EFFECT OF NATIONAL CULTURAL DIFFERENCES ON THE PERFORMANCE OF CROSS BORDER MERGERS: CASE OF INDIAN COMPANIES GOING ABROAD

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ABSTRACT

This paper seeks to verify whether Cultural Distance affects the performance of Indian companies that are seeking profitability through cross border Mergers and Acquisitions (M&As). Despite the fast growth rate of some developing economies, most research in cultural differences as an explanatory variable of merger performance is limited to companies from the developed countries. Thus, from the research standpoint, a study of the impact of cultural differences on a company based in a developing country is an interesting proposition. We have employed multiple regression analysis in explaining the effect of cultural differences on the performance of an Indian company after netting out the effect of other variables, such as year of acquisition and type of industry, that are considered significant in the explanation of performance of a company post merger. The findings indicate that cultural difference, as an explanatory variable of the post acquisition performance, is not a significant factor affecting performance of the Indian companies.

Keywords: international, mergers, acquisitions, performance, culture, India.

INTRODUCTION

Mergers and acquisitions have recently become the most popular way of seeking growth. According to a survey conducted by Price Waterhouse Coopers (2000), the amount of corporate capital spent on acquisitions exceeds the annual GNP of many countries. With increasing globalization and competition, companies strive to surpass their competitors. Cross border Mergers and Acquisitions (M&As) provide a suitable means of external development. The value of M&As in 1999 was US$ 1.2 trillion.

The decade of 1990s witnessed the biggest merger wave of all times. After showing a dismal performance from 2000 to 2003, cross border M&As experienced an upheaval in 2004. According to the UNCTAD’s World Investment
Report (2005) the number of M&As in 2004 rose by 28% to US$381 billion, and the total M&As grew by nearly 50% to over $2 trillion. The number of cross-border deals reached to some 5,100—12% higher than the previous year.

From India’s perspective, the policy liberalisation in the nineties facilitated the cross border Mergers and Acquisitions into India (Kumar, 2000). Cross border M&As into India during 2004 doubled from previous year to US$ 1.8 billion (UNCTAD, 2005). At the same time, cross border mergers and acquisitions by Indian companies have gained momentum in recent years. The value of cross border acquisitions increased exponentially from US$ 11 million in 1998 to over US $ 2 billion in 2001 (Jaypradhan and Abraham, 2005). After a slow down in the pace of cross border acquisitions during the period from 2001 to 2003, Indian MNCs appear to be in a position to acquire foreign firms across varied industries.

The year 2005 witnessed resilience in terms of M&As from the Indian Firms across wide range of industries with the financial sector being the largest contributor, i.e. 20% of the total value of deals in 2005 (Taraporevala and Winterbotham, 2005). Cross border acquisitions by Indian companies followed similar trend to that of M&As in 2005. During the first four months of financial year 2005-06, the pharmaceutical sector has spearheaded the cross border M&As with nine outbound deals. Most notable amongst the deals was the acquisition of Docpharma, Belgium by Matrix Laboratories for a sum of US$ 263 million (www.indiainfoline.com).

Resurgence of cross border acquisitions by Indian companies calls for attention in at least two different aspects related to mergers and acquisitions. First of all, there is a need to analyse prime motives behind Indian firms seeking acquisitions in a foreign terrain. Secondly, performance and the factors affecting the performance of the Indian firms need to be considered. This study is focused on the impact cultural differences have on the performance of Indian firms engaging in cross-border Mergers & Acquisitions.

Morosini, Shane and Singh (1998) have also shown that significant changes at macroeconomic levels such as GDP growth rate, exchange rate changes, and inflation affect the performance of the merged companies. Therefore, it would be interesting to analyse whether the effect of macroeconomic changes, primarily economic performance of the nation as a whole, bear any consequences on the performance of the companies.

Research in cultural differences as an explanatory variable of performance of merged companies has grown in the recent years. However, much to the dismay, the results are divergent and there does not seem to be a consensus amongst the research scholars on the effect that cultural difference bears upon the performance of the merged companies (Datta and Puia, 1995; Morosini, Shane and Singh 1998). Also most, if not all, of the research is limited to the study of the impact of acquisitions by companies from the developed countries perspective. Thus from the research standpoint, a study of impact of cultural differences on the company having its roots in a developing country is an interesting proposition and that is what we have delved into in this research.

We have deployed multiple regression analysis in explaining the effect of cultural difference on the performance of an Indian company after netting out the effect of other variables that are considered significant in the explanation of performance of a company post merger.

This paper is structured as follows: The first section provides a review on cultural differences and cross border mergers. The second section explains the research design, the data and variables used in the research. We then analyse the empirical results attained from the multiple regression conducted on the data. The third and last section consists of conclusions and recommendations.
REVIEW OF MAJOR ACQUISITION DRIVERS IN RECENT YEARS

Dunning’s Eclectic Paradigm (1988) explains that firms seek to extend their activities in order to exploit ownership advantages, location specific advantages and internalization advantages. These could be lower wages, or existing market imperfections. In terms of cross border Mergers and Acquisitions, Griffiths and Walls (2001) buttress Dunning’s Eclectic paradigm by suggesting that M&As take place to exploit market power. Increasing globalisation and trade liberalisation by countries like China and India have fuelled international activities and made the international boundaries vague. Market is no more limited to a single country or to a continent to that matter.

Bruner (2004) tersely summarises the main drivers of cross border mergers and acquisitions in the recent years. Seeking intangible assets of the target firm is one of them. Repertoires and ‘way of doing things’ is an intangible asset that an acquiring firm would be willing to obtain and to exploit.

Over the recent years, technology as a motivation of acquisition has gained prominence. Technology sourcing as Karen Ruckman (2005) defines it, is the acquisition strategy of a firm designed to acquire the technological assets of another firm. If the host country has higher R&D intensity than the home country of a company then one could predict that the host country would experience greater FDI’s, mainly through the form of acquisitions (Ruckman, 2005).

In India’s case this could be one of the motivating factors for the companies seeking acquisitions in the developed countries, especially in USA where the R&D expenditure is high. Also the emerging trend of pharmaceutical companies, such as Ranbaxy Laboratories’ string of acquisitions in recent years, demonstrates that R&D is a driving force for the decision of Indian companies going abroad (Pradhan and Abraham, 2005). Pertinent to Indian scenario, other drivers of M&As have been seeking end-to-end solutions, broadening of market, achieving synergies and overcoming constraints of limited home market growth (Pradhan and Abraham, 2005; http://www.expresscomputeronline.com).

This paper attempts to verify whether Cultural Distance effect the performance of Indian Companies seeking profitability through cross border mergers. As a result the paper combines two distinct, yet interrelated, areas of literature, i.e. Mergers & Acquisitions performance and cultural differences.

National Cultural Differences

The word ‘culture’ has been defined in many different ways resulting in divergence of interpretations which in turn make it difficult to analyse. Some common cultural variables that could be used to distinguish among cultures are observable characteristics such as religion, language and race. However culture is rooted deeper than the observable characteristics and needs to be more formally defined. Geert Hofstede (1984) defined culture as “… the collective programming of the mind which distinguishes the members of one human group from another … Culture, in this sense, includes systems of values and values are among the building blocks of culture.” Inherent in this definition of culture is that culture is an attribute that distinguishes a group of people from other groups and influence thinking, and therefore actions, of the human being.

In modern literature, resource based view places importance on human capital of the firm. Human capital over the years has been seen as a source of much wanted sustainable competitive advantage for a firm. Sustainable Competitive Advantage as suggested by Michael Porter (1980) is attained when a competitive advantage by a firm resists any erosion. In order to gain sustainable competitive advantage on the basis of human capital, the culture of that particular group of human beings needs to be carefully analysed. However, quantifying culture is difficult.
One of the groundbreaking works conducted in the area of quantification of cultural attributes was undertaken by Geert Hofstede. Hofstede, from his study in late 1960s and early 1970s developed a model that divided culture into four dimensions: individualism, uncertainty avoidance, power distance and masculinity. Initially scores were developed on the 40 largest countries on these dimensions, which till 2001 were extended to 73 countries (www.geert-hostede.com). Hofstede’s Index has been the key source of cultural scores and has been used by researchers over the years. The four dimensions of Hofstede’s Index are as follows:

**Power Distance** Index focuses on the degree of equality, or inequality, between people in the country's society (www.geert-hostede.com). Power distance Index could be considered synonymous with the Lorenz curve for the income distribution. A society with strict bureaucratic framework would exhibit higher power distance index. India’s PDI of 77, higher than the world average of 56.5 (www.geert-hofstede.com), is the highest Hofstede Dimension amongst all four dimensions for India.

**Individualism** focuses on the degree the society reinforces individual or collective achievement and interpersonal relationships (www.geert-hofstede.com).

**Masculinity** focuses on the degree the society reinforces, or does not reinforce, the traditional masculine work role model of male achievement, control, and power. (www.geert-hofstede.com) Masculinity captures the essence of the gender equality with lower value of Masculinity Index showing equal treatment of male and female.

**Uncertainty Avoidance** Index focuses on the level of tolerance for uncertainty and ambiguity within the society - i.e. unstructured situations (www.geert-hofstede.com). One would expect countries with planned economies such as Japan to have higher Uncertainty Avoidance Index. Calibrating the cultural score of a country with respect to another country can attain the cultural distance between countries.

Hofstede Index has been criticised over the years on various accounts. Researchers argue that the use of four dimensions to capture national culture is restrictive as other attributes that are unique to national culture are averted (Mikael Søndergaard, 1994). In fact, the addition of a fifth dimension, i.e. long term orientation, by Geert Hofstede himself, raises doubts on the comprehensiveness of the four dimensions. It has also been argued that within a nation there are different sub group of cultures and assigning similar dimensions to all sub groups of people is, therefore, not defensible. This argument is pertinent in case of India where the cultural differentiation between different parts of the country is observable. Leung et al (2005) also highlight the limitations of using static dimensions, obtained from historical data, to measure cultural differences between countries. They argue that culture manifests itself in various levels and domains and that various elements of culture are stable whereas other elements are dynamic in nature. Although the criticisms of Hofstede Index are never-ending, nevertheless, it is the most comprehensive quantification of national cultures.

Stulz and Williamson (2003) in their study of the effect of cultural differences on the protection of rights of investor used differences in religion and language as a proxy for cultural differences. In their study, Stulz and Williamson (2003) compiled information about the religion and language of various countries using 2000 CIA World Factbook. India was categorized as having one language and one religion, that is, Hindi and Hindu respectively. However, categorizing India in one single religion and in one single language is too restrictive. Further, census conducted by the Central Institute of Indian Languages in 1991 highlights that only forty percent of the population was recognized as prominent speakers of Hindi. Moreover, in India, English is commonly spoken in the corporate sector.

Since the research in particular looks into the performance of the Indian companies, generalizing the religion and language of India as a one common religion and language would have its own fallacy. Defining a yardstick to quantify Cultural Scores of India is a daunting task.
Early Research on the Performance of M&As Using Financial Statement Data

Huge transactions on the account of M&As in terms of value of deals make it imperative to understand the financial implications of such mergers. Bruner (2002) summarises studies conducted by various researchers of financial statement data of acquiring companies. Although, it does not exclusively look into cross border M&As, it does provide interesting insights about the financial returns accruing to acquiring company, thus making it pertinent to the research presented in this paper.

Most of the studies summarized by Bruner (2002) highlighted the under achievement of acquiring firms when using the financial returns. Chatterjee and Meeks (1996) in their study of UK mergers from 1977 to 1990 made an interesting observation of the discrepancy in the profitability observed because of the changes in the accounting policies. This highlights the importance of macroeconomic effects on the financial performance of the company.

Sharma and Ho (2002) in their study of Australian public companies that underwent mergers in the period of 1986 -1991 showed that the corporate acquisitions did not lead to any significant post acquisition improvements irrespective of the performance indicator employed as a yardstick. For the sample studied by Sharma and Ho (2002), value of the deal and mode of payment were not significant in explaining the post acquisition performance of the firm. The result produced by Sharma and Ho (2002) could be contested on the grounds of sample bias as the result obtained is from the quantitative study of Australian Firms and any extrapolation of the results attained to other countries would be imprudent.

Research measuring cross-border M&A performance, using financial returns as an indicator, seems to be very limited. At best, Bruner (2004) has summarised the studies conducted by the various researchers on market-based returns, i.e. shareholder returns. A study by Biswas, Fraser and Mahajan (1997) reveals loss of 0.39 percent of shareholders wealth for the domestic acquisition, whereas the bidders of international acquisitions do not lose any significant shareholder wealth. Also considering in totality international acquisitions are seen as net wealth creators with the wealth distribution equitable between the acquirer and target firm. Positive and significant returns to shareholders have been supported by Pettway, Sicherman and Spiess (1992) (as cited in Biswas, Fraser and Mahajan, 1997) who find that both Japanese acquirers and American bidders gain at the announcement of the acquisition.

From India’s perspective, the emerging trend of capital outflow (UNCTAD, 2005) makes an interesting case to analyse the benefits accruing to companies engaged in the cross border mergers and build on whether the cultural disparity plays a crucial or latent role in company’s performance.

National Cultural Differences in Conjunction with Cross Border M&As

When performed at an international level, the differences in the national cultures and in the associated managerial styles further complicate the dynamics of M&As. It is further suggested that for cross border M&As to prove successful both parties need to first appreciate and understand the different views and interpretations each other may have on the world (Cartwright and Cooper, 1996). The cultural differences and managerial styles within developed countries do not seem to be as distinct as between developing country and developed country.

Three lines of argument have been presented over the study of effect of cultural differences on the performance of the firm. First, cultural differences enhance the performance of the firm as they broaden the portfolio of the firm in terms of cultural knowledge, which firm could exploit to attain sustained competitive advantage. Second, cultural mismatch causes ambiguity, hence resulting in the underperformance of the merged firms. Last, longitudinally, cultural differences have different impact on the performance of the merging firms as the firms gain from experiential learning overtime.
Modest empirical research has been conducted in the area of understanding the effect of cultural differences on the post acquisition performance (Chakrabarti, Jayaraman and Mukherjee, 2005). One of the prominent researches conducted is by Morosini, Shane and Singh (1998). Our paper seeks to extend the work conducted by Morosini, Shane and Singh (1998) to the Indian Scenario. In their study of 52 companies engaged in cross border mergers - where either the acquiring company or the acquired company was from Italy. Morosini, Shane and Singh (1998) provided empirical support to the notion of cultural distance providing impetus to performance of cross border acquisition. An important conclusion that can be drawn from their study is that firm specific routines and repertoires embedded in the target’s national culture can provide the basis for sustainable competitive advantage. In other words, ‘cultural synergies’ exist from acquiring a company that is culturally distant from the national culture of acquiring company. However, the fact that Morosini, Shane and Singh (1998) used sales growth to measure merger performance has been contested by Chakrabarti, Jayaraman and Mukherjee (2005), who argue that stock market performance is a better indicator.

Cultural diversity in an organisation as a source of sustained competitive advantage has been supported by researchers in the past. Barney (1986) has argued that provided that culture is valuable, rare and inimitable, it would be a source of sustainable performance for the company embedding the culture. In contrast to the argument presented by Morosini, Shane and Singh (1998) and Barney (1986), Bartlett (1986) argues that from the management perspective there would be difficulty in exploiting the synergies between the managers due to differences in cultural context and would result in the underperformance of the company.

Jemison and Sitkin (1986) have argued that the cultural differences could lead to failure of a merger rather than providing sustainable competitive advantage. Their line of argument is that acquisition process itself provides four different impediments in the success of merger. One of the impediments is the “expectational ambiguity.” These authors argue that although the presence of expectational ambiguity can be beneficial during the pre-acquisition phase, during the integration phase it can be dysfunctional and reduce the chance of successful integration. What they further hypothesize is that presence of cultural differences increases the expectational ambiguity. Discontinuity and fractionation of the acquisition process further strengthen the expectational ambiguity (Jemison and Sitkin, 1986). The argument presented by these authors appears valid on theoretical grounds, however, there seem not to be any empirical findings supporting their hypotheses. Empirical research by Datta and Pua (1995), measuring the performance of cross-border M&A undertaken by U.S. companies between 1978-1990, found a negative correlation between shareholder’s wealth and cultural distance.

Tihanyi, Griffith and Russell (2005) theoretically support the argument of cultural distance as a deterrent to the firm’s performance arguing that high cultural differences lead to the intra-organisational differences, because of the inconsistencies in values of the home and foreign market operations. However, the Meta analysis conducted by Tihnayi, Griffith and Russell (2005) failed to provide support to this argument, as there were no direct relations between the firm’s performance and the cultural distance between the merged firms.

Supporting the third line of argument is the study conducted by Watson, Kumar and Michaelsen (1993), which seeks to capture how the performance of culturally diverse group changes longitudinally. Results showed that the performance of the culturally diverse groups improves overtime and, in fact, in the long run they exhibit slightly better performance as compared to the culturally similar group. While the argument presented by Watson, Kumar and Michaelsen (1993) has strong theoretical support, the methodology of using students as sample for study might be restrictive. Research by Gomez and Palich (1997) demonstrate that firm’s expansion in terms of cultural relatedness or unrelatedness has no impact on the
performance of the firm. Barkema, Bell and Pennings (1996) provide empirical support to cultural difference having insignificant effect in long run by concluding that through acquisitions and joint ventures firm would be able to reduce cultural barriers through learning, i.e. learning the repertoires that are embedded in the culture of the acquired company. In fact Barkema, Bell and Pennings (1996) argue that a company can gain experiential knowledge through expansion in country where it has made previous acquisitions in order to exploit the locational learning that the company has accumulated. Most, if not all, of the literature and research conducted have been viewed using developed countries as a framework. This is not surprising since the Triad has over the years accounted for the majority of the foreign direct investment. However in the recent years the emerging economies have become significant players for the world growth. Wilson and Purshottam (2005) in their article have predicted that with the ongoing trend the BRICs – Brazil, Russia, India, and China – would be larger than the G6 economies within a span of 40 years. Also India has the potential to experience the fastest growth of over 5 percent per annum during the next 30 to 50 years.

In this context study of Indian firms performance in global scenario is quintessential. This paper establishes the effect of the cultural difference on the performance of the Indian companies seeking global growth through cross border M&As. Lack of empirical research in Indian context adds to the confusion of what the null hypothesis should be. The null hypothesis that has been empirically tested in this paper is:

\[ H_0: \text{National Cultural differences have significant impact on the performance of the Indian companies that have undertaken cross border Mergers and Acquisitions.} \]

Owing to the scanty research done in the field of Indian company’s post acquisition performance, this paper does not seek to take a stance on whether the cultural difference will have positive impact or negative impact on the post acquisition performance.

**DATA AND ANALYSIS**

The data originally compiled consisted of study of thirty-one Indian companies that have undergone through mergers and acquisition over the period 2000 through 2003. Two companies had to be dropped since the value of the merger was not available. The data compiled looks into performance of the acquiring company in two years following merger and therefore generating 58 sample points. The reason for considering two years post acquisition because the acquisition gains are reasoned out by Jemison and Sitkin (1986) who argue that two years after acquisition are critical for the overall performance of the company and that the process of assimilation of the firms is usually completed in two years time. Earlier researches conducted have also measured the post acquisition performance of the companies following two years after the acquisition (Morosini, Shane and Singh, 1998).

In the case of India, restricting the analysis to two years is more relevant since the companies went through a series of mergers and acquisitions over the period. Therefore, considering more than two years would make it difficult to segregate the effect of the acquisitions undertaken by the firm. For instance Asian Paints between 2000 and 2002 went through two major acquisitions of Pacific Paints, Australia and of Berger International Limited, Singapore respectively.

From target country perspective, the US accounted for 16 out of 29 M&As while the UK and Australia accounted for 4 each. Other target countries were Belgium, China, Russia, and Singapore.
Dependent Variable

The dependent variable used to measure performance of the firms post acquisition is Return on Capital Employed (ROCE). As a convention, ROCE is defined as profit after tax plus interest divided by the total capital employed in the company (i.e. net worth plus long term debt) as at the end of that year/period (www.equitymaster.com). As suggested by Chakravarti, Jayaraman Mukherjee (2005), stock market performances are better indicators of performance than the financial based performance. This, however, might not be true for a country like India whose stock market is not fully developed vis-à-vis stock market of developed countries and is susceptible to imperfections especially asymmetric information thus making it biased measure.

Various researchers over the years have used different definitions for measuring returns accruing to the firms, both acquired and acquirer. Meeks (1977) in his study used change in Return on Assets (ROA) as a norm to measure the performance of British Companies that went for the merger between 1964 and 1971. A paper by Sharma and Ho (2002) looks into different aspects of financial performance that is Return on Equity (ROE), Return on Assets (ROA), Profit Margin and Earnings per Share (EPS) of Australian firms that underwent merger and makes comparison between pre merger and post merger performance.

After having gained knowledge about the Indian companies that have gone through M&As, financial data was incorporated from reliable websites. Main websites that have been used are www.equitymaster.com, www.indiainfoline.com and http://invest.economictimes.indiatimes.com. In order to assess the reliability, for a random sample of companies the financial data has been cross-checked with the Annual Reports published by the respective companies. While the ROCE has been explicitly stated in the website www.equitymaster.com, for companies whose financial data have been incorporated from other sources, the ROCE has been calculated using the convention as defined above.

Independent Variables

List of Independent variables that are considered in the regression are given in Table 1.

<table>
<thead>
<tr>
<th>Independent variable</th>
<th>Explanation</th>
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<tr>
<td>Cultural Distance</td>
<td>Square root of the summation of squares of difference of Hofstede’s Index between the country of acquired company and India respectively</td>
</tr>
<tr>
<td>Value</td>
<td>Value of the deal in U.S. $ millions</td>
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<tr>
<td>Dummy for Industry type</td>
<td>Six types of industry that have been identified include: Software, Media, Pharmaceutical, Manufacturing, Agriculture &amp; Fertilizer, and Petroleum &amp; Mining</td>
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</tbody>
</table>
**Cultural Distance:** Cultural Distance is the key independent variable which has been derived using the Hofstede’s Index of National Cultural Scores available at website www.geert-hofstede.com. To calculate a single unitary figure to measure the cultural distance between the acquired country and India the formula as defined in the Table 1 is adapted from Morosini, Shane and Singh (1998) whose formula for national cultural difference is given as:

\[
CD_j = \sqrt{\sum_{i=1}^{4} (I_{ij} - I_{ii})^2}
\]

where

- \(CD_j\) = Cultural Difference for the jth country
- \(I_{ij}\) = Hofstede’s score: ith cultural dimension of jth country
- \(I_{ii}\) = Hofstede’s score: ith cultural dimension for India.

There is nothing sacrosanct about the formulation used above, because mathematical transformations of the above formula would bear no deviation from the statistical results obtained.

**Size of the Merger:** Size of the merger and acquisition denotes the value of different acquisitions paid by the acquiring firm. The data has been collected from various articles published in the news. This variable is measured in US $ millions, since the majority of the mergers considered have taken place with the U.S. counterparts. For the mergers and acquisitions that were reported in currencies other than U.S. dollars, the currency was converted into US $ using the database available online at http://fx.sauder.ubc.ca/ from Pacific Exchange Rate Service. In case of lack of knowledge of exact date when merger or acquisition was concluded, monthly average or quarterly average of exchange rate has been used. Alternatively, in case the company has gone through series of payments since the announcement and conclusion of merger or acquisition, the annual average of the exchange rate has been used.

Kusewitt, 1985 showed that size of the merger is not significant in explaining the performance of the merger or acquisition. However, in case of India it is important, if not critical, to analyse the effect of size of merger on performance, since most of the mergers are of sizable amount. Also size of merger could be treated as proxy for ‘due diligence’ performed by the company. Intuitively this implies positive correlation between size of mergers and performance.

**Year of Merger and Acquisition:** Quantifying the year of acquisition was quintessential from macroeconomic perspective since the performance of the country, both absolute and in relation to other countries, and policies adopted by the government during the year have a significant impact on the performance of the firm and therefore on the merger.

Year in which the company has gone through merger or acquisition has been considered as a dummy variable in order to capture the effect of macroeconomic changes on the performance of the companies. This is much in line with the empirical results obtained by other researchers where a significant event at macroeconomic level influences the performance of the company (Chatterjee and Meeks, 1996; Morosini, Shane and Singh, 1998). It would be interesting to analyse the effect of dummy for the year 2001 on firm performance as this was the year of the Internet Bubble burst and the correspondingly poor profit results in the software industry.

**Type of Industry:** The sample considered could be broadly classified into six categories of type of industry, of the acquiring company, namely: Software, Pharmaceuticals, Manufacturing, Agriculture & Fertilizer, Petroleum & Mining, and Media. In order to avoid problem of over specification of the regression model variables Petroleum Sector and Mining Sector have been clubbed together and so have been Agriculture Sector and Fertilizer. This should not pose problem on the regression analysis since both the sectors clubbed together are related.

Over 50 percent of the mergers considered are from the software sector. This is not surprising because India’s Software Sector have enjoyed an
international competitive advantage over the years and the ‘internet bubble burst’ weakened many U.S. companies, the main target country, making them vulnerable takeover targets.

The type of Industry can also influence the way a firm would seek growth, i.e. either organic or inorganic growth. Kogut and Singh (1988) have demonstrated that choice of entry mode for the manufacturing sector and services industry was that of acquisition. Although their study was based on developed countries, type of industry could have profound effect on the performance of the mergers for India as well. For instance pharmaceutical companies could realise synergies by having access to the R&D of acquired company.

Variable for the relatedness of the industry has not been considered because of the companies studied made acquisitions in their related field. Hence, statistically including variable shall not have any significant impact on the results. In fact, by including the variable for the relatedness of the acquisition, the coefficient of the relatedness would be interpreted as constant.

**Descriptive Statistics**

Table 2 gives the descriptive statistics of all variables considered. As has been surmised earlier in this paper, there is positive correlation between size of the deal and the return on capital employed, although the magnitude of the coefficient is small. From the table it can be inferred that year 2002 is positively correlated with the performance of the merged companies. Also the sign of the correlation between the dummy variable for the year and ROCE depicts the impact of year of acquisition on the performance of the merged companies.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>σ</th>
<th>ROCE</th>
<th>CD</th>
<th>Val</th>
<th>d2000</th>
<th>d2001</th>
<th>d2002</th>
<th>D2003</th>
<th>P&amp;M</th>
<th>AGF</th>
<th>SF</th>
<th>Ph</th>
<th>Mnfg</th>
<th>Md</th>
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<tr>
<td>ROCE</td>
<td>15.77</td>
<td>14.01</td>
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<td>CD</td>
<td>56.14</td>
<td>6.26</td>
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<td>-0.17</td>
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<td>Val</td>
<td>92.63</td>
<td>317.67</td>
<td>0.11</td>
<td>-0.22</td>
<td>1.00</td>
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<tr>
<td>d2000</td>
<td>0.37</td>
<td>0.49</td>
<td>-0.28</td>
<td>0.12</td>
<td>-0.06</td>
<td>1.00</td>
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<td>d2001</td>
<td>0.16</td>
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<tr>
<td>d2002</td>
<td>0.27</td>
<td>0.45</td>
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<td>d2003</td>
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<td>-0.23</td>
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<tr>
<td>P&amp;M</td>
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<td>0.25</td>
<td>0.07</td>
<td>-0.11</td>
<td>0.67</td>
<td>-0.21</td>
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<td>0.15</td>
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<tr>
<td>AGF</td>
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<td>0.16</td>
<td>0.11</td>
<td>0.08</td>
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<td>SF</td>
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<td>0.50</td>
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<td>0.10</td>
<td>0.04</td>
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<tr>
<td>Ph</td>
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<td>0.07</td>
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<td>-0.09</td>
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<td>0.32</td>
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<td>-0.09</td>
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<td>Mnfg</td>
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<td>-0.09</td>
<td>0.22</td>
<td>0.14</td>
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<td>-0.17</td>
<td>-0.09</td>
<td>-0.09</td>
<td>-0.38</td>
<td>-0.12</td>
<td>-0.12</td>
<td>1.00</td>
</tr>
</tbody>
</table>

**ROCE** : Return on capital employed  
**CD** : Cultural distance calculated using Hofstede’s Index  
**Val** : Value of the deal (in US$ millions)  
**P&M** : Dummy for petroleum and mining industry  
**AGF** : Dummy for agriculture and fertilizer industry  
**SF** : Dummy for the software industry  
**Ph** : Dummy for pharmaceutical industry  
**Md** : Dummy for media industry
Regression Analysis

In order to test the hypothesis, Ordinary Least Square Regression Analysis has been conducted. The Original Regression Model is of the following form:

\[ ROCE_i = \alpha + \beta_1 CD_i + \beta_2 Val_i + \beta_3 d_{2001} + \beta_4 d_{2002} + \beta_5 AGF + \beta_6 SF + \beta_7 PH + \beta_8 MNFG + \beta_9 MD + \epsilon_i \] (i)

where

- \( ROCE_i \) = Return on Capital Employed for the \( i^{th} \) company
- \( CD_i \) = Cultural Distance between India and the country of the acquired company for the \( i^{th} \) company
- \( d_{2001}, d_{2002}, d_{2003} \) = Dummies for the year 2001, 2002 and 2003 respectively
- \( AGF, SF, PH, MNFG, MD \) = Dummies for Agriculture and Fertilizer Sector, Software Sector, Pharmaceutical Sector, Manufacturing Sector, and Media Sector respectively

After having checked for robustness of the model the regression coefficients estimated are given in the equation (ii). The corresponding t statistic for the regression coefficients is given in Table 3.

\[ ROCE_i = 0.277 + 0.0097(CD_i) + 0.0048(Val_i) - 4.252(d_{2001}) + 16.944(d_{2002}) + 11.673(d_{2003}) + 7.420(AGF) + 9.867(SF) + 2.279(PH) + 14.195(MNFG) + 6.165(MD) \] (ii)

### Table 3: Regression with Robust Standard Errors

<table>
<thead>
<tr>
<th>Independent variable</th>
<th>Coefficient</th>
<th>Standard Error</th>
<th>t-statistic</th>
<th>Number of observations</th>
<th>F (10, 47)</th>
<th>Prob &gt; F</th>
<th>R-squared</th>
<th>Root MSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cultural Distance</td>
<td>0.0097</td>
<td>0.2301954</td>
<td>0.04</td>
<td>58</td>
<td>7.01</td>
<td>0</td>
<td>0.3274</td>
<td>12.673</td>
</tr>
<tr>
<td>Value (in million US$)</td>
<td>0.0048</td>
<td>0.0036408</td>
<td>1.32</td>
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</tr>
<tr>
<td>Dummy 2001</td>
<td>-4.2521</td>
<td>3.120137</td>
<td>-1.36</td>
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<td></td>
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<td></td>
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<tr>
<td>Dummy 2002</td>
<td>16.9435</td>
<td>8.568989</td>
<td>1.98*</td>
<td></td>
<td></td>
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<tr>
<td>Dummy 2003</td>
<td>11.6734</td>
<td>4.106731</td>
<td>2.84*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agriculture &amp; Fertilizer</td>
<td>7.4198</td>
<td>2.994606</td>
<td>2.48*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Software</td>
<td>9.867</td>
<td>4.352176</td>
<td>2.27*</td>
<td></td>
<td></td>
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<tr>
<td>Pharmaceutical</td>
<td>2.2792</td>
<td>4.798293</td>
<td>0.47</td>
<td></td>
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<tr>
<td>Manufacturing</td>
<td>14.1949</td>
<td>5.383788</td>
<td>2.64*</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Media</td>
<td>6.1653</td>
<td>7.179559</td>
<td>0.86</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Constant</td>
<td>0.2772</td>
<td>17.02268</td>
<td>0.02</td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

### Interpreting the Regression Equation

Having checked for the violations of assumptions for Classical Linear Regression Model and for normality of the disturbances it could be inferred that, contrary to the result obtained by Morosini, Shane and Singh (1998), regression coefficient of the Cultural distance is not significant in explaining the performance of the acquiring company. The t-statistic for coefficient of cultural distance is 0.04, which is rejected at 5% level of significance. The only solace that can be derived from these results is that cultural difference has positive impact on the performance of the acquiring company.

Before proceeding further, it might be worth reasoning out why cultural difference is not significant in explaining the performance of the companies.
Limitations of the Hofstede Index and its Implication in Case of Present Study

One of the reasons that can be argued for cultural distance as inadequate to explain the performance of the company indulged in cross border merger is the use of Hofstede Index as measure of Cultural Distance. Hofstede’s Index has been criticized in the past on several accounts. Imperative for the research on Indian cross border mergers and acquisitions, two criticisms of Hofstede’s Index are analyzed.

Extension of Hofstede’s Index: National Culture VS Corporate Culture

Geert Hofstede analyzed a large data base of employee values scores collected by IBM between 1967 and 1973 covering more than 70 countries, from which he first used the 40 largest only and afterwards extended the analysis to 50 countries and 3 regions. In the editions of Geert Hofstede’s work since 2001, scores are listed for 74 countries and regions, partly based on replications and extensions of the IBM study on different international populations (http://www.geert-hofstede.com).

During the 1960s and 1970s, IBM was a transnational company engaged in production of machines to enhance the productivity of the businesses. In this research the majority of the companies studied are from the services sector, i.e. software companies. Extension of the results of the cultural scores from the manufacturing sector to services sector might be imprudent. This addresses the importance of ‘corporate culture’ in addendum to ‘national culture’.

Although Schnieder and Constanance (1987), as cited in Chakravarti Jayaraman and Mukherjee (2005) argued that corporate culture is heavily influenced by the national culture, the possibility of considerable differences in culture cannot be ruled out. The infamous AOL-Time Warner merger buttresses the effect of corporate culture differences on the ‘not so well’ performance of the merger. From the perspective of the research in this paper, it could be said that impinging the result of cultural score obtained from the manufacturing sector to the services sector might not be a pertinent, rather corporate cultural differences should be considered.

However, whether ‘corporate cultural differences’ is more potent than ‘national cultural differences’ in explaining the performance of the merger is another area of research and goes beyond the scope of this paper.

Age of Employees as limitation to Hofstede’s Cultural Index

Another criticism of Hofstede’s Index that is viable from the research purpose is that Hofstede’s Index is outdated (Mead, 1994). It is argued that because of globalization, younger people, in particular, are converging in their set of values. The average age of the employees in software firms in India is from 24 to 30 years.

As compared to middle-aged employees, younger employees do not possess cultural rigidity and perhaps, as argued by Mead (1994), common set of cultures amongst the younger employees makes Hofstede’s Index redundant. This argument is supported by Brendan McSweeney, (2002) who argued that the assumption of Hofstede of “every micro location of a nation is typical of a nation” is flawed. One must take into consideration that the sample size might not be representative of the whole population, and simply extrapolating on the basis of findings obtained from that sample might not reveal accurate results.

On the basis of the argument presented above it could be concluded that Hofstede’s Index of National Scores, and therefore Cultural Distance of countries of acquired companies from India,

1 Conclusion made on the basis of study of IBM’s history retrieved from http://www-03.ibm.com/ibm/history/history/history_intro.html [Accessed on January 7, 2006]

2 As quoted by Nitin Sethi, Head, Talent & Organisation Consulting Analytics, South India, Hewitt Associates in the article Bridging the pay gap, available online at http://www.expresscomputeronline.com/20050228/technologylife01.shtml [January 6, 2005]
might not reveal true cultural difference as the indices are based on a past survey conducted in a single firm that reflected the cultural orientation of a firm engaged in manufacturing activity.

Nevertheless, Hofstede’s Index is most comprehensive work conducted on the National cultures and it is difficult to find an alternate to the Hofstede Index. As considered in the literature review section, a different index might prove to be more inappropriate from India’s perspective owing much to the cultural diversity within India.

Are the Gains (Losses) Accruing from the Merger Correctly Captured?

One of the inherent problems with the analysis is that some of the companies considered went through a series of mergers in the years. For example, NIIT Limited, an Indian Software firm, went through the three mergers with in the calendar year of 2002. ROCE uses the measure is ratio of profit margin to capital margin. With each merger the denominator of the ratio shall increase, therefore causing diminution of the performance calculated for the firm. In this case it becomes difficult to segregate the effect of single merger on the performance of the company. However, as mentioned above, using other measures such as market based measures have their own limitations and if used they would provide biased results.

Other Variables

Considering the impact of other dependent variables on the performance of the acquiring company

Year of Merger: Reverting to Table 3 it could be inferred from the coefficients of the dummy variable for the years, mergers occurring in the year 2002 performed 16.95 percentage points better than mergers in year 2000 and 2001, and 5.3% percentage better than the mergers in year 2003. On the other hand, although insignificant, the negative sign regression coefficient for the year 2001 reveals an interesting trend. The economic performance of the India and US, country where majority of acquisitions were undertaken are highlighted in Table 4.

Table 4: Real Gross Domestic Product of India and U.S.

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>U.S.</td>
<td>4.5</td>
<td>4.2</td>
<td>4.4</td>
<td>3.7</td>
<td>0.8</td>
<td>1.9</td>
<td>3</td>
<td>4.4</td>
<td>3.6</td>
<td>3.6</td>
</tr>
<tr>
<td>India</td>
<td>5.2</td>
<td>5.6</td>
<td>6.9</td>
<td>4.7</td>
<td>4.8</td>
<td>4.4</td>
<td>7.5</td>
<td>7.3</td>
<td>6.7</td>
<td>6.4</td>
</tr>
</tbody>
</table>

Performance of both Indian Economy and U.S. Economy during 2001 and 2002 were dismal, with U.S. in particular experiencing 0.8 percent GDP growth rate in 2001. The year 2003 witnessed a recovery of the U.S. economy and the Indian economy experienced an unprecedented growth. Strong performances of Indian and U.S. economies in the years 2003 and 2004 respectively, seem to have fostered the performance of the Indian companies undertaking acquisitions in the year 2002. On the contrary, the poor performance of U.S. and average performance of India in year 2002 and 2003 curbed the growth of the Indian companies undertaking merger activities in 2001, although the coefficient is not significant. From the analysis it can be concluded that the performance of the Indian companies that have gone for cross-border mergers is contingent upon the performance of the Indian economy.

This result is in stark contrast with the results obtained by Morosini, Shane and Singh (1998), to whom the regression coefficients obtained for the year dummies were insignificant at 5%. This results might be due to the fact that only 17 acquiring companies were of Italian origin. Therefore, it could be speculated that the insignificance of the year of acquisition might have been due to the ability of the foreign companies that acquired Italian firms, to restrict their activities in Italy when facing an adverse macroeconomic situation.

**Type of Industry:** Regression Coefficients for the industries Agriculture & Fertilizer, Software and Manufacturing had significant and positive effect on the post acquisition ROCE of the company. One interesting conclusion that can be derived from the industry perspective is that for manufacturing sector, where the coefficient is not only significant but also large in magnitude. Interpreting the coefficient, a company from the manufacturing sector would experience post acquisition ROCE 14.19% higher than a company that has been from non-manufacturing sector. This implies that mergers and acquisitions are the appropriate entry mode for Indian manufacturing companies seeking growth in foreign markets.

**CONCLUSION AND SCOPE FOR FURTHER RESEARCH**

Findings from this paper lead to a clear conclusion that Cultural Differences, as an explanatory variable of the post acquisition performance, does not significantly impact the performance of Indian companies buying abroad. In fact, the postulated dependence of post acquisition performance of the acquirer company on the cultural distance is almost non-existent. This apparently disconcerting result of the Indian case is not totally surprising and is in line with findings obtained by Gomez-Mejia and Palich (1997). Results obtained by Gomez-Mejia and Palich were invariant to different cultural diversity measures deployed.

One solace from the statistical evidence perspective is that year of acquisition plays a critical role in the performance of the acquiring firm. This clearly demonstrates the effect of macroeconomic factors on the performance of the company. From practical viewpoint this implies that Indian companies intending to expand their geographical coverage through mergers and acquisitions should understand the underlying economic conditions prevailing and should be forward looking. Mergers and acquisitions could provide rapid access to the technology and market to the acquiring company. Merging during economic boom is easier for the company as the rising share prices allow bidders to finance deals without raising extra capital from market. At the same time, firms with an average performance can reap the benefits growing economies (The Economist, 2000). However, during recession, additional burden of financing could pull down the overall performance of the company, especially if size of the merger relative to the company size is large.

A variety of plausible reasons have been accounted for the regression coefficient of cultural distance being insignificant. The ability of the Hofstede Index to correctly measure
cultural diversity is questioned in the analysis section.

Other arguments such as firms undertaking an evolutionary approach to international expansion allowing them to better understand the local culture and norm of the acquired country as put forward by Gomez-Mejia and Palich (1997) seems to be pertinent in case of India. Many of the firms considered in the studies already had business operations in the countries where they acquired. Chambal Fertilizers and Chemicals Limited, an Indian agriculture inputs major, that acquired Australia based Technico in July 2003, already had a 50:50 joint venture with the company prior to its acquisition (Sukumar, 2002).

Similarly, other companies in the study had already assimilated the national culture of the acquiring company by either having a previous corporate relationship with the company or having an establishment in the country. As has been put forward by Vijay Thadani of NIIT Limited, an Indian IT company, their years of work experience with IBM would propel assimilation with AD Solutions, a German based IT Service Company that was subsidiary of IBM in 2000 (www.helplinelaw.com). AD Solutions was acquired by NIIT Limited in November 2002. This research corroborates previous studies arguing that pre-existence of the company or having previous work experience in the country of acquisition reduces the negative impact of cultural distance.

Another line of argument that can be put forward is the global presence of the company. Companies that have gone through a series of international mergers and acquisitions tend to attain experiential learning and follow a path of integration where adverse impact of cultural difference can be offset. This argument is parallel to GE Capital’s Wheel of Fortune where the company through the knowledge gained from the previous acquisitions follows routine based steps in order to assimilate the company into the parent company (Ashkenas, DeMonaco, and Francis, 1998).

In the year 2002, NIIT Limited made four acquisitions with three in U.S. alone. In the same year, NIIT’s European operations span the UK, Netherlands, Belgium, Sweden, Austria, Switzerland, and Germany (www.helplinelaw.com). Surely the company would have gained awareness of way of doing things that are atypical to national culture.

Post-acquisition process followed by the company should also be researched to see the consequences of cultural diversity on the firm’s performance. That is how the acquirer brings in its corporate culture into the acquired company. Morosini (1998) postulates that the execution mode followed by the acquirer underscores the influence cultural distance exhibits on the performance of the acquirer. Three different execution modes that a company could follow in the post acquisition phase are ‘integration’, ‘restructuring’ and ‘independence’. While in the first two cases there is interference by the acquiring company in the management of acquired company, hence calling for issues related to cultural diversity, in the case of independence the acquired company operates at an arm’s length from the parent company. It could, therefore, be postulated that a firm could negate the impact of cultural diversity by adopting eventual changes, whereby it allows the acquired firm to operate autonomously initially and later restructures or integrates the operations.

Under the assumption that National Cultural Score is a true indicator of corporate culture, Uncertainty Avoidance Index (UAI) could be used as a proxy for the type of strategy adopted by the company. From India’s perspective the UAI is 40. The mean UAI for the countries compiled by Geert Hofstede is 65.4 with standard deviation of 24.13. Thus on the scale of UAI, India lies outside the $\overline{\text{UAI}} - \sigma_{\text{UAI}}$, which gives an indication that Indian companies are not averse to unplanned situations and are, therefore, willing to provide ‘independence’ to acquired firms rather than imposing radical changes through ‘restructuring’.
While the argument on the execution mode of Indian firms is merely speculative, further studies in the area of post acquisition strategy of Indian Companies and factors that influence the choice of post acquisition strategy adopted by the Indian company would be beneficial.

The above reasons presented in the paper are mere speculations that are made on the basis of the various articles and financial data published in recent years. There is ample scope for conducting further research in the area of the Mergers and Acquisitions in the emerging market economies such as India. Due to various constraints, this paper is merely able to scratch the surface, hence leaving scope for further research.

First of all, the data collected is dominated by software firms seeking growth in recent years. This is not surprising since Indian IT firms have competitive advantage over their counterparts in other parts of the world.

Secondly, this paper tells only one side of the story where effect of cultural differences on Indian Companies going abroad is looked into. This study is only gauging performance of the Indian companies that have acquired foreign companies. The reverse flow of foreign companies that have acquired Indian companies would open interesting research opportunities.

Finally, it can be asserted that understanding the effect of national culture on corporate culture is another important area for further research. For India, which in itself is a model of unity in diversity, assigning dimensions for the whole country is too restrictive. Also corporate culture may not embed the national culture and presumably reflect culture of only a subset of people, i.e. the working class in the urban areas.

Concluding on a positive note it could be said that performance of the Indian firms seeking expansion in the foreign terrain is not hampered due to diversity in the culture.

REFERENCES


