Measuring cultural fit in mergers and acquisitions

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Abstract: This study describes and summarises the results of several earlier studies on measuring cultural fit in Mergers and Acquisitions (M&As). Specifically, it provides an instrument for measuring culture in general and cultural differences in M&As in particular. The following sections define culture, explain its components, describe the measurement instrument and provide evidence for its reliability and validity. This study explores systematically the crucial yet neglected role of cultural differences in M&As based on a relatively large sample.

Keywords: Measurement; cultural fit; mergers and acquisitions.


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1 Introduction

The clash between the cultures of the combining organisations in M&As has received growing attention by both practitioners and academics [1–7]. It is suggested that culture clash has major implications on stress, attitudes, behaviour and turnover. This is
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particularly true of managers and employees of the acquired company in both domestic and international M&As. Furthermore, culture clash influences the effectiveness of the post-merger integration process, the integration of information systems, and the financial performance and shareholder value of the acquiring company.

While cultural fit has been acknowledged to be a potentially important factor in M&As' failures, empirical studies that investigate the role of cultural fit in M&As remain a rarity. Moreover, relatively little has been done in terms of specification and operationalisation of the measure. As Cartwright and Cooper suggest, "culture fit and culture compatibility are well used but ill-defined expression" [1].

The literature on culture clash in M&As to date has three major limitations. First, most of it is based on observations by practitioners and consultants with little theoretical or empirical support [3,8–15]. Second, the few empirical studies that have been conducted investigated the cultural clash in only one merger or acquisition [16–23]. Third, although M&As differ with respect to such factors as relatedness and type of industry [4,6,24,25], most previous studies were conducted under the assumption that M&As are homogeneous and so failed to consider the possibility that the impact of culture clash on their effectiveness might vary from one situation to another.

The extant literature does not provide systematic empirical evidence on:

1. why and how cultural defences may cause integration problems in M&As
2. what factors are important for the integration of top management teams (TMTs) in M&As that may be affected by cultural differences
3. how any possible relationships between cultural differences and other factors, such as cultural tolerance, affect the behaviour of the acquired TMT.

The main reasons for this lack of evidence might be the difficulty in accessing M&As [19] and the unavailability of an instrument for measuring culture and cultural differences in M&As.

Our goal in this study is to fill some of these gaps. Specifically, this study describes and summarises the results of several earlier studies and, thus, provides an instrument for measuring culture in general and cultural differences in M&As in particular. The following sections define culture, explain its components, describe the measurement instrument and provide evidence for its reliability and validity. In this way, this study explores systematically the crucial yet neglected role of cultural differences in M&As based on a relatively large sample.

1.1 What is culture?

The world 'culture' has many meanings and connotations and has been criticised as being conceptually difficult to define. It has been defined in a number of different ways with no consensus emerging among theorists [26–28]. The purpose of this section is to clearly define the concept of culture used in this study.

Culture has been defined as 'the set of important assumptions (often unstated) that members of a community share in common'. These assumptions, in an organisational context, result from a number of importance experiences shared by groups of people. For instance, top managers in a particular company have shared important assumptions in the process of solving problems necessary to compete and survive in their firm’s social,
political, technological, and economic environment [29,30]. Coping with problems involves interpreting information and acting with respect to these interpretations. A culture is an acquired system of knowledge people use to interpret experience, and it explains the social and physical universe; it is therefore useful in determining a plan and making decisions for coping [29]. For example, a recent study found that the difference in the top management cultures of two similar organisations led their managers to perceive an important regulation very differently. This disparity led the two top management teams to define the situation and respond to it in very different ways. In this way, culture is conceptualised as a system of meanings that accompany the myriad of behaviours and practices recognised as a distinct way of life. Culture is thus a learned product of top management experience as it attempts to cope with problems of external adaptation and internal integration [30].

Top managers may share two principle types of assumptions, namely beliefs and values [30]. Beliefs include basic assumptions about the world and how it actually works. Some of them ‘apply equally well to matters more obviously related to organisations’, such as beliefs about facts and cause/effect relationship. For example, management may assume that a certain level of long-term debt may lead to bankruptcy. Values are basic assumptions about what ideals are desirable or worth striving for. Values do not necessarily reflect what people want or desire but what they feel they ‘ought’ to want or think it proper to want; thus, values represent preferences for ultimate end states [30]. For example, top management may value a zero level of long-term debt but may permit a higher level for the purpose of investment for future profits, under the belief that this higher level is still safe enough in terms of the possibility of bankruptcy.

All of the assumptions held by top management teams interrelate to form the content of the culture that shapes strategic decision making processes and influences specific choices and behaviours.

These interrelated sets of assumptions act as a filter through which top management perceives the realities facing its organisation, and serves two essential functions [27,31,32]. One is to translate a world that can be overwhelmingly complex and ambiguous into comprehensible and familiar terms. The other is to provide continuity and stability when change threatens to undermine the lessons of experience and to serve the control function of deviance detection. This function is similar to clan control.

1.2 Contact between two cultures in M&As

M&As involve two or more organisations being combined. This results in contact between two distinct top management cultures [20,33]. Such contact may lead to cultural changes that are usually drastic for the managers of the acquired firm who are often expected to adapt to the culture of the acquiring firm [20].

In spite of the lack of empirical evidence from large samples on the effects of cultural differences in M&As, the reports from many separate cases can help in depicting a clearer picture. According to those reports, cultural differences between the parties have produced misunderstandings, fuelled emotional reactions, and escalated conflicts. Such conflicts and the related negative attitudes of key top managers toward a merger and the acquiring top management may be a major obstacle to the successful integration of the two firms [34]. In a survey of European CEOs, “the ability to integrate the company was ranked as the most important factor in acquisition success, ahead of financial and strategic factors” [1]. The key to managing the integration process is “…obtain the
participation of the people and creating an atmosphere that can support [capability transfer] is the real challenge” [35]. Cultural differences appear to be a critical factor in creating such an atmosphere and obtaining people’s participation. Thus, the degree of cultural difference may determine the effectiveness of the integration process and eventually the financial performance of the merger.

These differences in organisational cultures that may have an important impact on the financial success of mergers may also have an impact on the value of the acquiring firm’s common equity. It is interesting to note that the predicted relationship between perceptions of cultural difference and shareholder value is based on a central tenet of financial economics; that the capital asset market is efficient, that is security prices reflect all publicly available information. Accordingly, any change in the value of an acquiring firm’s common equity due to merging is due to a change in the market’s estimates of the firm’s future financial performance.

Of course, some may argue that the capital asset market does not concern itself with possible cultural problems in mergers, but instead considers only issues of strategic fit when estimating the financial impact. However, with the continual flow of anecdotal evidence from the business world and the popular business press about the adverse effects of cultural collisions, it is difficult to believe that the capital asset market does not also factor in the human side of a merger. Clearly, the costs of cultural differences are difficult to quantify, a priori, and the capital market may not be omniscient enough to predict actual earnings with complete accuracy. However, the market, on average, uses all information available when setting a price to a firm’s security, and those investors in the market who are familiar with the top management teams of the combining firms are, as a minimum, able to form an opinion about consolidation costs. To do otherwise would be to systematically over-estimate the value of a merger, and there is no theoretical or empirical evidence to suggest that the capital markets follow this or any other observable and inefficient trading pattern.

Many M&As are characterised by high levels of top management turnover [9,11,12;36–39]. Recent empirical investigations, however, have not been able to explain effectively acquired TMT turnover, either by examining the degree of relatedness between merging firms [38] or by the nature of the negotiation process [39]. Nor could researchers explain turnover by the target company’s reacquisition performance, i.e., through the replacement of incompetent acquired TMT. Weber and Schweiger suggest that cultural differences may be positively related to acquired TMT turnover [34]. Furthermore, they suggest that culture clash may be negatively related to acquired TMT commitment.

Previous studies in the field of organisational behaviour point out that low levels of commitment are associated with high rates of turnover [40,41]. Nahavandi and Malekzadeh suggest that cultural differences will be less of a problem when the buying firm “…values cultural diversity and is willing to tolerate and encourage it” [4]. Conversely, a buying firm that does not tolerate an acquired firm’s culture may use a variety of control mechanisms to establish its own culture in the acquired firm, thereby raising the potential for conflict between the two top management teams. Put another way, the more the buyer tolerates multiculturalism, the less likely it is for the buyer to expect the acquired firm to conform to its own goals, strategies, and administrative practices.
The foregoing discussion suggests that the predicted relationships between cultural fit and financial performance and turnover are likely to be moderated by the degree of cultural tolerance. However, it is not clear whether cultural tolerance is:
1 independently related to shareholder value and turnover
2 moderates the relationship between cultural fit and value and turnover
3 represents some combination of the two.

Regarding possible independent effects, firms can expect to differ according to their cultural tolerance, and some firms may be able to minimise the adverse impact of cultural differences between the two organisations. To the extent that the capital market inverters hold opinions about this information, they will factor it along with other points of information when estimating the value of a merger. Regarding possible moderating influences, it is also likely that, in addition to the two independent effects, investors may also consider cultural fit in light of cultural tolerance. Accordingly, there may be the greater probability of value creation when cultural difference is low and cultural tolerance is high.

1.3 Other influences

Industry effect. The industry context in which M&As take place may also influence the role and effects of cultural differences, autonomy removal and commitment to the success of the integration process and a firm’s performance. Culture is often thought of as a social control system [42]. Unlike formal control systems that typically assess outcomes or behaviours in relatively highly predictable situations, social control systems are much more useful when the activities to be controlled are non-routine and unpredictable and are in settings that require initiative and flexibility. Consequently, manufacturing is conducive to formal control systems because processes and products are more tractable. In contrast, service sector firms rely more heavily on social control mechanisms to direct members’ actions [43] because of the high frequency of off-site work, multiple engagements, and the high proportion of professional staff members [44]. The shared beliefs and assumptions that constitute a social control system are internalised, and can be especially helpful in the service sector because they can be applied to produce a broad range of appropriate behavioural responses that are hard for managers to anticipate or formalise in highly uncertain, and largely uncontrollable, situations.

Hence, cultural differences in the service sector may be more critical to the effectiveness of the integration process. For the acquiring top management in the service sector, the control of any deviation from original intention will be very difficult. This is because the new management cannot use their accustomed social control system, due to differences in culture and lack of shared beliefs and assumptions with the acquired top managers. This can generate conflict and, as noted earlier, higher conflict may be associated with more intense effects of autonomy removal due to lower cultural tolerance in the service sector than in manufacturing firms.

Relative Size. The size of the acquired firm relative to its buyer may influence the attitudes, motivation and turnover of top managers [39,45]. The acquired top managers in a relatively small firm may feel unimportant and their human needs may be overlooked or trivialised by the buyer. Alienation may breed discontent, which can prevent a merger from realising its financial potential.
Therefore, we controlled for relative size, which was measured as the ratio of the target firm’s total assets to those of the buying firm; our measure was obtained from Moody’s Manuals.

Friendliness. Respondents in the study were to indicate whether the pre-merger negotiations were basically friendly or hostile, because their responses to the questionnaire items might have been influenced by this pre-merger occurrence. All but two mergers in the sample were deemed ‘friendly’. Thus, the possible influence of the buyer’s approach is controlled for.

Merger type. Walsh found that merger type (related or unrelated) explains turnover [39]. Merger type might influence the performance of the combination, since mergers have higher potential for synergy due to similar departments and functions. However, as Nahavandi and Malekzadeh pointed out the strategy underlying a merger determines the extent to which cultures of two firms come into contact. In related mergers, contact between the members of the two cultures is usually higher than in unrelated mergers and elicits conflict [4]. As will be explained below, the sample for the present study was constructed to be relatively homogeneous in terms of merger type. Each merger in our sample, therefore, involved firms that were tangibly ‘related’.

1.4 Cultural dimensions

Because of their subjective and perceptual nature, there may be an infinite variety of cultural items. Starting with the work of Kurt Lewin, however, laboratory researches and industrial studies have isolated several important dimensions of culture. Although there is no general agreement on what the most important dimensions are [28], an effort has been made to include those most relevant to this study based on the literature dealing with both mergers and acquisitions and top management culture.

Thus, the dimensions and items in the questionnaire developed for this study were derived from measures of culture used successfully in other studies with high levels of reliability and validity.

Nevertheless, the identification of specific items and dimensions for this study is based on the need to have a measurement tool that can capture specific characteristics of culture at the strategic level of top management in the context of M&As. For example, in several research efforts the questionnaires do not include a dimension that captures the risk-taking philosophy that is an important characteristic of top management culture and plays a major role in the effect of culture clash in M&As [3]. In other cases, the questionnaire does not include a dimension that captures the immolation and action orientation that is an important characteristic of top management culture. The questionnaire used in this study includes the following dimensions.

1.4.1 Innovation and action orientation

A very important cultural characteristic of a company’s top management is its innovation and action orientation. Top managers who are action-oriented value and encourage innovation and rapid response to changes and competitive developments in their environments. The researchers Miles and Snow describe different types of organisations and top management teams. Top managers in ‘Defenders’ are highly expert in their organisation’s limited area of operation and not willing to adjust rapidly to new opportunities as they develop. Top management in this type of organisation values
stability, intensive planning, and a high degree of formalisation. On the other hand, top management of ‘Prospectors’ finds and exploits new product and market opportunities in a very dynamic way. Miles and Snow further explained how all these characteristics impact other aspects of organisational life such as control and coordination mechanisms, conflict resolution, performance appraisals, and reward systems.

The researchers Dutton and Duncan pointed out that top management in various companies varies in their action orientation to changes in the environment because different belief structures cause top managers to perceive differently the urgency for taking action. Innovation and action orientation as an important cultural dimension has also been described in other studies of culture and is therefore included in instruments that measure corporate culture.

1.4.2 Risk-taking

Management’s risk-taking philosophy and beliefs about risk preferences rank with the most significant indicators of differences in top management culture [3]. The propensity to take risks affects many important decisions such as investment in new ventures, purchase of manufacturing equipment, proportion of the research budget directed to new areas of business, and even the handling of employee pension funds. The perception of risk was used in organisational research as an important dimension to be identified in respective cultures.

To highlight the fact that the dimensions of culture are interrelated, the interrelationships of risk-taking and innovation and action orientation are discussed here. Achieving competitive advantage through innovation often has regard to investment in R&D projects; it is very risky and demands a certain willingness to take risks. In this way, some aspects of innovation orientation will be associated with a top management culture that tends to be oriented toward risk-taking. Also, it is noted that the sense of urgency indicated the perceived threats and the perceived risk of not taking action with respect to an issue, whether that action means resolving a problem or capitalising upon an opportunity. Thus, the sense of urgency that results from attitude toward risk is related to action orientation.

1.4.3 Integration-lateral interdependence

Top management’s differ in regard to beliefs about the importance of cooperation and communication between various organisational subsidiaries in achieving overall organisational goals [30], for example, it should be noted that prospectors emphasise complex and expensive coordination mechanisms, while defenders use simple forms of coordination (e.g., standardisation and scheduling). The importance that top management attaches to cooperation and communication is reflected in the encouragement given to sharing information, understanding one another’s problems and difficulties, and helping other subsidiaries vs. competing with them.

1.4.4 Top management contact

This dimension relates to the beliefs of top management in regards to whether subordinates should receive managerial support, warmth and consideration. This dimension relates to top management beliefs about other individuals and about human
nature, such as theory x and theory y, which lead to different managerial cultures in organisations [30]. Thus, top management groups will be different in their beliefs concerning the possibility of allowing and encouraging subordinates to be creative and try new things at a reasonable risk, and to be open to conflict and criticism.

1.4.5 Autonomy and decision making

A fundamental characteristic of top management groups is the value and importance they attach to the degree of autonomy and responsibility that they should delegate for important decisions [3]. These beliefs have implications for the structure of the organisation in terms of how broadly or formally managerial jobs and procedures should be defined.

1.4.6 Performance orientation

The nature of demands that should be placed upon members and the specific focus of performance appraisals comprise another important aspect of top management teams. In some teams the focus is on efficiency, namely how the job is done. In others, the focus is on effectiveness and upon output and results.

This dimension is also related to the beliefs that top management hold about how much emphasis should be placed on a high standard that motivates people to continually improve performance, lets people feel that they will be held accountable for their performance, and makes performance expectations clear.

1.4.7 Reward orientation

The last characteristic of top management culture used here is reward orientation. This dimension is key to understanding cultural differences because ‘who gets rewarded and why is an unequivocal statement of the corporation’s value and beliefs’. It is connected with the beliefs of top management concerning the extent to which the company should pay competitively and fairly as well as to the degree to which that compensation should relate directly to performance.

2 Methodology

2.1 Unit of analysis

This study focuses on top management teams as the unit of analysis for five reasons. First, many organisations select their top management from the ranks of individuals who appear to best represent the value system of the majority. As such, the top management teams’ subculture may be a reasonable manifestation of the organisation’s overall culture. Second, senior managers play the most significant role in shaping and transmitting corporate culture signals to the broader membership [30]. Their beliefs and values are expected to permeate and influence other levels of an organisation. Third, some researchers have argued that cultural differences at the top management level are most likely to influence the merging organisations’ ability to realise the potential synergy of the merger [3,20,45]. The importance of TMT culture is also evidenced by a number of
recent studies conducted in a non-merger context, which found a significant relationship between the culture of the TMT and the firm’s financial performance. Fourth, in order to study the effects of cultural differences, it is essential that there be contact among the members of the two cultures. The likelihood of such contact in mergers in terms of amount and intensity is greatest at the top management level [34]. This is because the top managers are in frequent contact throughout the negotiation and transitional stage, while contact with middle and lower managers may not occur until later in the transitional stages, if at all. Finally, top managers are involved and have wide knowledge about major integration efforts and the effectiveness of the integration process.

2.2 Data: first stage

The first stage of data collection was based on a sample of firms that was drawn from exhaustive lists of US mergers published in the Journal of Mergers and Acquisitions over a three-year period (1985-1987). One hundred and ninety-eight mergers that met the following criteria were selected from these lists:

- the buying firm gained a controlling interest in the acquired firm
- the names and addresses of the top managers who were affiliated with the acquired firm immediately before the time of the merger were available, either in the Directory of Corporate Affiliations or in Moody’s Manuals
- the core businesses of the merging firms were in the same two-digit Standard Industrial Classification (SIC) code to ensure that all of the mergers in the sample would be relatively homogenous by merger type (i.e., between firms that shared common, or related products and/or markets).

While this sampling approach limited the study’s sample size, it was deemed necessary to improve the probability that the TMT of the acquired firm would be in direct contact with the management of the buying firm.

Thirteen companies were deleted at their own request. From the remaining 185 firms, responses were received from 73, indicating a response rate of 39%. Of these, 52 firms returned responses from more than one executive. Specifically, two firms responded with five completed questionnaires, two firms responded with four, 15 firms with three, and 33 firms with two responses. These multiple responses were used to check for interrater reliability, which is elaborated below in the results section.

The response rate of 39% is quite good given the sensitive nature of the questionnaire, the difficulties in accessing mergers and acquisitions situations, the level of manager queried, and the fact that an unknown percentage of our mailings went to managers who left the firm before our mailing. That percentage may be high; Hambrick and Cannella [36] and Walsh [38] independently found two year turnover rates for managers at acquired firms to be about 40%, suggesting that the response rate of any survey of acquired managers will naturally be biased downward. Potential non-response biases were checked using the relative sizes of the merging companies and the time elapsed since the merger announcement, since these variables might have influenced managers’ emotions and objectivity [20,45].

T-tests of mean differences were not significant, indicating that there was no non-response bias.
2.3 Data: second stage

**Turnover:** A second questionnaire, listing each member of the acquired TMT who was present at the time of merger, was mailed to the human resources officer of each of the companies who responded to the first questionnaire. Following a procedure used by Walsh [39], the 1991 questionnaire asked each personnel officer to indicate whether or not each acquired executive was still employed. Unreturned mailings were followed up with a phone call. If the executive had left, the officer was asked to provide the date of departure. That data enabled the computation of a continuously scaled measure of turnover, defined as the rate of turnover among the acquired TMT’s that turned over in each of the four years after the date of merger. Responses were received from 36 (51%) of the first sample.

The focus was on the fourth year for several reasons. First, fourth year turnover results are the most perplexing results in other studies [36,38,39]. Second, the fourth year is also the year when the influences of many other determinants of turnover tend to diminish, such as the involuntary departures that occur due to redundancies subsequent to integration [36]. As such, the influence of culture clash on turnover can be investigated without being overly concerned about misspecification that is brought about by influences other than those predicted here. Finally, by focusing on fourth year turnover, causality can be better investigated.

**Shareholder value.** This variable was measured by estimating changes in stockholder value by the market model in the following form:

\[ R_n = a_i + b_i R_{mi} + e_m \]

Where \( R_n \) is the rate of return on common shares of firm \( i \) in day \( t \), and \( R_{mi} \) is the daily return for the overall market portfolio defined by the CRSP equally weighted stock market index. Following the traditional procedures used with this model, estimates of historic parameters \( a_i \) and \( b_i \) (Alpha, and Beta,) were obtained by longitudinally regressing 150 trading days of data beginning 299 trading days before the merger announcement day. The parameters were then used to compare abnormal returns, or \( e_m - R_n - (Beta_i R_{mi} + Alpha_i) \) over a time frame beginning 10 days before the announcement through 5 days after the announcement.

Abnormal returns \( (e_m) \) represent the firm’s returns in day \( t \) in excess of its expected market returns, and are interpreted as the reevaluation by the capital market of the firm’s future profitability based on the information released in the merger announcement. Put another way, abnormal returns are more than just a measure of shareholder performance; abnormal returns represent a proxy of investors’ perceptions.

There are other advantages to assessing the performance of merger with this stock price-based measure. First, stock prices are believed to be fully specified; that is, they are not limited to a specific of performance such as sales or productivity, but rather reflect all relevant information AND aspects of performance. Second, stock prices have been shown to see through managers’ attempts to manipulate reported accounting measures. Third, stock prices are reported objectively. Finally, the abnormal return measures that are computed from the stock price are adjusted for general market movements, and the firm’s market risk (i.e., beta). In sum, abnormal returns provide an excellent basis for assessing the impact of organisational processes across different corporate settings.
Before the abnormal returns for each firm can be used as test statistics for parametric tests, however, they are standardised by the deviation of $R_n$ from its mean over the estimation period. To control for possible early anticipation of the merger and post announcement revaluation, the estimates of the standardised abnormal returns were cumulated over a 16-day interval, beginning ten trading days before the first public announcement of the merger and continuing to five days after the announcement day. Selecting an alternative, seven-days interval, beginning three trading days before the announcement day and continuing three trading days after the announcement day, then checks the sensitivity of the results to the length of the interval.

Financial performance. The financial performance was measured by the rate of increase in the Return On Assets (ROA) of the acquiring firm. This measure was also used in previous studies of M&As [46] and is an excellent broad measure correlating to many other measures of profitability. The rate of increase in the ROA was calculated as the differences of ROA between two consecutive years. This measure controls for differences between the size of the firms and for the industries.

An important consideration was to decide when to measure the improved financial performance. This study opted for a late, rather than early, measure for the following reasons. Post-merger integration processes usually continue for many months and even years. Often, the integration process itself is very costly in the first two years and, therefore, it may take three years or more for the merger to bear fruit [5,12]. Furthermore, it requires experience, learning, and adjustment to reap the benefits from changes in Information Technology (IT) and, therefore, it may take several years to realise benefits.

Finally, collecting data on integration and, in particular, cultural differences after the merger allows time for actual integration to take place and for top managers to understand and to be able to evaluate cultural differences. Moreover, using the firm’s financial performance in the years after the collection of data on integration and cultural differences allows for a better test of the causal relationship.

Therefore, this study refrains from an assessment of financial performance immediately following a merger. Instead, the financial measure was calculated as an increase in ROA between the third and the fourth year after each merger took place.

2.4 Questionnaire and procedure

Ideally, culture differences should be investigated before a merger takes place and compared with data collected after the merger. However, it is not only very difficult to gain access to such data in large samples during the negotiation period, it is also very expensive, because many of these negotiations do not result in M&As [19]. This problem is compounded by another difficulty associated with the measure of corporate culture. Many elements of culture are unclear as to its members, because people take them for granted [30]. Dramatic events, such as M&As and contact with other cultures, however, make differences salient [31], especially in conflict situations [20]. As Greenwood, Hining and Brown [19] point out, it may take months, or even years, for the acquired managers to form stable impressions about, and reactions to, the compatibility of the merging organisation’s culture. Retrospective data can thus be useful for studying the relationships between cultural differences and the attitudes of top managers. It has been observed that attitudinal as well as behavioural data do not become less accurate over time, even for periods of ten years [32,47,48]. Such a study should, however, follow the
recommendation of Huber and Power for access to top management and the use of retrospective data [49].

A second methodological difficulty has to do with how the data on corporate cultural differences and their outcomes are collected. Attitudes and behaviour are frequently measured by self-report questionnaires, which have the advantage of being able to reach large samples. Recently, several studies have used questionnaires to measure perceived organisational culture [2,50] and perceived culture differences [25,51], and have been found to have high reliability and validity. Self-report questionnaires of perceived culture differences also have an additional advantage in that people’s behaviours and attitudes are determined by their perceptions rather than the ‘actual’ or ‘objective’ situation [52]. Finally, perceptual outcomes, such as the effectiveness of the integration process, are useful in that they provide a direct connection to cultural values. The consensus of multiple respondents in this study lends credibility to these arguments.

The questionnaire was mailed directly to each top manager (CEO though senior vice-presidential level – the average for the sample was five top managers per firm) who was in the acquired company prior to and at the time of the acquisition. It should be noted that the small sample size used in the factor analysis may have resulted in unstable loadings and, therefore, by itself, should not be considered as evidence of construct validity. However, when considered along with the estimate of internal consistency achieved using a single index (0.97) and the soon to be mentioned support for the criterion related validity, it is apparent that the measure demonstrates a reasonable degree of construct validity. All respondents were guaranteed anonymity, and completed surveys were returned directly to the authors by mail (The only identification on the questionnaire was the name of the acquiring company). Since the unit of analysis was not the individual manager but the top management team, responses were summed and averaged for each variable to arrive at top management team means [53]. This procedure permitted control for team size variations across firms. Similarly, the aggregation of respondents’ perceptions to arrive at group scores provided findings that were less distorted by individual biases. Such distortion was further reduced by the fact that the top managers evaluated not their own attitudes and behaviours, but those of their team. In addition, the multiple-respondent evaluations of each team enabled a check on reliability through the later calculation of consensus. Responses were aggregated only if a high level of consensus among top managers’ perception was demonstrated. To the best of our knowledge, only Very, Lubatkin, Calori and Veiga tried to measure merger related cultural differences. They used 23 value items, a different scale, and a different population of top managers. Finally, to avoid creating pseudo-relationships between variables by means of methodological and process artifacts, provisions were made against consistency and priming effects following the recommendation of Salancik and Pfeffer [54].

2.5 Results: reliability and validity

2.5.1 Reliability

A test of survey reliability was conducted by examining the responses obtained from the 52 firms with multiple respondents, using Kendall’s coefficient of concordance. The interrupter reliability was tested for each firm. Table 1 shows the results, reporting both the values of the statistic and its significance.
Interrupter reliability was significant (p<0.05 or better) in all 52 cases. These results are better than those reported for interrupter reliability in recent research [47]. The test, therefore, suggests that each key informant reliably depicted the study’s central constructs at the correct unit of analysis. For each of the acquired firms with multiple responses, each item was averaged, and the average was used to represent the views of the firm’s top management team.

Table 1  Multi-rated reliability of questionnaire respondents

<table>
<thead>
<tr>
<th>Number of responders in firms</th>
<th>Two</th>
<th>Three</th>
<th>Four</th>
<th>Five</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average of statistics</td>
<td>0.79</td>
<td>0.70</td>
<td>0.69</td>
<td>0.57</td>
</tr>
<tr>
<td>Range</td>
<td>0.50-1.00</td>
<td>0.30-0.90</td>
<td>0.60-0.80</td>
<td>0.40-0.70</td>
</tr>
<tr>
<td>Percent significant at 5%</td>
<td>18</td>
<td>20</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Percent significant at 15%</td>
<td>79</td>
<td>80</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Number of firms</td>
<td>33</td>
<td>15</td>
<td>2</td>
<td>2</td>
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</tbody>
</table>

The reliability of the perceptions of cultural differences was further checked by a follow-up mailing of the same culture differences questionnaire to the top managers of the buying firms. Fifteen companies responded. We found a high level of agreement (i.e., one unit or less on the five-point scaling) between the responses of the managers of the buying and acquired firms in 12 out of the 15 cases, and an acceptable level of agreement (i.e., less than two units) in the remaining three cases.

2.5.2  Construct validity

Statistical analyses of the original sample showed that all the interrelations among the seven culture difference dimensions are high (at least 0.61), significant (p<0.01), and internally consistent (Cronbach’s Alpha ranging from a low of 0.82 to a high of 0.94). In keeping with the theory underlying the construction of the culture measures, each dimension demonstrated discriminate validity (Cronbach’s Alpha for each dimension was higher than the dimension’s correlations with any of the other six dimensions).

The data also provides strong evidence of convergent validity, indicating, as expected, that these seven dimensions are part of the same general construct [55,56].

Although each dimension measures a unique aspect of the phenomenon, all the dimensions refer to the same content domain, making it possible to combine them all in a single index, a procedure for which prior research provides theoretical and statistical support [41,55]. The combined internal consistency of this single culture differences index was high (Cronbach’s Alpha=0.97).

Factor analysis and a screen test were used to confirm the unidimensionality of this contrast. The results of the factor analysis provide evidence that the best linear combination was produced when all seven dimensions of the cultural differences construct were aggregated into one fact. The proportion of common variance accounted for by this factor is 0.74. Therefore, the seven dimensions were collapsed into a single cultural difference index by summing the scores for all 29 items and then taking their average.
2.5.3 Predictive validity

Shareholder value. Cultural differences were significantly and negatively correlated with CAR (p<0.001), as expected. Moreover, the regression results indicate that the model was excellent at explaining the variance in the stock market performance of acquiring firms engaged in related mergers.

This was found regardless of the time interval used to calculate the CARs, where the R-squares for the overall model were high (ranging from 0.28 to 0.38), and the F-statistics were significant to at least the 0.05 level. These findings are particularly robust given the small sample sizes. Specially, the aspersion results showed that the ambrosial gains to the shareholders of the buying firm at the time of the merger were inversely related to the acquired merger’s perceptions of cultural differences (p<0.001).

<table>
<thead>
<tr>
<th>Table 2</th>
<th>Regression results of organisational variables on two measures of abnormal stock returns (CAR)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CAR</td>
</tr>
<tr>
<td></td>
<td>Beta</td>
</tr>
<tr>
<td>Intercept</td>
<td>2.94**</td>
</tr>
<tr>
<td>Relative size</td>
<td>0.00</td>
</tr>
<tr>
<td>Cultural difference</td>
<td>-0.99***</td>
</tr>
<tr>
<td>Tolerance of multiculturalism</td>
<td>-0.24+</td>
</tr>
<tr>
<td>Cult. Diff.* Toler. Multicult</td>
<td>0.15+</td>
</tr>
<tr>
<td>Model (N=30)</td>
<td>F-Statistic 5.40**</td>
</tr>
<tr>
<td></td>
<td>R² 0.38</td>
</tr>
<tr>
<td></td>
<td>Mean (S.D.) of dependent variable -0.03* (0.069)</td>
</tr>
<tr>
<td></td>
<td>a The models are tested using standardised abnormal return measures as the dependent variable.</td>
</tr>
<tr>
<td></td>
<td>b The interaction term, cultural difference.</td>
</tr>
<tr>
<td></td>
<td>c Tolerance multiculturalism was highly collinear with its component measures and added no explanatory power to the model. Specifically, the incremental R² for CAR regression runs with the interaction term added was 0.002. As a result, the regression statistics are presented for the model that excludes the interaction term.</td>
</tr>
<tr>
<td></td>
<td>d p&lt;0.10; *p&lt;0.05; **p&lt;0.01; ***p&lt;0.001.</td>
</tr>
</tbody>
</table>

Turnover. Cultural differences were significantly and positively correlated with fourth year top management turnover (r=0.40, p<0.05), as expected. The regression analysis for the fourth year turnover reveals that the overall model is strongly significant (p<0.001) and explains a high (42%) percentage of variance in turnover. It appears that only tolerance for multiculturalism has a significant main effect.

Industry seems to matter, at least in how it interferes with each of the two other measures. The effect of tolerance for multiculturalism on fourth year turnover is significantly greater at manufacturing firms than Banks (p<0.01), while the effect of cultural differences is significantly greater in the Banks (p<0.10).
Table 3  Regression results of perceptual variables on fourth years turnover

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Beta</th>
<th>Std. Er.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>-0.10</td>
<td>0.08</td>
</tr>
<tr>
<td>Cultural differences</td>
<td>0.02</td>
<td>0.02</td>
</tr>
<tr>
<td>Autonomy Removal</td>
<td>0.05*</td>
<td>0.02</td>
</tr>
<tr>
<td>Industry (Manu.-0;Rank-1)</td>
<td>0.12</td>
<td>0.10</td>
</tr>
<tr>
<td>Industry* Cultural diff.</td>
<td>0.061</td>
<td>0.03</td>
</tr>
<tr>
<td>Industry* Autonomy Removal</td>
<td>-0.08**</td>
<td>0.03</td>
</tr>
<tr>
<td>Model (n=36)</td>
<td>4.22**</td>
<td>0.42</td>
</tr>
</tbody>
</table>

1 p<0.10; *p<0.05; **p<0.01

3 Discussion and conclusions

The literature provides a fair amount of anecdotal evidence that organisational culture may play an important role in the success or failure of mergers and acquisitions. In recent years, academicians and practitioners have argued the need for considerations of culture mismatch between two companies involved in a M&A in order to avoid, or at least minimise, human resource problems after the deal is consummated.

However, there is a shortage of empirical research investigating culture clash and its consequences in M&As. A crucial reason for this shortage is the lack of a human instrument that can reliably measure the degree of culture clash during a M&A. This research provides a measurement tool that shows high reliability and validity that were confirmed by various tests.

Using the tool developed to measure cultural fit the findings presented here provide systematic evidence, based on a relatively large sample of M&As, of the relationship between clash and turnover of acquired top executives and performance of the acquirer. Specifically, the acquired top management turnover is positively associated with the degree of cultural differences between their top management team and that of the acquiring firm. And, cultural differences are negatively associated with shareholder gains. The findings about these relationships not only explain executive turnover and performance after the merger, it may also predict it. These findings are particularly robust given the small ratio of causes-to-predictors for which they were tested.

The findings also have practical implications. The existing failure rate of M&As suggested that practitioners have no full understanding of all variables involved in planning and implementing a successful merger. The results show that cultural fit is an important factor that should be considered in all stages of M&As. The findings have practical importance because they show that investors are generally sceptical about mergers where the cultures between the top management teams are perceived to be incompatible, while they are supportive of mergers where the cultures appear to be compatible. The implication is clear: the management of the buying firm should pay at least as much attention to issues of cultural fit during the pre-merger search process as they do to issues of strategic fit and financial and operational analysis.
Interestingly, while investors, based on the results presented here, appear to view cultural issues as important, these issues according to Jemison and Sitkin are often overlooked by the mergers of the acquiring firm due to problems with the merger planning process.

Of course, one should keep in mind that the above conclusions are based on mergers that took place in the USA, and some results, and thus conclusions, may be somewhat different in mergers in other nations. Some researchers note that US cultural values have imbued organisational science with implicit, yet inappropriate universalism. Hence, the emergence of the concept of corporate culture in the USA is not coincidental but rather a reflection of American culture and the limited awareness of its main champions of variations of national culture.

Yet it seems futile to discuss cultural variation among organisations without taking into consideration the national culture within which such variations develop. As Schneider points out Hofstede’s findings [50] show that, even in a large multinational known for its strong corporate culture, national differences remain paramount. At best, an approach that focused on corporate culture alone leads to the development of uni-national theories, which are of little use beyond the US border. At worst, studying corporate culture outside the context of national culture leads to the same fault directed against the national culture school, namely the treatment of culture as a residual variable, precluding a valid argument of causality. The bodies of literature on national and corporate cultures, respectively, seem to exist in a state of splendid isolation.

Apparently, Roberts and Boyacigiller’s observation on international management that “no investigation simultaneously embedded people into organisations and organisations into their environments” is still valid. While sharing some definitions and terms authors of national and corporate cultures by and large refrain from stepping in to each other’s turf, thereby missing on obvious opportunities for cross-fertilisation. In an attempt to connect between the two levels, Laurent proposes that corporate culture can modify the first two levels in Schein’s model [30], namely (a) behaviour and art effects and (b) beliefs and values, but is not capable of affecting the third, deeper level of underlying assumptions which is derived from one’s national culture. Earlier, Laurent found that national differences in beliefs regarding organisational practices were considerably greater in a single multinational firm that in multi-company samples, leading Schneider to suggest that:

“...a paradox that national culture may play a stronger role in the face of a strong corporate culture. The pressures to conform may create the need to reassert autonomy and identify, creating a national mosaic rather than a melting pot.”

Thus, the instrument provided here allows the opportunity to investigate first, the effect of culture clash in international mergers and acquisitions and, second, the relationships between organisational culture and national cultures.

There are other opportunities for further research. For example, the present findings warrant replication using other forms of measurement such as anthropological and other non survey approaches, expanded samples and samples containing unrelated as well as related mergers. Regarding the latter, unrelated mergers have less operational synergies, and therefore can be expected to show different types of contact between the combining top management teams, which may attenuate or accentuate the findings presented here. Replication studies should also try to measure management’s and investors’ perceptions
during comparable time frames so as to establish stronger causal linkages between
cultural fit and shareholder value than was established here. Of course, access to such
data may be very difficult.

However, any attempt at triangulation would be useful for supporting both the
internal and external validity of the present design.

Other research efforts could be directed toward understanding how cultural
differences manifest themselves. For example, do they become apparent during
negotiations and due diligence or only after closing? Do they manifest themselves in
dysfunctional ways, such as loss in job commitment and an increase in inter group
conflict? Can the severity of the conflict explain the high management turnover?

A final research opportunity has to do with studying the subject situations where
cultural fit may not be as important. For example, Haspeslagh and Jemison [35] describe
four types of acquisition approaches for which the importance of cultural fit may vary,
possibly leading to different operational conclusions.

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