Meta-Analyses of the Performance Implications of Cultural Differences in Mergers and Acquisitions: Integrating Strategic, Financial, and Organizational Perspectives

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Abstract

In an attempt to explain the lack of consensus that emerged from a review of the extant literature on the performance implications of cultural differences in mergers and acquisitions [M&A], meta-analyses were conducted for three categories of performance measures: stock market-based measures, accounting-based measures, and socio-cultural integration outcomes. As hypothesized, meta-analytic findings indicate that cultural differences are associated with negative outcomes at the socio-cultural level, after correcting effect sizes for unreliability and bias, removing outliers, and controlling for firm relatedness and relative firm size. However, cultural differences were found to be unrelated to accounting-based measures of post-acquisition performance and positively related to abnormal returns for the shareholders of acquiring firms. We conclude that whether cultural differences have a positive or negative impact on M&A performance depends on the outcome variable under investigation, the nature and extent of cultural differences, the integration approach taken, and the interventions chosen to manage these differences.
Meta-Analyses of the Performance Implications of Cultural Differences in Mergers and Acquisitions: Integrating Strategic, Financial, and Organizational Perspectives

Mergers and acquisitions [M&A] have become an increasingly popular strategy for achieving corporate growth and diversification, with M&A activity in the 1990’s smashing all existing records, both in terms of the number of transactions and the size of those deals (Thomson Financial Services, 2001). Even though this unprecedented wave of M&A subsided in the early 2000s as the global economy cooled off and slid into recession, the M&A volume worldwide remains at a high level.

For the last thirty years, there has been a growing body of research on the antecedents for predicting the performance of M&A. Despite this extensive body of research, the key factors for M&A success and the reasons why so many M&A fail remain poorly understood. A recent meta-analysis by King, Dalton, Daily and Covin (forthcoming) of 93 published studies covering 206,910 M&A found that none of the four most commonly researched antecedent variables – degree of diversification of the acquirer, degree of relatedness between the acquiring firm and the acquired firm, method of payment, and prior acquisition experience of the acquirer – were significant in explaining variance in post-acquisition performance. Furthermore, this meta-analysis revealed that, on average and across the most commonly used performance indicators, the post-acquisition performance of acquiring firms failed to surpass or tended to be slightly poorer than that of non-acquiring firms. These findings support the conclusion that M&A activity, on average, does not positively contribute to an acquiring firm’s performance, and that unidentified variables may explain significant variance in post-acquisition performance. King et al. (forthcoming) suggest that future
research pay more attention to variables that are currently under-represented in theory and research that seek to explain M&A performance, and that multiple performance measures be employed in order to better document the complete performance implications of M&A activity.

The almost exclusive focus on strategic and financial antecedent variables in studies of post-acquisition performance (see the meta-analyses of Datta, Pinches & Narayanan, 1992; King et al., forthcoming) mirrors existing M&A practice where special emphasis is usually placed on the strategic and financial goals of the transaction. However, research attention has recently begun to shift to the “softer”, less tangible social, cultural, and psychological issues involved in integrating merged or acquired firms. Factors such as cultural fit (Cartwright & Cooper, 1996; Schweiger & Goulet, 2000), management style similarity (Datta, 1991; Larsson & Finkelstein, 1999), the pattern of dominance between the combining firms (H asseslagh & Jemison, 1991; Hitt, Harrison & Ireland, 2001), the firms’ preferred mode of acculturation (Elsass & Veiga, 1994; Nahavandi & Malekzadeh, 1988), the social climate surrounding an acquisition (Hambrick & Cannella, 1993; Hunt, 1990), and inter-firm learning and knowledge transfer (Björkman, Tienari & Vaara, 2003; Singh & Zollo, forthcoming) have increasingly been recognized to be of critical importance to M&A performance.

The study presented in this paper focuses on cultural differences as one of the “softer”, less tangible variables that might explain additional variance in post-acquisition performance. Cultural differences – or related variables such as organizational fit and management style similarity – are not among the antecedent variables on which studies of M&A performance have routinely relied, yet they have been researched frequently enough to allow application of meta-analytic techniques to empirically assess their performance impact.
Impact of Cultural Differences on Merger and Acquisition Performance

It has often been argued – but less often been researched – that cultural differences can become a source of confusion, hostility and distrust between members of merging organizations, and create obstacles to reaping envisaged integration benefits (Buono & Bowditch, 1989; Olie, 1990; Vaara, 2003). “Sociocultural integration” (Shrivastava, 1986) of different organizational cultures, HR systems, managerial viewpoints, and other aspects of organizational life can lead to sharp inter-organizational conflict (Birkenshaw, Bresman & Hakanson, 2000; Cartwright & Cooper, 1996; Schweiger & Walsh, 1990). Problems may be exacerbated when M&A occur between companies based in different countries. A survey of top managers in large European acquirers showed that 61 percent of them believed that cross-border acquisitions are riskier than domestic ones (Angwin & Savill, 1997). The logic is that international M&A are particularly difficult to integrate because they require “double layered acculturation” (Barkema et al., 1996), whereby not only different corporate cultures, but also different national cultures have to be bridged.

The “cultural distance” hypothesis, in its most general form, suggests that the difficulties, costs, and risks associated with cross-cultural contact increase with growing cultural differences between two individuals, groups, or organizations (Hofstede, 1980; Kogut & Singh, 1988). Cultural distance, as measured in terms of differences in management style, work-related values, and other parameters, has been shown to have a profound impact on such processes as the choice of foreign entry mode and the perceived ability to manage foreign operations (e.g., Kogut & Singh, 1988), organizational learning across cultural barriers (e.g., Barkema et al., 1996), and the longevity of global strategic alliances (e.g., Parkhe, 1991).
Consistent with the cultural distance hypothesis, extant theory on M&A integration indicates that the organizational and/or national cultures of merging firms have to be similar, or at least complementary, in order to integrate successfully. For example, Cartwright and Coopers’ (1996) model of culture compatibility proposes that, in “mergers of equals” the corporate cultures of the combining firms must be similar or adjoining types in order to integrate successfully. The logic is that, if there is a balance of power, the organizations involved in a merger have to adapt to each other’s culture and create a coherent “third culture”. Since organizations normally strive to retain their own culture, serious integration problems are predicted for this type of merger if cultural differences are large.

M&A theorists and researchers have proposed various other cultural fit and acculturation models (e.g., Elsass & Veiga, 1994; Javidan & House, 2002; Nahavandi & Malekzadeh, 1988; Olie, 1990; Sales & Mirvis, 1984). In general, these models suggest that cultural differences have a negative impact on various aspects of the post-combination integration process, such as inter-unit collaboration and communication, learning and knowledge transfer, and the creation of shared values, thereby emphasizing the “dark side” of cultural diversity in M&A.

**Hypothesis 1: Organizational and/or national cultural differences have a negative impact on M&A performance.**

However, contrary to accepted wisdom, empirical evidence indicates that cultural differences, under some circumstances, can be an asset rather than a liability. One source of evidence comes from research that directly examined the impact of cultural differences on M&A performance. While some studies found that organizational or national cultural differences had the expected negative effect on M&A performance (e.g., Chatterjee et al., 1992; Datta, 1991; Weber, 1996), others found cultural differences to be unrelated or
positively related to M&A success (e.g., Larsson & Risberg, 1998; Morosini et al., 1998; Very, Lubatkin & Calori, 1996).

Another source of evidence comes from research indicating that the success rate of cross-border M&A may be higher than for domestic transactions (e.g., Bleeke et al., 1993; KPMG, 1999), suggesting that national cultural differences do not always have a negative impact on M&A performance. According to Evans, Pucik and Barsoux (2002), the main reason is that cross-border acquirers buy companies in familiar businesses to which they can add value. Further, Evans et al. (2002) have observed that cross-border acquirers tend to pay greater attention to the less tangible but critical cultural issues and HR aspects of M&A management. This is consistent with Larsson and Risberg (1998) who argue that, compared to domestic M&A, where (organizational) cultural differences tend to be neglected, the presence of more obvious national cultural differences in cross-border M&A may increase managers’ awareness of the significance of cultural factors in the integration process. They conclude that “cross-border M&A may not only be ‘cursed’ with additional culture clashes but also be ‘blessed’ with a higher propensity for culturally aware selection and integration management” (p. 40).

Additional explanations have been offered as to why cultural differences might have a positive effect on M&A performance. Morosini et al. (1998), in a study of cross-border acquisitions, found that national cultural distance enhanced post-acquisition performance by providing access to the target’s and/or the acquirer’s diverse set of routines and repertoires embedded in national culture. Very et al. (1996), in a study of acculturative stress in European cross-border M&A, found that cultural differences elicited perceptions of attraction rather than stress, depending on the nationalities of the buying and acquiring firms. They
concluded that the cultural problems associated with integrating M&A may be more amplified in domestic, rather than cross-national settings.

These findings attest to the complexity of the processes by which cultural differences affect M&A performance, and lead us to conclude that the “cultural distance” hypothesis is too simplistic an explanation for the cultural processes involved in integrating merged or acquired organizations. The accumulated evidence suggests that the impact of cultural differences on M&A performance cannot be viewed in isolation from other variables that might moderate the culture-performance relationship. For example, Stahl, Chua & Pablo (2003) found a significant interaction effect between cultural distance and mode of takeover on target firm members’ trust in the acquirer, suggesting that the potentially detrimental effects of cultural barriers on socio-cultural integration outcomes are augmented by hostile takeover tactics.

Perhaps the single most important variable that may moderate the relationship between cultural differences and M&A performance is the degree of relatedness between the combining firms, which, in turn, determines the level of integration, the extent of contact, and the degree of change in the acquired firm (e.g., Chatterjee et al., 1992; Datta & Grant, 1990; Lubatkin, Schweiger & Weber, 1999; Singh & Zollo, forthcoming). While more closely related acquisitions usually require a higher degree of operational integration, post-acquisition integration efforts in unrelated M&A tend to be minimal. Cultural differences are not likely to be as critical an issue for M&A that require low degrees of integration due to minimal interdependencies between the acquiring and the target firms’ businesses.

Another potential moderator of the culture-performance relationship in M&A is the relative size of the combining firms. Relative size affects the extent to which there can be a unidirectionality of influence from acquirer to target. Although there are various other
sources of power within and between organizations, the capability and tendency of the acquiring firm for exercising power to enforce its preferences upon the target is particularly strong when the acquirer is significantly larger than the target firm (Datta & Grant, 1990; Larsson & Finkelstein, 1999; Pablo, 1994). Imposition of control may be more devastating for target firm members in acquisitions characterized by large cultural differences (e.g., cross-border acquisitions), as they are expected to conform to the acquiring firm’s culture, rules, and systems that are significantly different from both their national and corporate ones.

Finally, the impact of organizational and/or national cultural differences on M&A performance may vary depending on the outcome variable under investigation (Schweiger & Walsh, 1990). How the capital market reacts to a merger may differ significantly from the reactions of employees or customers. Similarly, while the investment communities’ reactions to the inherent cultural differences in a merger or an acquisition may be indifferent, cultural barriers may negatively affect such outcomes as top management turnover, knowledge transfer or sales growth. The foregoing discussion suggests the following two hypotheses.

Hypothesis 2: The impact of organizational and/or national cultural differences on M&A performance is moderated by variables such as mode of takeover, degree of relatedness between the acquiring and acquired firms, and relative firm size.

Hypothesis 3: The impact of organizational and/or national cultural differences on M&A performance varies depending on the outcome variable under investigation.
Method

In an attempt to explain the lack of consensus that emerged from the review of the M&A literature, we conducted meta-analyses of existing studies that examined the culture-performance relationship in M&A.

Sample

In order for a study to qualify for the meta-analyses, at least one measure of M&A performance had to be reported. Since meta-analysis involves aggregation of effect sizes across studies, only research reports which provided the statistical information required to calculate an effect size for the culture-performance relationship in M&A were eligible (e.g., Hunter & Schmidt, 1990; Lipsey & Wilson, 2001). Qualitative studies were excluded.

The literature search involved computerized and manual searches of relevant published and unpublished research reports. The computerized searches were performed on the following databases: ABI/INFORM, Business Source Premier, Proquest, EconLit, PsychInfo, Dissertation Abstracts Online, Science Direct, and the Social Science Citation Index (SSCI). Keywords included combinations of the following terms: “merger”, “acquisition”, “culture”, “cultural differences”, “cultural distance”, “cross-border”, “performance”, “success”, and “acculturation”. Other search strategies included the screening of bibliographies, textbooks and conference proceedings, conducting Internet searches using standard search engines such as Google, and manual searches in relevant books and pertinent research journals. In addition, M&A researchers were contacted by email and questioned about unpublished studies in an attempt to minimize the “file drawer problem” (Rosenthal, 1984).

A total of 35 empirical studies were identified through this search process. After closely examining the identified research reports, some studies turned out to be based on the same sample. In cases where two or more studies relied on the same sample, the research report
that provided the most complete statistical information was selected for the meta-analysis. In cases where effect sizes were not available or derivable from the research report, the author was contacted by email and asked to provide missing information. The statistical information required to calculate effect sizes could be obtained in all but one case (Vander Vennet, 1996). 26 empirical studies meeting the eligibility criteria, with a combined sample size of 8993 M&A, were identified through this search process.

**Dependent Variables**

There are various indicators of performance on which M&A researchers have relied. For the purpose of this meta-analysis, we grouped performance measures into three categories: stock market-based measures, accounting-based measures, and socio-cultural integration outcomes, the latter representing an often neglected, but critical indicator of M&A success and failure.

**Stock market-based performance measures.** Stock market measures reflect the investment communities’ evaluations of the immediate and longer term impacts of the M&A. In this approach, M&A are viewed as investments that require a financial return for the purchaser rather than a windfall for shareholders of the acquired firm. Stock market based measures (so called “event studies”) are commonly used to measure cumulative abnormal returns (CAR’s) some short time after announcement of the M&A in an effort to measure how markets perceive the deal (Seth, 1990, Chatterjee et al., 1992). The abnormal stock price return is measured by taking the difference between the pre-announcement and post-announcement stock price. If measured some time after the announcement of the deal, stock market performance may reflect the actual performance of the M&A. As additional information about the M&A and its success or failure becomes known, it is assimilated by the market and the value of the firm may be affected (Datta et al., 1992).
**Accounting-based performance measures.** Accounting-based indicators such as increase in return on assets or sales growth measure the relatively long-term performance of M&A and thus capture whether envisaged synergies could be reached. The literature often uses cumulative excess returns (CER’s) over industry average returns over a period of time to assess the success of an M&A, preferring realized profit measures after the acquisition date over market expectation measures. Some studies of the culture-performance relationship in M&A used a “Performance Index”, consisting of a combination of accounting-based measures, such as sales growth, ROA (return on assets), and ROE (return on equity), to measure whether the M&A was successful (e.g., Datta et al., 1991; Very et al., 1997; Zollo, 2003).

**Socio-cultural integration outcomes.** Although the majority of existing M&A performance research uses stock market-based or accounting-based measures of performance, the use of non-financial measures has consistently been encouraged to facilitate cumulating research across disciplines and to improve the understanding of differences between performance measures (King et al., forthcoming; Lubatkin, 1983). The inclusion of non-financial measures in a meta-analysis of the performance implications of cultural differences in M&A seems warranted, as cultural barriers are proposed to exacerbate integration problems and create major obstacles to reaping envisaged integration benefits (Buono & Bowditch, 1989; Cartwright & Cooper, 1996; Olie, 1990). Socio-cultural integration outcomes such as employee resistance, acculturative stress, top management commitment, and voluntary turnover capture the degree of conflict and strain caused by the M&A at the socio-cultural level and can thus be considered an indicator of the post-combination integration success from the perspective of employees and managers.
These financial and non-financial performance indicators not only capture very different aspects of the M&A process, but they also often vary in the time of measurement, the objectivity and the reliability of the information source on which they are based.

**Independent Variable**

Cultural differences have been defined and operationalized in many different ways in empirical M&A research. While some studies have focused on organizational cultural differences (e.g., Chatterjee et al., 1992; Datta, 1991; Schoenberg, 1996), others have either examined the impact of national cultural differences (e.g., Krug & Nigh, 1998; Morosini et al., 1998; Datta & Puia, 1995) or simply compared domestic and cross-border M&A (e.g., Harris & Ravenscraft, 1991; Krug & Hegarty, 2001; Wansley et al., 1983). Very few studies have focused on other dimensions of cultural differences, such as differences in professional, functional or industry cultures (David & Singh, 1994). In terms of the cultural variables examined, most of the studies have focused either on differences in management style (e.g., Chatterjee et al., 1992; Datta et al., 1991; Schoenberg, 1996) or used a composite national cultural distance index, often the Hofstede Index (e.g., Datta & Puia, 1995; Krug & Nigh, 1998; Morosini et al., 1998).

In order for a study to be included in the meta-analyses, cultural differences had to be assessed at either the national or organizational level, or both. Studies that did not measure cultural differences, but compared domestic versus cross-border M&A, were included because the distinction between domestic and cross-border M&A represents a dichotomous measure of national cultural differences.

**Moderators and Control Variables**
Two sets of control variables were included: the hypothesized moderators of the culture-performance relationship in M&A, and study characteristics that might have affected study results and, therefore, must be controlled for variability across the studies.

**Moderators.** Numerous variables have been proposed to moderate M&A performance, including: relative size of firms, degree of diversification of the acquirer, degree of industry relatedness, acquisition premium paid, method of payment, performance differences between the acquiring and the acquired firm, complementary firm resources, and mode of takeover (e.g., Datta et al., 1992; King et al., forthcoming). However, not all of these variables are potential moderators of the culture-performance relationship in M&A and not all of them have been examined in sufficient numbers to be considered in the present meta-analysis. Three variables – mode of takeover, degree of relatedness, and relative firm size – are hypothesized to moderate the culture-performance relationship in M&A. However, since few studies have examined mode of takeover as a potential moderator, only relatedness and relative size were considered in the present meta-analysis.

**Controls.** Since the studies included in this meta-analysis differed along methodological dimensions, a number of variables had to be controlled for variability across the studies. The following study-level variables and research design characteristics were coded: publication type (academic journal, book chapter, working paper, other medium); publication year; total sample size; international composition of sample (domestic vs cross-national); national origin of sample (US only, European only, worldwide, other combinations); time period covered; focal organization(s) studied (acquiring firm, target firm, both); data source; method for assessing cultural differences (perceptional questionnaire, composite cultural distance index, both, domestic vs cross-border comparison); method for assessing performance (data bases or
content-analysis of published materials, self-reports); time of measurement of performance; reliability of data collection instruments.

**Coding and Inter-rater Agreement**

All studies were coded by two independent raters familiar with M&A theory and research. Inter-rater reliabilities were determined to establish the objectivity and reliability of the coding process. The inter-rater reliability coefficient used was Cohen’s *kappa*, a coefficient that is widely considered to be a suitable measure for nominal scales and a more conservative measure than percentage agreement (Orwin, 1994). As a rule of thumb, *kappas* above .80 can be considered very good and those above .90 excellent (Neuendorf, 2002). The inter-rater reliability coefficients for the different variables measured ranged between .82 and .98, suggesting that the coding process produced highly reliable data. Any disagreements between coders were discussed and resolved.

**Meta-Analytical Procedure**

The meta-analyses were conducted in accordance with the guidelines provided by Hunter and Schmidt (1990) and Lipsey and Wilson (2001).

**Control for bias and artifacts.** To rule out bias due to uneven sampling of the compared groups, point-biserial correlation coefficients were corrected for the attenuation effect of unequal sampling (Hunter & Schmidt, 1990). Studies that relied on self-reported measures of cultural differences and/or M&A performance were corrected for unreliability (Lipsey & Wilson, 2001). Since recent research on the psychometric properties of Hofstede’s national cultural distance scales revealed poor internal consistencies (Spector & Cooper, 2002; Spector et al., 2001), studies relying on the Hofstede cultural distance index or specific cultural dimensions were corrected using the scale reliabilities reported by Hofstede (2002).
Finally, undesirable statistical properties of the product-moment correlation coefficient were controlled for by applying Fisher’s Z-r-transformation (Hedges & Olkin, 1985).

Some studies provided multiple indicators of the same outcome variable. Since multiple effect sizes from one study are statistically dependent, correlation coefficients were averaged when a study contributed more than one performance measure of the same type (e.g., accounting-based measures). Separate meta-analyses were conducted for different categories of performance measures (e.g., accounting-based measures and socio-cultural integration outcomes). Each effect size was weighted by the inverse of its squared standard error value following a fixed-effects model when calculating mean effect sizes (Lipsey & Wilson, 2001).

**Controls for firm relatedness and relative firm size.** The studies included in the meta-analysis differed as to the extent to which they controlled for potential moderators such as firm relatedness and relative firm size. While some studies included only related M&A in the sample or matched samples for relative firm size, others statistically controlled for potential moderating effects of firm relatedness and relative firm size. Some studies considered neither firm relatedness nor relative firm size as potential moderators. In the latter case, no statistical control was possible. Second-order partial-correlation coefficients were calculated for studies that measured both firm relatedness and relative firm size. If only one of the variables could be controlled, a partial-correlation coefficient was calculated. In addition, a coding variable was created measuring the extent to which each of the studies included in the meta-analysis controlled for firm relatedness and relative firm size. This was done to determine whether the effect sizes derived from studies that controlled for relatedness and relative size differed significantly from those obtained in lesser controlled studies.

**Outlier analysis.** Extreme effect sizes, which are notably discrepant from the preponderance of those found in the research of interest, are unrepresentative of the results of
that research, possibly even spurious, and add unexplained variance to the effect size distribution (Lipsey & Wilson, 2001). Therefore, an outlier analysis was conducted, using the sample-adjusted meta-analytic deviancy statistic (SAMD) proposed by Huffcutt and Arthur (1995). It indicates how deviant a study correlation coefficient is relative to what can be expected from chance for that sample size and the mean effect size with which it is compared. SAMD values for all studies included in a meta-analysis were rank-ordered from highest to lowest and graphically depicted in a scree plot. SAMD values which rise above or fall below a flat, gradual slope were identified, and outliers were eliminated.

**Homogeneity testing and exploratory analysis of study characteristics.** If homogeneity of the effect size distribution could not be reached by removing outliers, further analyses were undertaken to identify study characteristics that moderate the culture-performance relationship. Homogeneity testing was done in two ways. First, the homogeneity $Q$ statistic was computed to test the overall variability of study-level effect sizes (Hedges & Olkin, 1985). Second, as suggested by Hunter and Schmidt (1990), testing for homogeneity was conducted by partitioning the observed effect size variability into the portion attributable to subject-level sampling error and the portion attributable to other between-study differences. The search for outliers and the exploration of moderators was indicated when the sampling error accounted for less than 75 percent of observed variability. The meta-analytic analog to the one-way analysis of variance (ANOVA) was employed to determine whether study characteristics contributed to the observed heterogeneity (Lipsey & Wilson, 2001). This procedure partitions the total variability of study-level effect sizes into the portion explained by a categorical variable ($Q_b$) and the residual portion ($Q_w$). If significant variability is explained by the categorical variable (e.g., a study characteristic), then the mean effect sizes across categories differ by more than sampling error. Effect sizes that were found to
contribute to the heterogeneity of the effect size distribution due to deviating study characteristics were removed at the final stage of the analysis.

**Results**

Separate meta-analyses were conducted for the three categories of performance measures examined: stock market-based measures, accounting-based measures, and socio-cultural integration outcomes. Appendices A, B and C provide synopses of study characteristics, measures, reliabilities, and uncorrected and corrected effect sizes for the three meta-analyses.

**Correlation Matrix**

Table 1 presents the sample-weighted bivariate correlations between variables, averaged across studies. The mean correlations are based on different numbers of individual correlations, which in some cases are very small. For example, only two of the studies included in the meta-analyses reported correlations between stock market-based performance measures and firm relatedness. Hence, the reported mean correlation of .23 is based on only two studies, with a combined sample size of 348 M&A. Note that some of the correlations reported in Table 1 are very small but statistically significant because of large sample sizes.

![Table 1 about here](image)

The correlation matrix corroborates previous findings suggesting that cultural differences are negatively related to stock market-based performance measures and sociocultural integration outcomes. However, the mean correlations are quite small. The mean correlation between cultural differences and accounting-based performance measures is non-significant, suggesting that cultural differences have no impact on measures of post-acquisition financial performance. Furthermore, Table 1 suggests that high performing M&A (based on
accounting measures) are more successful in terms of shareholder value creation and sociocultural integration outcomes. Since no study has examined the impact of cultural differences on both shareholder value creation and sociocultural integration, no mean correlation is reported for this relationship.

Finally, based on the linear relationships presented in Table 1, the hypothesized moderators, firm relatedness and relative firm size, are associated with measures of M&A performance and must therefore be controlled when examining the culture-performance relationship in M&A. In interpreting these findings, it is important to note that since most of the studies used samples of related M&A, the mean correlations reported in Table 1 may underestimate the actual relationships due to restricted variance of the relatedness variable.

**Meta-Analysis of Stock Market-Based Performance Measures**

The meta-analysis of effect sizes derived from studies investigating the relationship between cultural differences and stock market-based performance measures suggests that, after correcting effect sizes for unreliability and potential bias, cultural differences are slightly negatively related to measures of stock market performance, with a significant weighted mean effect size of -.03 (see Table 2). This meta-analysis is based on 9 studies, with a combined sample size of 6455 M&A, which had been consummated over a 32-year period (1970-2002).

Since the effect size distribution is heterogeneous, exploration of moderator variables seems warranted. Table 2 indicates that statistically controlling for firm relatedness and relative firm size, where measures have been reported in the original studies, leaves the
weighted mean effect size unchanged and does not explain any additional variance. Since only a small portion of the observed variance can be explained by sampling error, suggesting the presence of moderators, an outlier analysis was conducted.

Scree plot analysis revealed one clearly deviant effect size, derived from a study (Eddy & Seifert, 1984) that used a combination of stock prices and dividends as performance measures, which were incompatible with the measures of stock market performance used in other studies. Removal of this study resulted in a positive and significant mean effect size of .08 and increased the percentage of observed variance accounted for by sampling error to over 16 percent. However, this is still far from the “75 percent” rule of thumb suggested by Hunter and Schmidt (1990) and indicates the presence of subgroups. Consequently, further exploratory analyses were undertaken to identify study characteristics that may moderate the relationship between cultural differences and stock market performance.

ANOVA results suggest that two of the study characteristics examined, international composition of sample ($Q_B (1) = 17.35, p < .001; Q_W (6) = 31.31, p < .001$) and performance measure used ($Q_B (2) = 25.38, p < .001; Q_W (4) = 5.93, p > .20$), contribute significantly to the observed heterogeneity of the effect size distribution. Removal of the only study included in the meta-analysis that examined domestic, rather than cross-border M&A (Chatterjee et al., 1992) increased the percentage of observed variance explained by sampling error to 22 percent, while leaving the mean effect size unchanged. Removal of two studies that did not use cumulative abnormal returns (CARs) as measures of stock market performance (Datta & Puia, 1995; Harris & Ravenscraft, 1991), increased the mean effect size to .16, while reaching homogeneity.

Another study characteristic under investigation, time of measurement, did not contribute to the observed heterogeneity of the effect size distribution, meaning that effect sizes derived
from studies examining the long-term effect on stock market performance (a year or two after the M&A was announced) are not significantly different from those obtained in studies examining the reaction of investors immediately after the announcement of the deal (typically about ten to thirty days after the announcement).

In summary, the findings obtained at the final stage of this meta-analysis suggest a positive relationship between cultural differences and stock market performance of a small to medium effect size (Cohen, 1977). This finding is based on five studies, with a combined sample size of 1629 M&A, after correcting effect sizes for unreliability, controlling for relatedness and relative size, and removing outliers. It is important to note that all studies included at this stage of the meta-analysis focused on samples of cross-border M&A and used cumulated abnormal returns as performance measures. Interestingly, cultural differences were found to be positively associated with both short term and long term gains for shareholders. These findings contradict Hypothesis 1, in that they suggest that national cultural differences may be beneficial from a shareholder’s perspective. No evidence of moderating effects of firm relatedness or relative firm size on the relationship between cultural differences and stock market-based performance measures was found. Thus, Hypothesis 2 is not supported.

**Meta-Analysis of Accounting-Based Performance Measures**

The meta-analysis investigating the relationship between cultural differences and accounting-based performance measures is based on 12 studies, with a combined sample size of 1449 M&A, which had been completed over a 52-year period (1950-2002). Table 3 indicates that, after correcting effect sizes for unreliability and potential bias, cultural differences are slightly positively related to financial performance. The weighted mean effect size of .05 approaches significance. However, the effect size distribution is heterogeneous, suggesting the presence of moderators.
Statistically controlling for firm relatedness and relative firm size, where measures have been reported in the original studies, only slightly changed the weighted mean effect size and did not increase the amount of variance explained by the sampling error. Thus, further exploratory analysis was warranted.

Based on scree plot analysis, two studies were identified as outliers. The first study (Krishnan et al., 1997) used management complementarity, defined as differences in functional backgrounds of board members, as indicator of cultural differences. This was wholly different from the measures used in other studies. The second outlier study (Datta et al., 1991) focused on a sample of North American M&A only, and thus differed from the other studies, which relied either on geographically mixed samples or European samples only. After removing both outlier studies, the amount of variance explained by sampling error increased substantially, while the weighted mean effect size remained unchanged. Since the distribution of effect sizes was still heterogeneous, further exploratory analyses were conducted to identify moderators. ANOVA results revealed that studies controlling for firm relatedness, relative firm size, or both, yielded effect sizes significantly different from those obtained in studies that did not control for these variables ($Q_B (2) = 10.59, p < .01; Q_W (7) = 6.78, p > .40$). Removal of studies that failed to control for firm relatedness and relative firm size resulted in a mean effect size close to zero, while reaching homogeneity.

In summary, the findings obtained at the final stage of the meta-analytic process of reaching homogeneity of effect sizes suggest that cultural differences are unrelated to accounting-based measures of M&A performance. Thus, Hypothesis 1 is not supported.
Moreover, findings on the hypothesized moderating effects of firm relatedness and relative firm size are inconclusive. Although the removal of studies that failed to control for firm relatedness and relative firm size significantly reduced the observed heterogeneity of the effect size distribution, suggesting moderating effects, the mean effect size remained largely unchanged after statistically controlling for both variables where possible and eliminating studies that did not provide any controls. Thus, support for Hypothesis 2 is weak.

**Meta-Analysis of Socio-Cultural Integration Outcomes**

The meta-analysis investigating the relationship between cultural differences and socio-cultural integration outcomes is based on 11 studies with a combined sample size of 1085 M&A, which had been consummated over a 50-year period (1950-2000). The findings presented in Table 4 indicate that, after correcting effect sizes for unreliability and potential bias, cultural differences are negatively related to integration outcomes, with a significant weighted mean effect size of -.10. Since the amount of variance explained by sampling error was considerably below the 75 percent required of homogeneous distributions (Hunter & Schmidt, 1990), exploration of moderator variables was warranted.

Table 4 about here

Statistically controlling for firm relatedness and relative firm size, where possible, only slightly affected the weighted mean effect size and did not increase the amount of variance explained by sampling error. Consequently, an outlier analysis was undertaken. Based on scree plot analysis, one study (Krishnan et al., 1997) was identified as an outlier and subsequently explored as to exceptional study characteristics. This was the same study that had already been identified as an outlier in the meta-analysis of accounting-based
performance measures because it employed a measure of cultural differences which was vastly different from those used in other studies, namely differences in functional backgrounds of board members. The removal of this study resulted in a substantial increase in the amount of variance explained by sampling error as well as a larger negative mean effect size of -.17. However, since the distribution of effect sizes was still heterogeneous, further exploratory analyses was conducted to identify moderators.

Closely paralleling the findings of the exploratory analysis of accounting-based performance measures, ANOVA results revealed that studies controlling for firm relatedness, relative firm size, or both, yielded effect sizes significantly different from those obtained in studies that failed to control for these variables ($Q_B (2) = 7.08, p < .05; Q_W (7) = 7.66, p > .10$). Removal of these poorly controlled studies resulted in a highly significant negative mean effect size of -.32, while reaching homogeneity.

In summary, the findings obtained at the final stage of the meta-analysis suggest that cultural differences are detrimental to socio-cultural integration outcomes, thereby supporting Hypothesis 1. Hypothesis 2 is also supported. The removal of studies that did not control for firm relatedness and relative firm size significantly reduced the observed heterogeneity of the effect size distribution and increased the mean effect size from small to medium (Cohen, 1977), suggesting that firm relatedness and relative firm size moderate the relationship between cultural differences and socio-cultural integration outcomes.

Finally, the accumulated evidence from the three meta-analyses suggests that the performance implications of cultural differences in M&A vary depending on the outcome variable under investigation, thereby supporting Hypothesis 3.

**Discussion**
In an attempt to explain the lack of consensus that emerged from prior research on the culture-performance relationship in M&A, three meta-analyses of the performance implications of cultural differences in M&A were conducted, focusing on different performance measures: stock market-based measures, accounting-based measures, and socio-cultural integration outcomes. The meta-analytic findings suggest that cultural differences are associated with negative outcomes at the socio-cultural level, but are unrelated to accounting-based measures of post-acquisition performance and are positively related to abnormal returns for the shareholders of acquiring firms. Clear evidence of moderating effects of firm relatedness and relative firm size on the culture-performance relationship was found only for socio-cultural integration outcomes.

**Implications for Research**

King et al. (forthcoming) have recommended that multiple performance measures – including non-financial measures – be employed in M&A performance research in order to better document the complete performance implications of M&A activity. The meta-analytic results presented in this paper suggest that the performance implications of cultural differences in M&A vary for different measures of M&A performance. Cultural differences are most strongly related to socio-cultural outcomes, such as employee commitment and cooperation, acculturative stress, and voluntary turnover. This finding is intuitively plausible, as these outcome variables reflect the degree of inter-organizational conflict and strain on organizational members, particularly those of the acquired organization. These outcomes are likely to be more directly affected by cultural barriers than indicators of financial or stock market performance. However, it is important to note that cultural differences explained only about 10 percent of the variance in socio-cultural integration outcomes in this meta-analysis. Thus, a huge portion of variance remains unexplained. More research is needed in order to
better understand which other factors (apart from cultural differences) may impede the process of socio-cultural integration in M&A.

While the “dark side” of cultural differences is extensively discussed in M&A literature, the potentially beneficial effect of cultural diversity on M&A is largely neglected. There are, however, a few notable exceptions (Morosini et al., 1998; Larsson & Risberg, 1998; Very et al., 1996). Human capital-based resource advantages of firms often lie in the administrative routines and repertoires that firms develop to make decisions, to govern the allocation of resources, to formulate strategy, to interact with stakeholders, or to make use of assets. These routines and repertoires are embedded in the national culture (Fiol, 1991; Morosini et al., 1998). A cross-border M&A can be interpreted as “a mechanism for the acquiring (or the target) firm to access different routines and repertoires that are missing in its own national culture, and which have the potential to enhance the combined firm’s competitive advantage and performance over time” (Morosini et al., 1998: 141). According to Morosini et al. (1998), acquisitions in culturally distant countries are more valuable, because a greater cultural distance makes it more likely that the target firm will provide a set of routines and repertoires that are significantly different from the acquirer’s own set. Under this perspective, cultural differences can be viewed as enhancing the combination potential and a source of synergy in M&A.

Accounting-based performance measures such as cumulative excess returns or sales growth measure relatively long term performance of M&A and thus capture whether envisaged synergies could be reached. In this meta-analysis, cultural differences were found to be unrelated to accounting measures, after correcting effect sizes for unreliability and bias, and removing outliers and studies that did not control for firm relatedness and relative firm size. This finding may be explained by the fact that studies examining the impact of pre-
combination cultural differences on post-combination financial performance do not capture the dynamics of the integration process. These studies tend to treat integration as a “black box”, thereby ignoring the potentially critical role of integration-related variables and processes. Cultural differences may well enhance the synergy potential of M&A, as proposed by Morosini et al. (1998); however, whether that potential can actually be realized will depend on how the M&A is implemented, for example, the interventions chosen to manage cultural differences.

Consistent with this view, a “process perspective” on M&A suggests that post-combination integration outcomes depend on the management of the integration process, and that these integration outcomes, in turn, affect integration-related decisions and actions (Haspeslagh & Jemison, 1991; Jemison & Sitkin, 1986; Pablo et al., 1996). One of the implications of this perspective is that the strategic, financial and organizational conditioning factors at the time of the M&A – including the pre-combination cultural fit – can only predict long-term performance if integration process variables are taken into account. Longitudinal case studies (e.g., Buono, Bowditch & Lewis, 1985; Sales & Mirvis, 1984) suggest that the acculturation process following M&A is dynamic and discontinuous, and that socio-cultural integration outcomes are heavily influenced by top management’s integration related decisions and actions. Future research on the culture-performance relationship in M&A – and management practice as well – would probably benefit from a closer inspection of what is inside the “black box” – the integration related processes and management actions that affect M&A success and failure.

The meta-analysis of stock market-based performance measures, somewhat surprisingly, found cultural differences to be positively associated with abnormal returns for shareholders of acquiring firms. However, it is hard to imagine cultural differences having a direct impact
on stock market performance. In interpreting this finding, it is important to note that all studies included at the final stage of this meta-analysis focused on samples of cross-border M&A and used cumulated abnormal returns as performance measures. Stock market-based performance measures – especially if taken a short time after the announcement of the deal – reflect the investment communities’ evaluation of the combination potential and the degree of confidence in the future performance of the M&A. Consequently, they measure how markets perceive the deal, rather than actual M&A performance. Of course, as additional information about the M&A and its success or failure becomes known, it is assimilated by the market and the value of the firm may be affected (Datta et al., 1992).

Rather than assuming a direct impact of cultural differences on stock market performance, a more likely explanation is that the investment communities are favorably disposed toward cross-border M&A in general. For example, analysts may attribute a greater combination potential (e.g., economies of scale, exploitation of foreign market opportunities, and availability of scarce specialized resources) to cross-border M&A compared to domestic deals, while giving relatively little weight to “soft factors” such as potential integration problems due to culture clashes. This might be rational, given that cross-border acquisitions allow companies to exploit foreign market opportunities more quickly than other entry strategies (Root, 1987) and that acquisition of an established firm may in some cases be less risky than a greenfield investment even if potential integration problems due to cultural barriers are taken into account. Overall, the meta-analytic findings suggest that national cultural differences may be beneficial from a shareholder’s point of view (though the effect is likely to be indirect). These positive performance effects are robust – they remain even after controlling for the time of measurement, suggesting that cultural differences are positively associated with both short term and long term gains for shareholders.
Since most studies investigating the impact of cultural differences on stock market performance used the distinction between domestic and cross-border M&A as a proxy for cultural differences, the two variables are inextricably intertwined in research on the performance implications of cultural differences in M&A. Future research should try to “disentangle” the two factors by measuring cultural differences independent of whether the M&A involves companies based in different countries in order to determine to what extent performance effects are due to cultural differences and to what extent they are due to other variables associated with cross-border M&A. For example, Evans et al. (2002) have argued that cross-border acquirers are more successful because they execute multiple acquisitions, not one-of-a-kind deals, accumulating experience and putting in place processes that enable them to execute cross-border deals more effectively. Variables such as prior acquisition experience of the acquirer must be systematically controlled in future studies of the performance implications of cultural differences in M&A.

Limitations

The meta-analyses presented in this paper provided some new insights into the culture-performance relationship in M&A. However, the results open up a number of questions. Perhaps the most critical question is related to the internal validity of the findings, i.e., the degree of confidence we can have in making causal inferences. Most studies included in the meta-analyses used a cross-sectional survey design and relied on retrospective evaluation of cultural differences (and, in some cases, M&A performance). For example, Datta (1991), based on a negative relationship between cultural differences (operationalized through differences in management style) and acquisition performance, concluded that “compatibility of management styles is important to superior performance in acquisitions”, and that “acquisitions of firms with a different management style can result in conflicts, difficulties in
achieving operational synergies, market share shrinkages and poor performance” (p. 291).

However, since Datta (1991) relied on self-reported measures of acquisition performance and management style differences, there is significant potential for percept-percept bias and reverse causality. Some studies have tried to avoid the problem of retrospective evaluation by using more objective performance measures and culture scores from a source external to the sample and not dependent on the memory of the respondents (e.g., the Hofstede Index). However, given the cross-sectional design used in most studies, the problem remains that the results might be spurious.

Related to the foregoing concern, a large portion of the studies included in the meta-analyses inadequately controlled for variables that potentially moderate the culture-performance relationship in M&A. Some of the studies controlled for the degree of relatedness of the acquirer’s and target’s businesses by including firm relatedness as a control variable, or by limiting the sample to related acquisitions. Other control variables used in research on the culture-performance relationship in M&A include relative firm size, industry sector, mode of takeover, level of integration, prior acquisition experience of the acquirer, and degree of retained autonomy on the part of the acquired firm (see Schoenberg, 2000; Schweiger & Goulet, 2000 for reviews). However, few studies controlled for more than one or two of the variables proposed to moderate the impact of cultural differences on M&A performance simultaneously.

The foregoing discussion raises a general problem associated with meta-analytic reviews, namely the mixing of study findings of different methodological quality. Some critics argue that a research synthesis should be based only on findings from high-quality studies (Greenland, 1994). However, since the number of available studies meeting the eligibility criteria was small, exclusion of studies that did not meet pre-defined methodological
standards was not a viable option. Also, the majority of studies included in the meta-analyses were published in reviewed journals, thus guaranteeing a minimum methodological standard. Furthermore, meta-analytic procedures allow correction for various statistical artifacts and biases, for example, correction for poor reliability of rating scales (Hunter & Schmidt, 1990; Lipsey & Wilson, 2001). Therefore, we decided to include all studies meeting the eligibility criteria and employed a step-wise procedure that allowed control of artifacts, as well as identification and possible removal of inadequate studies at later stages of the meta-analytic process.

**Conclusion**

Consistent with the cultural distance hypothesis and extant frameworks of the socio-cultural integration process following M&A, the meta-analytic findings presented in this paper suggest that cultural differences are associated with various negative outcomes at the socio-cultural level. However, cultural differences were found to be unrelated to accounting-based measures of post-acquisition performance and positively related to abnormal returns for the shareholders of acquiring firms. Thus, the cultural distance hypothesis is too simplistic an explanation for the cultural processes involved in integrating M&A. Whether cultural differences have a positive or negative performance impact depends on the performance measure used and is also likely to depend on the nature and extent of cultural differences, the integration approach taken, and the interventions chosen to manage cultural differences. If managed effectively, the inherent cultural differences in M&A might be an asset rather than a liability.
References


http://www.thomson.com/pdfs/mergers_and_acquisitions/


Table 1
Sample-Weighted Mean Correlations of Study Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>1.</th>
<th>2.</th>
<th>3.</th>
<th>4.</th>
<th>5.</th>
<th>6.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Firm relatedness</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Relative firm size</td>
<td>-.12***</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(N=804; k=7)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Cultural differences</td>
<td>.03</td>
<td>.02</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(N=856; k=8)</td>
<td>(N=1240; k=12)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Accounting-based performance</td>
<td>.14***</td>
<td>.08*</td>
<td>.04</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(N=806; k=7)</td>
<td>(N=1124; k=9)</td>
<td>(N=1449; k=12)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Socio-cultural integration outcomes</td>
<td>-.07</td>
<td>-.09*</td>
<td>-.11***</td>
<td>.19**</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(N=258; k=3)</td>
<td>(N=367; k=5)</td>
<td>(N=1085; k=11)</td>
<td>(N=258; k=3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Stock market-based performance</td>
<td>.23***</td>
<td>-.08</td>
<td>-.03*</td>
<td>.19</td>
<td>/</td>
<td>1.00</td>
</tr>
<tr>
<td></td>
<td>(N=348; k=2)</td>
<td>(N=30; k=1)</td>
<td>(N=6531; k=9)</td>
<td>(N=161; k=1)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes. * p < .10; ** p < .05; *** p < .01; **** p < .001; N = Total number of M&A on which mean correlation is based; k = Number of studies on which mean correlation relies; / = No correlation coefficient reported.
Table 2

Meta-Analysis of the Relationship between Cultural Differences and Stock Market-Based Performance Measures

<table>
<thead>
<tr>
<th>Step of Analysis</th>
<th>k</th>
<th>N</th>
<th>Mean ES</th>
<th>-95%CI</th>
<th>+95%CI</th>
<th>Z</th>
<th>Q</th>
<th>Variance Explained by Sampling Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. Correcting for unreliability and bias</td>
<td>9</td>
<td>6455</td>
<td>-0.03</td>
<td>-0.05</td>
<td>-0.01</td>
<td>2.31*</td>
<td>303.85***</td>
<td>2.96 %</td>
</tr>
<tr>
<td>II. Controlling for firm relatedness and relative firm size</td>
<td>9</td>
<td>6455</td>
<td>-0.03</td>
<td>-0.05</td>
<td>-0.01</td>
<td>2.32*</td>
<td>304.45***</td>
<td>2.95 %</td>
</tr>
<tr>
<td>III. Removing outliers</td>
<td>8</td>
<td>5120</td>
<td>0.08</td>
<td>0.10</td>
<td>0.05</td>
<td>5.36***</td>
<td>48.66***</td>
<td>16.27 %</td>
</tr>
<tr>
<td>IV. Exploratory analysis: Removing studies displaying unusual study characteristics</td>
<td>5</td>
<td>1629</td>
<td>0.16</td>
<td>0.10</td>
<td>0.22</td>
<td>6.08***</td>
<td>5.93</td>
<td>80.01 %</td>
</tr>
</tbody>
</table>

Notes. k = Number of effect sizes; N = Total number of Mergers & Acquisitions covered; Mean ES = Weighted mean effect size; -95%CI = Lower bound of the 95% confidence interval; +95%CI = Upper bound of the 95% confidence interval; Z = Z-value of mean effect size; Q = Value of chi-square distributed homogeneity statistic Q; Variance explained by sampling error = Percentage of observed variance explained by sampling error; * p < .05; *** p < .001.
Table 3
Meta-Analysis of the Relationship between Cultural Differences and Accounting-Based Performance Measures

<table>
<thead>
<tr>
<th>Step of Analysis</th>
<th>K</th>
<th>N</th>
<th>Mean ES</th>
<th>-95%CI</th>
<th>+95%CI</th>
<th>Z</th>
<th>Q</th>
<th>Variance Explained by Sampling Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. Correcting for unreliability and bias</td>
<td>12</td>
<td>1449</td>
<td>0.05</td>
<td>-0.01</td>
<td>0.11</td>
<td>1.81*</td>
<td>59.69***</td>
<td>19.98 %</td>
</tr>
<tr>
<td>II. Controlling for firm relatedness and relative firm size</td>
<td>12</td>
<td>1449</td>
<td>0.04</td>
<td>-0.02</td>
<td>0.10</td>
<td>1.36</td>
<td>65.82***</td>
<td>18.17 %</td>
</tr>
<tr>
<td>III. Removing outliers</td>
<td>10</td>
<td>1138</td>
<td>0.05</td>
<td>-0.03</td>
<td>0.13</td>
<td>1.30</td>
<td>17.36*</td>
<td>57.35 %</td>
</tr>
<tr>
<td>IV. Exploratory analysis: Removing studies displaying unusual study characteristics</td>
<td>7</td>
<td>809</td>
<td>-0.02</td>
<td>-0.10</td>
<td>0.06</td>
<td>0.53</td>
<td>5.75</td>
<td>100.00 %</td>
</tr>
</tbody>
</table>

Notes. k = Number of effect sizes; N = Total number of Mergers & Acquisitions covered; Mean ES = Weighted mean effect size; -95%CI = Lower bound of the 95% confidence interval; +95%CI = Upper bound of the 95% confidence interval; Z = Z-value of mean effect size; Q = Value of chi-square distributed homogeneity statistic Q; Variance explained by sampling error = Percentage of observed variance explained by sampling error; * p < .10; ** p < .05; *** p < .001.
Table 4
Meta-Analysis of the Relationship between Cultural Differences and Socio-Cultural Integration Outcomes

<table>
<thead>
<tr>
<th>Step of Analysis</th>
<th>K</th>
<th>N</th>
<th>Mean ES</th>
<th>-95%CI</th>
<th>+95%CI</th>
<th>Z</th>
<th>Q</th>
<th>Variance explained by sampling error</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. Correcting for unreliability and bias</td>
<td>11</td>
<td>1085</td>
<td>-0.10</td>
<td>-0.16</td>
<td>-0.04</td>
<td>3.21</td>
<td>33.40**</td>
<td>40.24 %</td>
</tr>
<tr>
<td>II. Controlling for firm relatedness and relative firm size</td>
<td>11</td>
<td>1085</td>
<td>-0.11</td>
<td>-0.17</td>
<td>-0.05</td>
<td>3.22</td>
<td>35.05***</td>
<td>30.69 %</td>
</tr>
<tr>
<td>III. Removing outliers</td>
<td>10</td>
<td>938</td>
<td>-0.17</td>
<td>-0.25</td>
<td>-0.09</td>
<td>4.74</td>
<td>14.74*</td>
<td>64.01 %</td>
</tr>
<tr>
<td>IV. Exploratory analysis: Removing studies displaying unusual study characteristics</td>
<td>6</td>
<td>236</td>
<td>-0.32</td>
<td>-0.46</td>
<td>-0.18</td>
<td>4.35</td>
<td>6.70</td>
<td>100.00 %</td>
</tr>
</tbody>
</table>

Notes. k = Number of effect sizes; N = Total number of Mergers & Acquisitions covered; Mean ES = Weighted mean effect size; -95%CI = Lower bound of the 95% confidence interval; +95%CI = Upper bound of the 95% confidence interval; Z = Z-value of mean effect size; Q = Value of chi-square distributed homogeneity statistic Q; Variance explained by sampling error = Percentage of observed variance explained by sampling error; * p < .10; ** p < .01; *** p < .001.
### Appendix A

*Study Characteristics, Measures, Reliabilities, and Uncorrected and Corrected Effect Sizes for Studies included in the Meta-Analysis of Stock Market-Based Performance Measures*

<table>
<thead>
<tr>
<th>Study</th>
<th>Cultural Differences</th>
<th>Cultural Variable(s)</th>
<th>Performance Measure(s)</th>
<th>n</th>
<th>CVα</th>
<th>Pa</th>
<th>r</th>
<th>EScorr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chatterjee et al. (1992)</td>
<td>Organizational</td>
<td>Management style dissimilarity</td>
<td>Cumulative Abnormal returns</td>
<td>30</td>
<td>0.97</td>
<td>*</td>
<td>-0.61</td>
<td>-0.62</td>
</tr>
<tr>
<td>Datta &amp; Puia (1995)</td>
<td>National</td>
<td>Hofstede index</td>
<td>Cumulative excess returns</td>
<td>112</td>
<td>0.55</td>
<td>*</td>
<td>-0.28</td>
<td>-0.38</td>
</tr>
<tr>
<td>Dewenter (1995)</td>
<td>National</td>
<td>Domestic vs. cross-border</td>
<td>Cumulative abnormal returns</td>
<td>384</td>
<td>*</td>
<td>*</td>
<td>0.06</td>
<td>0.06</td>
</tr>
<tr>
<td>Eddy &amp; Seifert (1984)</td>
<td>National</td>
<td>Domestic vs. cross-border</td>
<td>Stock prices and dividends</td>
<td>1335</td>
<td>*</td>
<td>*</td>
<td>-0.40</td>
<td>-0.40</td>
</tr>
<tr>
<td>Harris &amp; Ravenscraft (1991)</td>
<td>National</td>
<td>Domestic vs. cross-border</td>
<td>Average bid premium</td>
<td>3349</td>
<td>*</td>
<td>*</td>
<td>0.06</td>
<td>0.06</td>
</tr>
<tr>
<td>Markides &amp; Oyon (1998)</td>
<td>National</td>
<td>Hofstede index(^1)</td>
<td>Cumulative abnormal returns</td>
<td>236</td>
<td>0.24</td>
<td>*</td>
<td>0.05</td>
<td>0.10</td>
</tr>
<tr>
<td>Swenson (1993)</td>
<td>National</td>
<td>Domestic vs. cross-border</td>
<td>Cumulative abnormal returns</td>
<td>703</td>
<td>*</td>
<td>*</td>
<td>0.20</td>
<td>0.20</td>
</tr>
<tr>
<td>Wansley et al. (1983)</td>
<td>National</td>
<td>Domestic vs. cross-border</td>
<td>Cumulative abnormal returns</td>
<td>203</td>
<td>*</td>
<td>*</td>
<td>0.20</td>
<td>0.20</td>
</tr>
<tr>
<td>Zollo (2003)</td>
<td>Organizational</td>
<td>Management style dissimilarity</td>
<td>Cumulative abnormal returns</td>
<td>103</td>
<td>0.91</td>
<td>*</td>
<td>0.21</td>
<td>0.22</td>
</tr>
</tbody>
</table>

*Notes.* \(n\) = Study sample size; \(CVα\) = Cronbachs *alpha* of cultural variable(s); \(Pa\) = Cronbachs *alpha* of performance measure; \(r\) = Uncorrected correlational effect size; \(EScorr\) = Correlational effect size corrected for bias and artifacts; * = Objective cultural variable(s) or performance measure(s); \(^1\) = Only one dimension was examined (masculinity).
Appendix B

Study Characteristics, Measures, Reliabilities, and Uncorrected and Corrected Effect Sizes for Studies included in the Meta-Analysis of Accounting-Based Performance Measures

<table>
<thead>
<tr>
<th>Study</th>
<th>Cultural Differences</th>
<th>Cultural Variable(s)</th>
<th>Performance Measure(s)</th>
<th>n</th>
<th>CVα</th>
<th>Pa</th>
<th>r</th>
<th>EScorr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anand et al. (2003)</td>
<td>National</td>
<td>Domestic vs. cross-border</td>
<td>Performance index</td>
<td>251</td>
<td>*</td>
<td>0.78</td>
<td>0.05</td>
<td>0.06</td>
</tr>
<tr>
<td>Barkema et al. (1996)</td>
<td>National</td>
<td>Hofstede index</td>
<td>Return on Equity</td>
<td>116</td>
<td>0.55</td>
<td>*</td>
<td>0.15</td>
<td>0.21</td>
</tr>
<tr>
<td>Datta et al. (1991)</td>
<td>Organizational</td>
<td>Management style dissimilarity</td>
<td>Performance index</td>
<td>168</td>
<td>0.92</td>
<td>0.89</td>
<td>-0.34</td>
<td>-0.38</td>
</tr>
<tr>
<td>Krishnan et al. (1997)</td>
<td>Organizational</td>
<td>Top management complementarity</td>
<td>Return on Assets</td>
<td>147</td>
<td>*</td>
<td>*</td>
<td>0.39</td>
<td>0.39</td>
</tr>
<tr>
<td>Larsson &amp; Finkelstein (1999)</td>
<td>Organizational</td>
<td>Management style dissimilarity</td>
<td>Synergy realization</td>
<td>61</td>
<td>0.91</td>
<td>0.68</td>
<td>-0.06</td>
<td>-0.08</td>
</tr>
<tr>
<td>Lubatkin et al. (1998)</td>
<td>National</td>
<td>Domestic vs. cross-border</td>
<td>Growth in sales</td>
<td>83</td>
<td>*</td>
<td>0.72</td>
<td>-0.01</td>
<td>-0.01</td>
</tr>
<tr>
<td>Morosini et al. (1998)</td>
<td>National</td>
<td>Hofstede index</td>
<td>Growth in sales</td>
<td>52</td>
<td>0.55</td>
<td>*</td>
<td>0.31</td>
<td>0.42</td>
</tr>
<tr>
<td>Schoenberg (2003)</td>
<td>Organizational</td>
<td>Management style incompatibility</td>
<td>Performance index</td>
<td>129</td>
<td>0.76</td>
<td>0.88</td>
<td>-0.06</td>
<td>-0.08</td>
</tr>
<tr>
<td>Very et al. (1997)</td>
<td>Organizational</td>
<td>Cultural incompatibility</td>
<td>Performance index</td>
<td>106</td>
<td>0.94</td>
<td>0.70</td>
<td>-0.13</td>
<td>-0.16</td>
</tr>
<tr>
<td>Very et al. (1996)</td>
<td>Organizational</td>
<td>Acculturative stress</td>
<td>Performance index</td>
<td>106</td>
<td>0.80</td>
<td>0.70</td>
<td>0.07</td>
<td>0.10</td>
</tr>
<tr>
<td>Weber (1996)</td>
<td>Organizational</td>
<td>Management style dissimilarity</td>
<td>Increase in Return on Assets</td>
<td>73</td>
<td>0.97</td>
<td>*</td>
<td>0.04</td>
<td>0.04</td>
</tr>
<tr>
<td>Zollo (2003)</td>
<td>Organizational</td>
<td>Management style dissimilarity</td>
<td>Performance index</td>
<td>161</td>
<td>0.91</td>
<td>0.78</td>
<td>0.18</td>
<td>0.21</td>
</tr>
</tbody>
</table>

Notes. \( n = \) Study sample size; \( CVα = \) Cronbachs \( \alpha \) of cultural variable(s); \( Pa = \) Cronbachs \( \alpha \) of performance measure(s); \( r = \) Uncorrected correlational effect size between cultural differences and financial; \( EScorr = \) Correlational effect size corrected for bias and artifacts; * = Objective cultural variable(s) or performance measure(s); \(^1\) = Average of multiple effect sizes contributed by study.
Appendix C

Study Characteristics, Measures, Reliabilities, and Uncorrected and Corrected Effect Sizes for Studies included in the Meta-Analysis of Socio-Cultural Integration Outcomes

<table>
<thead>
<tr>
<th>Study</th>
<th>Cultural Differences</th>
<th>Cultural Variable(s)</th>
<th>Performance Measure(s)</th>
<th>n</th>
<th>CVα</th>
<th>Pa</th>
<th>r</th>
<th>EScorr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Krishnan et al. (1997)</td>
<td>Organizational</td>
<td>Top management complementarity</td>
<td>Top management turnover</td>
<td>147</td>
<td></td>
<td>*</td>
<td>0.23</td>
<td>0.23</td>
</tr>
<tr>
<td>Krug &amp; Hegarty (2001)</td>
<td>National</td>
<td>Domestic vs. cross-border</td>
<td>Top management turnover</td>
<td>200</td>
<td>*</td>
<td>*</td>
<td>-0.07</td>
<td>-0.07</td>
</tr>
<tr>
<td>Krug &amp; Nigh (1998)</td>
<td>National</td>
<td>Hofstede index</td>
<td>Top management turnover</td>
<td>103</td>
<td>0.55</td>
<td>*</td>
<td>-0.22</td>
<td>-0.28</td>
</tr>
<tr>
<td>Krug &amp; Hegarty (1997)</td>
<td>National</td>
<td>Domestic vs. cross-border split</td>
<td>Top management turnover</td>
<td>270</td>
<td></td>
<td>*</td>
<td>-1.0</td>
<td>-1.0</td>
</tr>
<tr>
<td>Larsson &amp; Lubatkin (2001)</td>
<td>National</td>
<td>Domestic vs. cross-border split</td>
<td>Degree of achieved acculturation</td>
<td>50</td>
<td>*</td>
<td>0.69</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Larsson &amp; Finkelstein (1999)</td>
<td>Organizational</td>
<td>Management style dissimilarity</td>
<td>Employee resistance</td>
<td>61</td>
<td>0.91</td>
<td>0.60</td>
<td>-0.30</td>
<td>-0.41</td>
</tr>
<tr>
<td>Lubatkin et al. (1999)</td>
<td>Organizational</td>
<td>Management style dissimilarity</td>
<td>Top management turnover</td>
<td>36</td>
<td>0.97</td>
<td>*</td>
<td>-0.31</td>
<td>-0.31</td>
</tr>
<tr>
<td>Schoenberg (2003)</td>
<td>Organizational</td>
<td>Management style incompatibility</td>
<td>Top management turnover</td>
<td>129</td>
<td>0.76</td>
<td>0.70</td>
<td>-0.16</td>
<td>-0.22</td>
</tr>
<tr>
<td>Weber et al. (1996)¹</td>
<td>National / Organizational</td>
<td>Hofstede index / Management style dissimilarity</td>
<td>Top management commitment, cooperation, stress, negative attitude towards organization</td>
<td>8</td>
<td>0.55/</td>
<td>0.78²</td>
<td>0.17</td>
<td>0.19³</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weber et al. (1996)¹</td>
<td>Organizational</td>
<td>Management style dissimilarity</td>
<td>Top management commitment, cooperation, stress, negative attitude towards organization</td>
<td>8</td>
<td>0.97</td>
<td>0.78²</td>
<td>-0.52</td>
<td>-0.60³</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weber (1996)</td>
<td>Organizational</td>
<td>Management style dissimilarity</td>
<td>Effectiveness of integration process, top management commitment</td>
<td>73</td>
<td>0.97</td>
<td>0.94³</td>
<td>-0.40</td>
<td>-0.41³</td>
</tr>
</tbody>
</table>

Notes. n = Study sample size; CVα = Cronbachs alpha of cultural variable(s); Pa = Cronbachs alpha of performance measure(s); r = Uncorrected correlational effect size between cultural differences and financial; EScorr = Correlational effect size corrected for bias and artifacts; * = Objective cultural variable(s) or performance measure(s); ¹ = Different sub-samples included separately; ² = Average reliability across all performance measures; ³ = Average of multiple effect sizes contributed by study.