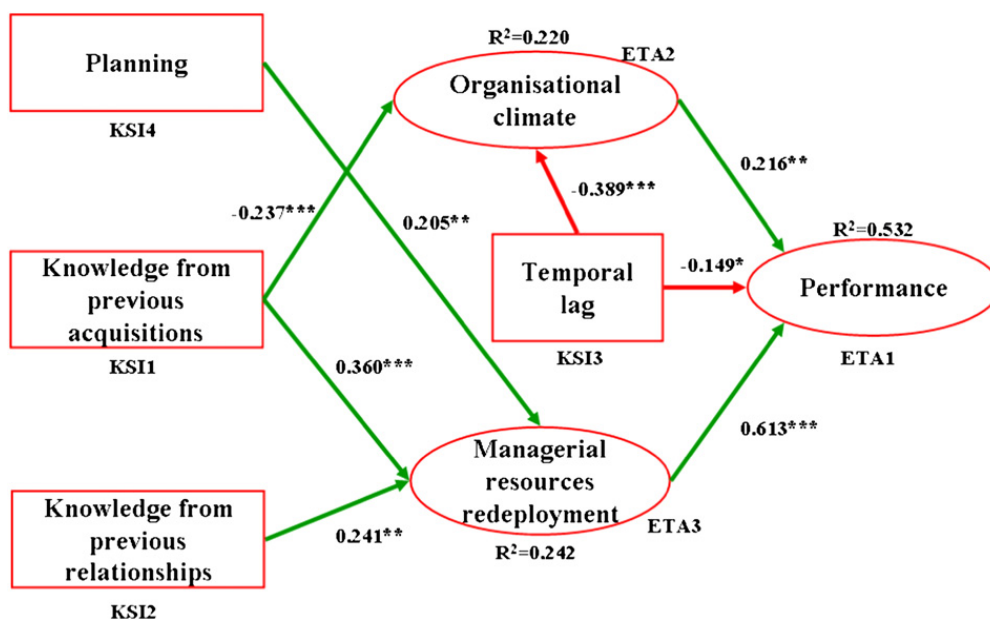


Figure 2. The Final Model

Compared with the final model, all of these models yielded to a worsening of fit indices and a non-significant Chi-Square difference, indicating that each pair of direct effects could be dropped. Thus our final model did not include any of the paths tested in the alternative models.

Figure 2 reports the results for the final structural model depicted in Figure 1.

## Discussion

The discussion is set out as follows. First, we discuss the advantages of the process perspective and therefore of the structural equations. For each section of the model, we discuss the relationship between variables which make up the constructs, if there are any controversial interpretations. Finally, we discuss the relationships between the constructs.

### *The advantages of the process perspective*

The present work studies the phenomenon of post-M&A integration through a process perspective. This enabled us to explain performance, not as a function of a group of independent variables, but as an effect of the coherent combination between these variables. This means that a positive result does not simply depend on the ingredients, but also on the ability to combine them. For this research purpose, we employed a structural equation model in which the various independent variables explain the result through the relationships with intermediate variables. At the same time the model allows the cross-related correlations between the phenomena to be taken into account. Intermediate variables therefore reduce the explanatory power of the independent variables which are linked only indirectly to the dependent variables.

Having adopted the process perspective, the problem arises of whether the two existing variables (managerial resource redeployment and organisational climate) should be considered parallel, sequential or interdependent sub-processes. We opted to consider them separate sub-processes as we believe that each sequence between the two would create rigidity which is incompatible with a process perspective. We feel that the most suitable managerial approach is to deal with each process according to how the other is developing.

### *Managerial resource redeployment and organisational climate*

The two intermediate variables – managerial resource redeployment and organisational climate – have a positive and significant relationship with acquisition performance, thus supporting H1 and H2. Of the two, managerial resource redeployment plays a major role ( $\beta_{12} = 0.613$ ,  $p < 0.01$ ), while organisational climate improvement has a lower but still relevant effect on acquisition performance ( $\beta_{11} = 0.216$ ,  $p < 0.05$ ).

These results are not surprising given the existing literature; nevertheless some interesting indications can be drawn from them. First, previous research on the relationship between resources redeployment and acquisition performance has focused on tangible and intangible resources but not on managerial resources because they are not subject to market failure. In our model we demonstrate that the redeployment of managerial resources also has a positive effect on performance. The reason is probably that key managers incorporate a large portion of tacit knowledge and their redeployment can act as the vehicle for other resource redeployment (i.e. dynamic capabilities and other routines).<sup>40</sup> In cross-border deals, this issue is stressed by the need to learn about foreign markets.

The consensus in the literature on the importance of organisational climate improvement is confirmed in our results. In our case the impact of this variable is comparatively less relevant. A possible explanation might be that the underestimation of organisational change represents an impediment to acquisition success, but after a minimum level of attention has been given to the issue, further investment might probably yield only a decreasing pay-off.

### *The impact of planning*

H3a is supported, while H3b is not. Planning has a positive and significant impact on managerial resource redeployment ( $\gamma_{21} = 0.205$ ,  $p < 0.05$ ), but not on the organisational climate. In our model planning is defined as a combination of four issues: the elaboration of a detailed integration plan before the deal is closed, the revision of the plan immediately after the closing, the involvement of

the target's management team in the planning activity and the consideration of the organisational matching between the two partners.

These results seem rather rational, as planning is a powerful tool in particular for highly-structured activities such as the resource transfer between the partner companies, while it is probably less effective to address more subtle issues such as managing the organisational climate.

### ***The impact of knowledge***

We define two knowledge constructs: one related to the acquisition experience (Knowledge from previous acquisitions) and the other based on the previous relationships with the target (knowledge from previous relationships). Previous acquisition experience is positively correlated with the managerial resource redeployment and negatively with the organisational climate, while knowledge from previous relationships is positively correlated only with managerial resource redeployment. It seems quite obvious that the previous relationships with the target can be exploited in order to identify the most valuable resources that will be transferred after the deal. Similarly the experience built through other acquisitions can be used to create some routines that are useful in managing the resource redeployment. The management of the organisational climate seems to be the most difficult process which is not improved by the previous relationships with the target, probably because those relationships are not profound and deep enough to provide an advantage to the acquirer. Moreover this process is even negatively affected by the acquisition experience. This finding seems to be consistent with the hubris syndrome which induces the acquirer to underestimate the softer organisational variables.<sup>41</sup> An interesting case on this issue is the Cooper/Cameron acquisition presented in the working paper by Kaplan, Mitchell and Wruck.<sup>42</sup> After many successful acquisitions, Cooper was convinced to have developed a "perfect" scheme for post-merger integration based on the internalisation of management control and accounting systems and not intended to change market strategies. In other words, Cooper developed over time a number of routines which were applied in every acquisition: acquisition experience replaced acquisition planning. This method worked well up to the failure of the Cameron acquisition. In this acquisition the Cooper scheme was inappropriate for Cameron for many specific reasons (excessive centralisation and bureaucracy, inability to understand business, lack of leadership) but basically the problem was related to the systematic adoption of a model thought to work in every case. Once more, the most critical area is the management of the organisational climate; for example, Cameron's managers defined the Cooper's compensation system as mysterious, clearly showing a lack of communication.

### ***Temporal lag***

The temporal lag has the strongest and most negative impact on the acquisition performance: the longer a firm waits before starting the integration process the more likely it is to fail. This result can be interpreted in two opposing ways: the first, optimistic and common in the literature, is that a long period of uncertainty about the future produces stress in the organisation. This stress can be reduced by starting the process as soon as possible, exploiting the honeymoon effect and making clear what the objectives of the combined firm are and who is responsible for their achievement. The recent case of the very successful merger between two formerly independent European companies in the pharmaceutical industry Astra and Zeneca may be helpful on this point. One year after the closing, the integration was ended and, according to the CEO, a quick start of the process has been a critical issue as it avoided uncertainty among staff and identified clear and shared executives' objectives. This case confirms the results of our model: the temporal lag affects performance through human integration.

A different interpretation is that a delayed start to the integration process indicates that some impediments have occurred, and thus the negative impact on performance is due not to the temporal lag per se, but to these other issues. In the mergers of equals, given the known problems of governance and the differences in the managerial mechanisms, a trade-off arises between a quick start and a time-demanding exploration of the potential effects of every decision. For example in the Daimler/Chrysler and in the Novartis cases cultural and organisational impediments cause a delay, deteriorating the climate.

Unfortunately, our model does not allow us to determine which of the two readings is correct. Recent studies are critical about the speed-performance relationship but in our perception this critic refers to long-term performance measurement, which is very difficult to control for the many variables that may have had an impact on the company performance.<sup>43</sup> Thus, even if short-term performance measurements can be biased due to the managers' pride, we are still convinced that it is more appropriate to study the timing effect on the change process.

### ***Variables affecting the organisational climate***

Our findings show that organisational climate depends on two variables: knowledge from previous acquisition and temporal lag. In other words, neither our process variables nor the stock of knowledge have positive effects on the organisational climate. The negative relationships between pre-acquisition experience and organisational climate can be a consequence of the hubris syndrome as well as the underestimation of the complexity and peculiarity of each integration. In fact the only variable that can positively influence the organisational climate is the speed in starting the integration. Thus we may consider that further investigation is needed to understand better the factors influencing the organisational climate.

### ***Control for sources of sample heterogeneity***

In the final part of the empirical analysis, we tested the sensitivity of our results to potential sources of sample heterogeneity: size of the target firm (turnover and number of employees) and nationality of the bidder. Our previous results remain stable after including these control variables, although some significant effects should be pointed out. We found a negative and significant relationship between the number of employees and organisational climate ( $r = -0.15$ ,  $p < 0.01$ ). In other words, organisational climate is more likely to be managed in smaller target firms. We obtained a positive and significant relationship between turnover and temporal lag ( $r = 0.21$ ,  $p < 0.01$ ). This result suggests that the greater (and maybe more complex) the target firm, the higher the likelihood of needing to spend more time before starting the integration process. We did not find any significant relationship between any variable and the Italian nationality of the bidder.

### ***Managerial implications***

While our database is not very recent, the main findings of our research still show important implications for integration management (see Table 6). Basically, we identify three major traps that managers should avoid and we make some suggestions for dealing with them.

The first is: *Do not think that just because you have already undertaken one or more acquisitions you have all the right answers.* One of the reasons many acquisitions are unsuccessful is that most impediments and problems are case-specific and cannot be expressed through common patterns. Thus previous acquisition experience may have a very low value. Many managers rely too heavily on their previous experience; this can be very useful for the resource redeployment, but very dangerous as it might cause an underestimation of the organisational climate issues.

The second is: *buy the target that you already know.* The more you know of a target the better you are in redeploying managerial resources and this increases the probability of good performance. The third is: *Don't wait too long before starting the integration.* If there are no impediments, a rapid start reduces the risk of a merger syndrome occurring. If the integration is problematic, managers should exploit the negotiation phase as much as possible to increase the knowledge base and to plan the integration activities; this would reduce the temporal lag even in complex acquisitions. In other words we have here, as in many organisational situations, a sort of honeymoon effect that managers should not waste.

The effect of knowledge from previous relationships suggests that M&As could be considered as the crucial moment in a long-term relationship with the target. Previous partnerships can be used to collect specific information that becomes precious during the integration phase.



**Table 6. Key messages for practitioners**

<i>Variable under managerial control</i>	<i>Impact on performance</i>	<i>Suggestions to managers</i>
Managerial Resource Redeployment	Positive and large	The resource redeployment is confirmed as a source of value even if it refers only to managers
Organisational climate	Positive	Organisational climate is a source of a value too but its effect is not as large as redeployment
Planning	Positive through Managerial Resource Redeployment	Planning helps to achieve a larger and effective redeployment. The impact on climate is not significant.
Previous knowledge from acquisitions	Positive through Managerial Resource Redeployment and negative through Organisation climate	Acquisition experience does not imply that you have all the right answers, especially on the organisational climate side
Previous knowledge of the target	Positive through Managerial Resource Redeployment	If a well-known target is acquired the resource redeployment is simplified because the acquiring is aware of the key people and competencies
Temporal lag	Negative directly and indirectly through organisational climate	A long wait before starting the integration process deteriorates climate and reduce performance

### **Limitations and future research developments**

This paper is subject to some limitations. The sample we used was large enough to test the basic variables of the model, but not to test contingency approaches along different integration modes (in particular full integration or focused integration). Thus it is possible that some of the evidence provided is more applicable to some specific integration modes. For example, full integration may stress the importance of managerial resource redeployment more than focused integration.

The model we employed assumes linear relationships between the variables. We think that this assumption is generally reasonable with some relevant exceptions: for instance a U-shaped curve could be appropriate as far as temporal lag is concerned. Our hypothesis, that in the period we studied (two years after the acquisition), the longer the temporal lag, the lower the performance will be, is not completely convincing. It deserves further investigation, such as measuring the delay occurring in the process phase (or sub-processes). The second non linear relationship is probably between organisational climate and performance; in this case we suggest that an S-shaped curve might be more appropriate than a linear relationship, implying that after a given threshold the effect on performance is marginal. The last relevant non-linearity is within the performance construct, where the relative competitiveness has a negative impact in the two-year period we consider, but we suppose a positive effect will appear on a longer time horizon.

Regarding the variable measurement, the main limitation concerns the previous acquisition experience that we have measured in terms of the number of acquisitions, which is not the only relevant source of knowledge. For instance, other important dimensions could be: size of the deals, frequencies, business correlation both in terms of industries and dominant logics.<sup>44</sup> Another limitation in this field refers to the temporal lag, which we measure only as the speed in starting the integration process. A more accurate measure would have been the total speed. In fact in

some cases a rapid start can be followed by slower integration process.<sup>45</sup> We decided not to measure the total duration of the integration process because our sample is not large enough to control for all the variables that are likely to intervene in a long-term process. We believe the age of our database is not a major limitation as we consider that the issues and logic of integration have not changed significantly in the last decade.

Finally our process perspective suggests an interesting development direction to investigate the integration dynamics capabilities. We believe that this would be an important contribution as we have demonstrated that after all, managing a merger is a matter of adapting and integrating existing knowledge with the emerging situation.

A possible methodological development could be to use a computational approach (e.g. system dynamics) both for testing the non-linearity of some relationships and for fine-tuning some complex and controversial constructs.

## Conclusions

This paper has examined post-acquisition company integration from a process perspective. This approach has allowed us to contribute to knowledge about this important phenomenon. In particular, we have shown that the main effect on performance is obtained through the managerial resource redeployment, whereas the organisational climate, though important, has less impact. Changes should be made promptly because companies that start early achieve the best results. Planning the integration process allows the knowledge that the organisation has built up on the basis of previous experience to be completed, as well as combining it with knowledge about the acquired company from previous partnership relationships. Planning, therefore, has a positive effect on managerial resource redeployment.

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## Appendix 1. Questionnaire

1. How many International Acquisitions did the Acquirer carry out before the actual operation?
2. Had an Acquirer's executive a post in the Target board of directors?
3. Had the Acquirer a minority stake in the Target before the acquisition?
4. Had the post-acquisitions issues been addressed during the negotiation phase?
5. Did the Acquirer evaluate the organisational matching with the target before the acquisition?
6. Did the Acquirer prepare a plan for the acquisition strategy before the closing?
7. Can you evaluate how much the Acquirer has benefited from the acquisition to date?
8. Performance:
  - a. Competitive positioning
  - b. Market Share
  - c. ROI
  - d. Market coverage
  - e. Customer satisfaction
9. Did the Acquirer prepare a detailed plan for the full or partial integration of the acquired?
10. How long after closing were first integration moves executed?
11. Where are the key acquirer's executives positioned at the moment?
12. Try to position your feelings about the acquired company before the integration between the extremes of the two pair of qualities listed below (risk perception, weakness/strength, poverty/wealth). If for any reason you feel some are not applicable, please mark the No Comment column.

## Appendix 2. Model Structure

Structural modelling addresses structural and measurement issues that frequently arise in survey-designed research and has been increasingly used in strategic management research.<sup>46</sup> A model for LISREL estimation consists of two primary parts: (1) an inner structural model that captures the structural relationship between the endogenous and exogenous latent variables; and (2) an outer measurement model that captures the manifestation of constructs or latent variables in terms of observable measures. The inner structural model specifies the relations among the constructs (or latent variables) and can be written as:

$$\text{ETA} = \text{BETA} \cdot \text{ETA} + \text{GAMMA} \cdot \text{KSI} + \text{ZETA}$$

where ETA is a  $(m \times 1)$  vector of latent endogenous variables, KSI is a  $(n \times 1)$  vector of exogenous latent variables, BETA is a  $(m \times m)$  matrix of endogenous variable coefficients, GAMMA is a  $(m \times n)$  matrix of exogenous variable coefficients, and ZETA is a  $(m \times 1)$  vector of residuals. The latent endogenous variables (ETA) in this model are the mediating variables, and Firm performance. The latent exogenous variable (KSI) is the Environmental complexity. Last, we specify the variance-covariance matrix of latent exogenous variables (PHI) to allow the KSI to be correlated.

In turn, the outer measurement model can be written as:

$$y = \text{Lambda}_Y \cdot \text{ETA} + \text{EPSILON}$$

$$x = \text{Lambda}_X \cdot \text{KSI} + \text{DELTA}$$

where  $y$  is a  $(p \times 1)$  vector of endogenous indicators,  $x$  is a  $(q \times 1)$  vector of exogenous indicators,  $\text{Lambda}_Y$  is a  $(p \times m)$  matrix of regression coefficients of ETA on  $y$ ,  $\text{Lambda}_X$  is a  $(q \times n)$  matrix of regression coefficients of KSI on  $x$ , EPSILON is a  $(p \times 1)$  vector of measurement error for the indicators of endogenous variables, and DELTA is a  $(q \times 1)$  vector of measurement error for the indicators of exogenous variables.

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37. Internal consistency =  $(\sum \lambda Y_i)^2 / (\sum \lambda Y_i^2 + \sum \text{var}(\text{error}_i))$ . This measure is similar to Cronbach's  $\alpha$  except that the latter assumes that each indicator of a construct contributes equally (i.e., the loadings are set equally to unity). Fornell and Larcker (1981) argue that their measure is superior to Cronbach's  $\alpha$  as it uses the item loadings estimated within the causal model.
38. Average variance extracted =  $(\sum \lambda Y_i)^2 / (\sum \lambda Y_i^2 + \sum \text{var}(\text{error}_i))$ . The discriminant validity has been assessed by taking the square root of the "Average variance extracted" whose formula is presented above (Fornell and Larcker, 1981).
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46. Structural modelling is appropriate to test the hypothesised model because of its ability to (1) consider multiple regressions simultaneously to permit the analysis of direct, indirect, and spurious relationships; (2) estimate models with latent variables; (3) estimate the loadings of each observed variable in the context of the full model rather than in isolation; (4) accommodate measurement errors in both dependent and independent variables; (5) accommodate reciprocal causation, simultaneity, and interdependence; and (6) account for correlations among error terms.

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