Process model of integration in cross-border mergers and acquisitions

Abstract

Despite the increasing frequency of cross-border mergers and acquisitions, it is accepted that the rate of success in the post-merger phase remains poor; the main reason for this is widely accepted to be the unsuccessful cultural integration of the two firms involved. Driven by limited time to obtain results, managers from the headquarters (of the acquiring firm) seek to change the culture of the subsidiary (of the acquired firm); the imperatives of a 'strong culture' lead them to persevere with the same narrow strategies and objectives. Though organizational culture has been widely studied in the M&A literature, there has been insufficient attention to important dynamic aspects of the process of integration. This paper, with the help of appropriate concepts of culture dynamics from anthropologists, formulates a description of the integration process. Subsequently, by simulating a mathematical model of this process (which explores the impact of two exogenous variables that characterize the context) we bring out the role of endogenous dynamics in determining the success of typical narrow strategies. Specifically, we explain how the nature and strength of the constituent feedback loops shape the non-uniform evolution of relevant constructs in the integration process. We conclude with implications for managers and researchers.

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Introduction

The increasing globalization of business has increased the opportunities and pressures to engage in cross-border M&As (Hitt, 2000). Cross-border M&As represent an important alternative for expansion. They have received immense interest as a strategic vehicle for achieving corporate objectives and enhancing organizational performance. Yet evidence suggests that they are not so successful.

Twenty years ago Michael Porter (1987) argued that most cross-border ventures were bound to fail. Ten years later, a study by KPMG found that only 17% of cross-border acquisitions created shareholder value, while 53% destroyed it (Economist, 1999). While a few are in favor of cross-border M&As, the majority tell of a darker social side to working for foreign-owned firms and report strong resistance by host country staff in international ventures (Thiederman, 2003).

Cultural differences in organizational and national cultures have been blamed for this high failure rate (Buono and Bowditch, 1989; Buono, Bowditch and Lewis, 1985; Cartwright and Cooper, 1992, 1993; Chatterjee et al., 1992; Datta, 1991; Morosini, 1998; Morosini and Singh, 1994; Sales and Mirvis, 1984; Weber 1996). Empirical evidence shows that as cultural distance increases, the level of embeddedness and integration between host companies and affiliates decreases (Hakanson and Nobel, 2001), the degree of personal attachment in international joint ventures decreases (Luo, 2001a), as does the frequency of expressive ties in organizational networks (Manev and Stevenson, 2001). Despite empirical evidence these cultural differences usually go unidentified through the M&A process, resulting in the newly acquired companies failing to reach their most efficient state (Gertsen, et al., 1998; Morosini et al., 1998).

A deeper assessment of the culture-performance relationship in cross-border M&As has proven difficult for several reasons, leaving scope for improvement. First, given the implicit nature of organizational and national culture differences, they seem to go unidentified throughout the M&A process. Second, these key constructs have been operationalized and measured differently from one study to the next limits the possibility of drawing conclusions based on conducted research. Third, the process aspects of the M&A integration remain under-researched. Some of these aspects – e.g. resistance and pressure to conform, etc. – discourage / diminish access to researchers wanting to do ethnographic studies, at the very time these aspects can be studied (Teerikangas and Very, 2006). . Therefore, researchers should explore alternative methods for understanding the impact of these kinds of constructs. Lacking a holistic view of the relevant process, managers repeat strategies with low success rates, as they may not be aware of the actual consequences or of the contingencies where they may be successful. Without accounting for the dynamic nature of the integration process in M&As, we cannot fully understand the relationship between culture and M&A performance (Teerikangas and Very, 2006).

The aim of this paper is to explore the dynamics of the integration process in M&As . We address the research question: What is the process of acculturation and its associated dynamics when managers follow the integration strategy of absorption? We develop a process-based model of integration and simulate this model to help explain why conventional strategies may fail.

In the ensuing sections we proceed as follows: we provide an overview of the literature on cross border M&As and national and organizational culture. This section ends with a definition of the research gap we intend to fill. We follow it with a description of the acculturation process in M&As. Subsequently, we describe the methodology of our research and describe specific details of the model that is based on the process description before moving on to show the results of some experiments with the model. The subsequent sections describe and discuss our findings and ultimately provide conclusions and implications.

Literature Review

National culture and cross-border M&As

Managing cross-border M&As means handling both national and organization culture differences at the same time. The national cultural context in which firms operate has a significant effect on cross-border M&As. National culture has been described as the subjective perception of the human-made part of the environment. This includes the categorization of social stimuli, associations, beliefs, attitudes, roles, and values that individuals share (Triandis, 1972). A complimentary view is that of Hofstede (1980) who suggests that culture consists of shared mental programs that control individuals' response to their environment.

In the last two decades cross-cultural theory has developed strength in comparing nations and measuring cultural distance between countries. The most frequently encountered study that provides this sort of information is Hofstede's analysis (2001) of more than sixty nations and regions. Trompenaars and Hampden-Turner (1998) developed a taxonomy of cultural values that has been used extensively in management consulting and training. Among others, important research groups employ the eminent concepts as developed by Sagiv and Schwartz (Schwartz Value Survey, Sagiv and Schwartz, 2007; Schwartz, 2006) or Inglehart (World Values Survey, Inglehart et al., 1998; Inglehart, 2004). The most recent cultural values project is Project GLOBE (House et al., 2004) that is based on a value survey of over sixty nations and identifies nine societal values.

Obviously, cross-cultural theory has developed strength in comparing nations, but little attention has been paid to *cross-cultural interactions* or *interfaces* as the unit of analysis (Adler and Graham, 1989; Au, 1999). Much work remains to be done in order to develop relevant theories to explain the underlying dynamics of cultural value-outcome linkages. Examining the interaction effects of cultural values is incredibly rare (Kirkman et al., 2005). Yet these cross-cultural interactions pose the major challenges for post-merger integration. Empirical evidence shows that national cultural differences in M&A produce increased stress, negative attitudes toward the merger, less cooperation, lower commitment, and executives with negative experiences quitting their jobs (Krug & Hegarty, 2001; Very et al, 1996; Weber, Shenkar, & Raveh, 1996).

The challenges of integration are affected by the different cultural values and norms of behavior of the actors involved in this process and the differences between the two firms. Organizations are embedded in national and societal cultures that influence organizational understanding. As a consequence, differences in organizational cultures may stem in part from national differences (Cooper et al., 2001). Values play a crucial role in the way social institutions function (Sagiv and Schwartz, 2007). The surrounding societal culture is an important external influence on organizational culture (Dickson et al., 2000) since organizations must gain and maintain a minimum level of approval from society in order to function effectively (Sagiv and Schwartz, 2007). Thus, national culture (DiMaggio and Powell, 1983; Scott and Meyer, 1994) must be considered along with organizational culture if we want to understand the relation of an organization's culture to organizational functioning (England, 1983).

Research history of organizational culture and its implications for M&As

The concept of corporate culture has received much attention in the academic literature since the early 1980s (Martin, 1982, 1992; Deal and Kennedy, 1982; Schein, 1985; Harris and Sutton, 1986; Hofstede et al., 1990; Kotter and Heskett, 1992 etc.).

Despite this growing number of articles on organizational culture, there is still no generally agreed definition of the concept itself. Organizational culture has been defined as *"a set of norms and values that are widely shared and strongly held throughout the organization"* (O'Reilly and Chatman, 1996: 166). Values define what is important and norms define appropriate attitudes and behaviors for organizational members. Similar definitions were used by Rousseau (1990), Kotter and Heskett (1992), Gordon and DiTomaso (1992). Schein (1985) described the phenomenon as *'the pattern of basic assumptions that a given group has invented, discovered or developed in learning to cope with its problems of external adaptation and internal integration.'* Hofstede et al. (1990) found considerable differences in practices among people holding similar values in the same organization and concluded that corporate culture involves the subsequent acquisition of organizational practices.

The interest in organizational culture was mainly driven by the argument that strong cultures predicted corporate achievement (Hofstede et al., 1990), a hypothesis based on the idea that organisations benefit from having highly motivated employees dedicated to common goals (e.g., Peters and Waterman, 1982; Deal and Kennedy, 1982; Kotter and Heskett, 1992). This claim was founded on the perceived role that culture can play in generating sustainable competitive advantage (Scholz, 1987). Moreover, it has been argued that the 'uniqueness quality' of organisational culture could make it a potentially powerful source of generating advantage over competitors (Ogbonna and Harris, 2000). Researchers were advised to exploit the multiple advantages which could be offered by culture rather than focusing on the more tangible side of the organization (Johnson, 1992; Prahalad and Bettis, 1986).

A wide stream of literature has also examined the relationship between culture strength and performance and has focused on the consequences of strong cultures (e.g., Peters and Waterman, 1982; Deal and Kennedy, 1982; Kotter and Heskett, 1992). Quantitative analysis has shown that firms with strong cultures outperform firms with weak cultures by facilitating coordination and control, emphasising common goals, and increasing employees' efforts (Kotter and Heskett, 1992; Gordon and DiTomaso, 1992). Employees' clarity about organizational objectives, facilitated by a strong culture, enhances its ability to execute its strategy (Tushman and O'Reilly, 1997). It has also been argued that widely shared and strongly held values enable management to predict employee reactions, minimizing the scope of undesired consequences (Ogbonna, 1993).

Since culture is a complex phenomenon ranging from underlying beliefs and assumptions to visible practices, skepticism exists as to whether this hypothesis applies in the context of cross-border M&As. Research has focused on the importance of cultural fit (Cartwright and Cooper, 1992, 1993; Chatterjee et al., 1992; Larsson and Finkelstein, 1999) and have highlighted the human aspects of differences in organizational cultures (Buono et al., 1985; Marks, 1982; Sales and Mirvis, 1984). Cultural incompatibility has been seen as one possible explanation for the high failure rate of company M&As (Cartwright and Cooper, 1993). Cartwright and Cooper (1993) observed that the cost of 'culture collision' resulting from poor integration made culture fit of equal, if not greater, importance than 'strategic fit'. The cultural clash between two merging companies usually resulted in lower commitment and cooperation (Buono et al., 1985; Sales and Mirvis, 1984), greater turnover among acquired executives (Lubatnik et al., 1999), and a decline in shareholder value at the buying firm (Chatterjee et al., 1992). Moreover, research has shown that the stronger the culture of the acquired company, the less the acquired company will wish to change it (Buono and Bowditch, 1989), or the less effective the integration process will be (Catwright and Cooper, 1993), resulting in increased resistance. While a strong culture can be a positive asset for a company creating the sense of unity and purpose among the members of the company, in the context of acquisitions, it lacks the needed flexibility and ability to adapt to a new environment (Nahavandi and Malekzadeh, 1993).

Recently, Sorensen (2002) reanalyzed the Kotter and Heskett (1992) data and found that organizations with strong cultures performed more consistently over time only when industry volatility was low. Organizational learning may explain this effect. Strong-culture organizations may be ill-suited to exploratory learning and they have greater difficulty recognizing the need for change. By failing to engage in exploration learning, or to discover alternative routines, technologies, and purposes the reliability benefits of strong cultures disappear in volatile environments (Sorensen, 2002). This can be a disadvantage in the context of cross-border M&As too. For example in symbiotic deals, change is induced to both organizations. The aim is to create shared structures and management systems from the best practices of both organizations (Haspeslagh and Jemison, 1991). If the organizations are ill-suited to exploratory learning, the knowledge creation will not take place and as a consequence the transfer of best practices will fail.

Given the importance ascribed to organizational culture in M&As, it is striking how little empirical evidence exists about the determinants of integration strategies and the potential (aggregated) individual-level outcomes – e.g. resistance from the fallout of poorly managed cross-cultural integration (Brannen and Peterson, 2008; Larsson and Lubatkin, 2001).

Acculturation in cross-border M&As and the dynamics in culture change

The importance of the potential for conflict based on culture and the resulting importance of individual-level outcomes of such strategic activity also depend on the degree of integration required (Nahavandi and Malekzadeh, 1988). The greater the integration, the more intense is the monitoring necessary to implement it successfully and, therefore, greater the importance of cultural differences (Shimizu et al., 2004). The integration strategy determines this amount of interactions between the employees and influences the level of culture clash (Cartwright and Cooper, 1992).

One of the first models focusing on the process of adaptation and acculturation in M&As was presented by Nahavandi and Malekzadeh (1988). The authors proposed that the degree of congruence between the acquirer and the acquired organizations' preferred modes of integration will affect the level of acculturative stress. They adapted Berry's (1983, 1984) model of acculturation that defines four modes in which two groups adapt to each other and resolve emergent conflict: integration (structural assimilation but little cultural and behavioral assimilation), assimilation (one group adopts the culture and identity of the other), separation (preservation of one's culture and identity) and deculturation (losing cultural and psychological contact). Haspeslagh and Jemison (1991) introduced three integration strategies and described the nature of cultural change in M&As as preservation, absorption or symbiosis. Absorption is similar to Berry's mode of assimilation and refers to the full merger of the acquired firm into the buying firm's organization. Preservation is comparable with separation and describes the process where the acquired firm retains its autonomy. In a symbiotic deal change is induced to both organizations as best practices of both organizations are subject to change and hybridization. In this case both companies the acquirer and the acquired firm have the potential to improve their existing practices by means of exploration and sharing of tacit and explicit knowledge.

Past research in the M&A literature has often considered the cultural differences as 'static forces' throughout the integration process. The role of socio-cultural factors and the processes involved in merging two organizations as cultural entities have often been neglected. Yet, a view failing to account for the dynamic nature of the integration process prevents us from fully understanding the relationship between culture and M&A performance (Teerikangas and Very, 2006) because integration is mediated by the dynamics in acquirer's and acquiring firm's organizational culture.

Dynamics of culture in the anthropology literature

Since the 1980s, when organizational culture came into its own, the dynamic properties of culture have been studied only by a handful of researchers (Van Maanen and Schein, 1979; Schein 1985; Gagliardi, 1986; Hatch, 1993; Czarniawska and Sevon, 1996; Brannen, 1998). For most scholars, organizational culture remains a stable and resistant force that is not likely to change and this resistance to change is assumed to be rooted in cultural stability (Hatch, 2004). However, the key to unlocking the dynamics of organizational culture is to understand that culture is changing only in parts (Weber, 1968). Other parts remain stable. Consequently, there is a need to theorize cultural change in relation to stability.

Cultural contact and change are not a simple fusion or mixing together of two cultures. Instead of integration Malinowski (1945:26), one of the leading figures in research on diffusion processes, proposed a dynamic of complex modification in which the two cultures influence each other and create *"the phenomenon of autonomous change resulting from the reaction between two cultures."* The result of this change process are *"new cultural realities"* that must be understood as processes and not by direct reference to either parent culture (Malinowski, 1945: 80). Following Malinowski, Hatch (2004) argued that it is not culture per se that should be held accountable for resistance, but rather acts of domination inscribed within cross-cultural relationships.

In the context of cross-border M&As companies often encounter resistance and resentment when they try to impose their best ways on other cultures. Exported overseas, a unified culture, that permits a standardized response that minimizes complexity, can often mean an imposed culture that conveys an aura of corporate colonialism (Begley and Boyd, 2003). After observing Americans abroad for decades, Edward and Mildred Hall (2003), concluded: *"Overseas Americans feel confident that their ways are the best ways and often demonstrate messianic zeal about imposing them on other cultures and then fail to understand why they encounter resistance and resentment."* They showed that in combination with ethnocentrism, resulting ethnocentric corporate cultures often stir local resistance.

The resistance described by Malinowski (1945) is parallel to Weber's discussion of routinization or subcultures. To explain routinization Weber (1968) proposed the processes of systematization and accommodation. Systematization applies to aspirations of appropriate behavior while accommodation applies to actual change in aggregate behavior.

Building on Schein's (1985) basic model of culture as assumptions, values and artifacts, Gagliardi (1986) explored the relationship between culture and strategy. He suggested that different strategic moves have different effects on organizational cultures and presented three possible outcomes: apparent change, incremental change and revolutionary change. Apparent change happens when strategies align with existing organizational values. Change is produced at the level of artifacts without changing organizational culture in any fundamental way. Incremental change is the only strategy that reaches the deep level of values and assumptions. In revolutionary change, a strategy incompatible with some key assumptions and values, is imposed upon the organization. Consequently, culture is either replaced or destroyed. This can occur when a company is acquired and the strategies of the acquirer are in conflict with assumptions and values of the acquiring company. What is happening is that the existing culture is destroyed and then displaced with another.

Gap in literature and general criticism

The culture change process unfolding during the integration phase of M&A has often been neglected in the study of cross-border M&As. By focusing on only two variables, namely cultural differences and performance, the dynamic nature of the M&A process has often been overlooked (Teerikangas and Very, 2006). Instead of seeking to prove the existence of the culture-performance relationship and its direction, we suggest that it would be more insightful to explore this complexity in itself and develop a process-based model of integration that explains why conventional strategies often fail.

Emphasis on integration of cultures has led academics to look into different aspects of integration and its influence on performance. However, most have looked into isolated parts of the whole picture – e.g. resistance, cultural clash. Recommendations for managers from academic literature are in terms of outcomes and aggregate behaviors – e.g. acceptance, measuring cultural fit, etc. even though integration is primarily a process. Consequently, the managerial approach to managing cultural integration is very narrow resulting in undesired outcomes like cultural clashes (Buono et al., 1985; Nahavandi and Malekzadeh, 1988), communication difficulties (Schweiger and DeNisi, 1991), conflict (Blake and Mouton, 1985) and cross-cultural work alienation (Brannen and Peterson, 2008).

Despite the lack of progress in improving cultural integration, only few studies have looked into the drivers of the process of integration – e.g. Very and Schweiger (2001) looked into problems related to the different stages of an acquisition as well as obstacles typical for the entire acquisition process while Haspeslagh and Jemison (1991) focused on integration barriers. Such research has been summarized by (Teerikangas and Very, 2006), and it lacks a process-based understanding. We believe that a lack of appreciation of the endogenous dynamics associated with the hitherto simple managerial strategies attempting integration is one of the main reasons for their persistent failure.

Though culture has been examined in great detail in the anthropological literature, management scholars have not used the insights and findings generated. In our opinion, creating a process description will help readers get: 1) a knowledge of the process as a whole and its relevant associated dynamics 2) bring to attention various aspects that have a significant impact on the process, but whose dynamics have not been studied – e.g. resistance & cultural clash 3) an understanding of why traditional attempts to integrate have largely met with failure and 4) get an idea of what alternate strategies could be used for success. Ultimately, this should lead to better strategies being adopted by managers for cultural change, once they understand how those constructs that have been conceptualized as static are actually intimately associated with dynamic processes.

In this paper we will look at one particular aspect of cultural change (apparent change) and develop a description of the processes associated with this type of change. It will explain the role of resistance and show why and how another kind of cultural change – i.e. revolutionary change

– is associated with attempted apparent change. To let readers further appreciate 3) and 4) above, we will build a simplified cause-and-effect based model using this process description and simulate some policy experiments with it.

Process Description

Let us consider a situation where, subsequent to a merger / acquisition, an expatriate manager is sent from the headquarters of the multinational firm to the new subsidiary to manage it. When such an expatriate manager observes a difference between an existing norm at the subsidiary and a norm existing at the headquarters for a similar purpose, it might rightly be noted as a difference arising from the diversity of values in the national and organizational cultures of the two organizations.

Under the assumptions of the literature on 'strong cultures', managers are encouraged to ensure that values are shared throughout the organization in an uniform manner (Peters and Waterman, 1982; Deal and Kennedy, 1982; Kotter and Heskett, 1992). Noting such a difference in norms (which are based upon values), the manager would try to ideally change these inherent values upon which this norm at the acquired firm is based, but values being highly intangible and difficult to manipulate directly, the alternative pursued is to change the existing norm and make it identical to the one he/she is used to – i.e. the norm prevalent in the headquarters (Begley and Boyd, 2003; Fink and Holden, 2005).

Given the limited time-frame under which expatriate managers are to make the merger / acquisition a success, they will apply some form of pressure on the employees to meet their objectives. The larger the gap between the norm observed at the subsidiary and the norm prevailing at the headquarters, greater would be the pressure exerted on the employees (or groups of employees) to conform to the desired norm (Larsson and Lubatkin, 2001). Usually this pressure may be transmitted through newly-fashioned incentives – the idea is that the incentives would change existing behavior, resulting in modifying the existing norm to become much closer to the desired norm, if not exactly equal to it. Consequently, the expatriate expects that as the existing norm changes in the desired direction, he can ease up on the pressure to conform. This is a strategy in keeping with 'apparent cultural change' (Gagliardi, 1986).

However, as observed empirically, this may rarely be a success. It is quite possible that there is little change in the behavior or in the existing norm. The reason for this is that the observed behavior (which results in the existing norm) is actually driven by (a set of) aspired norms. If the employees (or groups of employees) see little difference between their aspired norm and their existing norm, the presence of incentives will bring about little change in their behavior. Thus, the process of accommodation (Weber, 1968) will not take place to the desired degree. The expatriate manager would observe that the gap has diminished little, and may result in a situation where the pressure to conform is now applied as enforcement.

Applying enforcement in such situations becomes an attempt in domination (also described as selective giving by Malinowski, 1945) in a de-facto attempt to advance revolutionary cultural change (Gagliardi, 1986). In practice, it may involve the removal of autonomy (Hambrick & Cannella, 1993) from a significant share of employees in the subsidiary. A typical consequence of subjecting persons to such loss of autonomy is that they feel that their identity has been challenged or demeaned, and this prompts some senior managers from the acquired subsidiary to quit (Krug and Hegarty, 2001). Another typical reaction is that among the remaining employees, resistance builds up to the attempted change (Haspeslagh and Jemison, 1991). Once resistance has built up, it takes a long time to go away, particularly if the same employees remain in the organization (Fink and Holden, 2005).

We point out that the build-up of resistance to the desired change is not an automatic consequence when a strategy of domination is being followed. Resistance would arise as a reaction to autonomy removal only if the employees in the acquired subsidiary feel that they are being asked to change away from their existing norms with which they identify and see as legitimate. Further, this resistance prevents the process of systematization (Weber, 1968) – the process by which the aspired norm can change towards what is desired. As long as there is no systematization, it is unrealistic to expect any meaningful change, even at the superficial level of 'apparent cultural change'.

If the acquired organization's norms are not perceived as legitimate at the time of enforcement, then resistance would not develop (Nahavandi and Malekzadeh, 1988). If this resistance is absent, the systematization process can proceed to its logical end. Weber (1968) believes that all cultural change is a combination of stability and adaptation. This is manifested in the delay between the change in the aspired norm and the subsequent change in the existing norm. During the process of systematization – e.g. change in aspired norm, we may not see the process of accommodation unfolding – e.g. change in existing norms. However, after systematization has proceeded to a certain extent, we should see accommodation unfolding where the existing norms would then get altered.

The above process description has been represented in Figure 1

<< Insert Figure 1 about here>>

Model Specification for the Purpose of Simulation

The above process description uses constructs that are very abstract. In statistics-based empirical work they are not measured directly; rather there is a subjective link between such constructs and the scales used to estimate the variation in the abstract constructs. However, the purpose of our process description is to point out the relevant cause-and-effect relationships among specific constructs that are already present in the literature, which can explain the phenomenon of interest. If we want to get a more precise idea of how the system behaves over time, then we will need to express these relationships quantitatively and simulate it.

As a method, simulation is prominent in influential research efforts (e.g. March, 1991) and is increasingly used for theory development in strategy and organizational behavior research (Davis, Eisenhardt & Bingham, 2007; Hodgkinson et al, 2002). It facilitates creative experimentation to produce new theory and to demonstrate functioning mechanisms and is therefore particularly suited to investigating non-linear and process phenomena that unfold over time. To reproduce and understand complex behavior produced by various components working together over time, it is necessary to *simulate the evolving behavior of inter-related variables* (Sastry, 1997) – a feature that is common to all simulations. Hence, simulation involves the mathematical specification of how each construct is affected by other constructs over time (model specification) and then calculating the values taken on by the constructs as time passes, for a given set of initial conditions (simulation).

Our chosen simulation approach is based on systems dynamics which is underpinned by cause-and-effect logic and permits an analytically precise specification of the inherent logic and assumptions of theories and mechanisms (Crossland & Smith, 2002; Davis et al, 2007; Gary, 2005). Analyzing outcomes on the basis of cause-and-effect mechanisms promotes a better understanding of how theories combine and unfold to explain non-intuitive behavior. A key distinguishing characteristic of system dynamics is the use of time as a continuous entity – implying that the mathematical specification of at least some of the constructs would be in terms of continuous differential equations (i.e. state variables). As all constructs in a cause-and-effect chain can not change instantaneously, system dynamics requires the modeler to decide which of the constructs in a given cause-and-effect chain have significantly more of their own inertia. These are called state variables or stocks; since they act as reservoirs their properties of accumulation implies that they can be affected only through flows going in or out of them. In contrast to these stock constructs, other constructs will fluctuate much more rapidly. This orientation has significant conceptual and empirical support in the strategy literature (Penrose, 1959; Dierickx and Cool, 1989; Mahoney and Pandian, 1992). Therefore, we use this lens of accumulation to study endogenous dynamics.

System dynamics allows a rich, history-friendly, non-equilibrium approach (Foster, 1998; Mathews, 2002). We create a model which brings in empirical data from actual outcomes, rather than a pure analytical model. The parameters used are realistic values; they trace the impact of actual managerial decisions and approximate the strength of actual feedback effects. Through feedback and differential accumulation we examine endogenous dynamic aspects of cultural change. The next few paragraphs describe how we have quantified the relationships relevant to the various constructs in the process description.

In mathematically specifying the abstract constructs, we adopt the strategy of Sastry (1997). We designate arbitrary minimum and maximum limits – e.g. 0, 1, etc. – for some of the constructs. This helps us to focus on the dynamics of these constructs rather than their absolute values. The diagram of the model has been represented in Figure 2

<< Insert Figure 2 about here>>

The norm desired by expatriate management is modeled as a constant (*Desired Norm*). On the other hand, the observed norm existing among the employees of the acquired subsidiary (*Existing Norm*) is designated as a stock. The perceived difference between *Desired Norm* and the prevailing level of *Existing Norm* is the gap that exists between the norms (*Gap in Norm*s). This determines, after some delay, the pressure generated (*Pressure to conform*) by expatriate management. The expectation is that this pressure, through the flow called *Change in Behavior*, will accumulate in *Existing Norm* towards the direction of *Desired Norm*. If these were the only relevant dynamics in this kind of apparent culture change, then we would see the dynamics of a simple negative feedback loop - similar to that of a thermostat.

However, as seen in the description of the process in the previous section, *Pressure to conform* is manifested as *Degree of Enforcement*. This relationship, according to our model, is S-shaped: at low values of *Pressure to conform* there is little enforcement and remains almost unchanged with small increases in *Pressure to conform* but at high values, there is a much greater enforcement, close to its practical limit. The S-shaped relationship is quantified in Graph 1.

Typically, enforcement is experienced by the employees of the acquired subsidiary through *Autonomy Removal*. In our model, *Autonomy Removal* is affected more severely, higher the *Degree of Enforcement*; hence we specify it as proportional to the square of *Degree of Enforcement*. *Autonomy Removal* builds up the stock called *Resistance* through the flow *Change in Resistance*. However, *Change in Resistance* is also dependent on *Legitimacy of Existing Norm*, apart from *Autonomy Removal*. *Legitimacy of Existing Norm* is modeled as an exogenous constant, just like *Desired Norm*. We assert that resistance builds up much faster for higher level of legitimacy compared to lower levels; hence *Change in Resistance* is specified as proportional to the square of *Legitimacy of Existing Norm*.

The stock '*Resistance'* not only takes time to build up through *Change in Resistance*, but also dissipates over time through the flow '*Res Diss'*. The level of *Resistance*, along with '*Degree of Enforcement'*, influences and attempts to change the stock '*Aspired Norm'* through the flow called *Change in Ideals*. Specifically, *Change in Ideals* is the difference in *Degree of Enforcement* and *Resistance*. However, *Change in Ideals* stops affecting *Aspired Norm* when it is the same value as *Desired Norm*, because logically, *Aspired Norm* should not go beyond the *Desired Norm*. The difference between *Aspired Norm* and *Existing Norm* (called *Gap from Ideal Norm*), acts as a countervailing force when *Pressure to conform* tries to change *Existing Norm* in a direction away from *Aspired Norm*; in such circumstances, the magnitude of the countervailing effect becomes stronger as the absolute value of *Gap from Ideal Norm* increases. This non-linear effect is detailed in Graph 2: it makes *Change in Behavior* ineffective if *Gap from Ideal Norm* exceeds a certain magnitude.

The mathematical equations describing the quantitative relationships among the above variables can be found in Appendix 1. The quantitative assumptions that we have made in creating this model – viz. The speed at which the dissipation of resistance takes place, Graph1, Graph2, the relationship between *Autonomy Removal* and *Degree of Enforcement* as well as between *Change in Resistance* and *Legitimacy of Existing Norm*, etc. are in concordance with the experience of one of the co-authors who has done about 14 multiple case-study analyses in cultural change.

Simulation Experiments and Analysis of Results

Inspection of the model diagram shows that most variables are endogenous: they are defined as mathematical equations. After defining the initial values of the stocks, the two important exogenous variables are *Desired Norm* and *Legitimacy of Existing Norm*. Instead of choosing arbitrary values for these variables, we decided to explore the practical range of each of these variables and their impact on *Existing Norm*. Thus, the issues at stake here are: a) what is the magnitude of change in *Existing Norm* that can be achieved by varying the two (*Desired Norm*, *Legitimacy of Existing Norm*)? b) Which combinations of these two are most favorable to management?

To initiate the simulation runs, we need to specify the initial values of the three stocks: *Aspired Norm* and *Resistance* are both 0 while *Existing Norm* is a little removed from *Aspired Norm*, at

0.1 – for all the simulations. In the simulations, Desired Norm will vary from 0.5 to 1 in steps of 0.05 (11 different values) while *Legitimacy of Existing Norm* will vary from 0.3 to 1 in steps on 0.1 (8 different values) – in effect we carry out at least 88 simulation runs. Each simulation is run for a period of 100 months. The results are shown in Figure 3.

The figure leads to the following conclusions: for low values of gap (up to 0.4), management is likely to achieve its change target whatever be the legitimacy. Similarly, for low values of legitimacy (up to 0.3), management will be successful in attaining whatever change they seek to impose. When management is aiming for a big change (greater than 0.65), the achieved change collapses rapidly even with moderate increases in legitimacy. For moderate values (from 0.45 to 0.65), there is a transition zone where the success achieved varies inversely with the legitimacy. This leads to the general rule for moderate targets: higher the legitimacy, the more difficult it would be to achieve large changes in the existing norms.

Let us analyze why this is so. Note that there are three feedback loops in the model diagram (Figure 2) – the 'Intended Change' and the 'Ideals Change' loops are negative-feedback or balancing loops while the outermost is a positive-feedback or reinforcing loop. While balancing loops tend to facilitate gradual change towards a desired equilibrium, reinforcing loops tend to reinforce existing inertia, which can diminish the intended change of balancing loops and makes their control difficult. The attempt to change *Existing Norm* through *Pressure to conform* can be seen as the basic and intended dynamic hypothesis of expatriate management, as it involves only the 'Intended Change' loop of Figure 2 (a balancing loop).

However, in the previous section, we have seen that the dynamics of apparent cultural change (Gagliardi, 1986) are not limited to this 'Intended Change' loop. Rather, the outermost loop, which brings *Resistance* into the picture, (a positive-feedback loop) comes into play and reinforces the *Gap in Norms*. The effect of this reinforcing loop becomes prominent when this gap is high. Although the *Gap in Norms* can effect a small change in the desired direction through the 'Intended Change' and 'Ideals Change' loops, this change stops when the level of *Resistance* builds up. Due to this, the ultimate change achieved remains quite low (~20% to 40% of what was intended).

Low values of legitimacy prevent the build-up of *Resistance*. When there is little build-up of *Resistance*, the dynamics of the 'Ideals Change' loop facilitates a change in the *Aspired Norm*. This change, in turn, facilitates the 'Intended Change' loop to change *Existing Norm*. The change in *Existing Norm* in the desired direction reduces *Gap in Norms* and *Pressure to conform* progressively as time passes, ensuring that *Resistance* never builds up, thus ensuring that the outermost loop always remains ineffective.

When the *Gap in Norms* or *Legitimacy of Existing Norm* is moderate, then the build-up of *Resistance* may not reach a high value. As a result the impact of the 'Resistance' loop is not that prominent, and the 'Ideals Change' loop is not completely ineffective; the small resulting change in *Existing Norm* leads to a reduction in *Gap in Norms* over time. In these cases, *Resistance* may dissipate to such an extent that with the passage of time, it becomes easier to change *Aspired Norm* and therefore attain more of the intended change in *Existing Norm*. Obviously, at low values of *Gap in Norms* or *Legitimacy of Existing Norm*, the 'Resistance' loop does not come into play, and change happens as intended.

Discussion

Culture has been examined in great detail in the management literature, but with very few works on the process of cultural change. There is a lack of detailed understanding of how the dynamics of the process determine the success of strategies adopted by managers who are aiming to bring about cultural change. Therefore, in this paper we have taken up one popular strategy of cultural change ('apparent cultural change') in the context of cross-border M&As and developed, from existing theory, a relevant process description.

Our description shows that while this intended cultural change, in theory, may proceed as foreseen; in practice undesired mechanisms are set in motion. From our knowledge and understanding of the academic works on organizational culture as well as relevant works from anthropology, we have specified the constructs involved in these mechanisms and explained how they qualitatively relate to each other in terms of cause-and-effect. This process expresses the core endogenous dynamics that are relevant to 'apparent cultural change' and its associated side-effects, which push managers to go for 'revolutionary cultural change'. Given this core set of processes, other researchers can refine / modify the described endogenous processes and add on relevant exogenous variables that influence the speed at which the dynamic patterns play out, based on their evidence or insights. In this respect, we have treated the perceived legitimacy of the norms of the subsidiary's employees as such an exogenous variable.

We then pointed out the advantages of expressing the relationships in the process description from a quantitative point of view and then simulating it. We adopted the methodology specified in the system dynamics approach and subsequently described the equations and assumptions made to convert the process diagram into a model ready for simulation. Through simulation, we carried out a study on the interaction effect of two exogenous variables: 1) the gap between the desired norm and the initial value of the norm prevailing in the subsidiary and 2) the legitimacy of the values and norms of the subsidiary as perceived by the employees of the subsidiary subjected to the pressure to conform.

The results showed that managers, in order to be successful, must be realistic in the degree of change that they want to pursue. The level of legitimacy is an important factor that would influence the success of these efforts: at low levels of legitimacy there is little resistance, at moderate levels of legitimacy there is an inverse relationship between the size of the gap attempted to be traversed and legitimacy for a high degree of success while at higher levels of legitimacy only small gaps can be traversed successfully.

We then analyzed these results in order to understand this pattern of outcome. Using the lenses of balancing and reinforcing feedback loops, we explained how the reinforcing feedback loop involving resistance effectively stopped cultural change being facilitated by the other two balancing feedback loops in situations of established resistance.

We have shown that through a simplified attempt to change the prevailing cultural norms at the acquired organization managers tend to underestimate the inherent complexity of the dynamic processes that take place and thus achieve undesired results. By trying to adopt simplistic / crude strategies to enforce their headquarter practices in the local context of the acquired affiliate, they subsequently set into motion a complex set of dynamics that counteract their stated objective. They encounter resistance by putting pressure on host-country employees to conform to norms that are not legitimate in their cultural context. The resulting passivity may lead to increased potential for conflicts, stereotypical thinking, stress and a negative motivational climate.

Our perception as to why executives persist with these inferior strategies is because of the incentives arising from strong organizational culture that become distorted. Expatriates are rewarded for doing business according to headquarter standards. The stronger the organizational culture, the higher will be the motivational disposition of the expatriate to conform to headquarter organizational norms. In this way, an organization with a strong culture undermines its ability to succeed in the cross-cultural context. The expatriate is not given any incentives to learn from the local context, explore new possibilities and ideas. His / her actions contradict the local norms. The neglect and ignorance of these cultural norms leads to a negative perception of the headquarters' home country through projection of observed individual behavior onto assumed representativeness of the originating group. Such behavior is perceived by the acquired subsidiary's employees as an 'empire-building' strategy whereby the headquarter is the emperor and the affiliate is the conquest.

This paper's attempt to initiate and extend the study of cultural change and resistance to include its inherent endogenous dynamics has obvious shortcomings. In order to mathematically specify abstract constructs, we have had to make simplifications and approximations, but we feel that the insights derived are well worth it. Further, we have been transparent about these simplifications and approximations so that future researchers can improve on this initial attempt. One obvious way in which researchers can build upon the given model is to add on other exogenous constructs like we have done with legitimacy or they can endogenize variables currently perceived to be exogenous – e.g. legitimacy.

Alternatively, researchers should look towards other modes of cultural change – e.g. hybridization or symbiosis and attempt to specify the dynamics prevalent within these modes – so that managers have a complete portfolio of dynamic understanding to draw upon.

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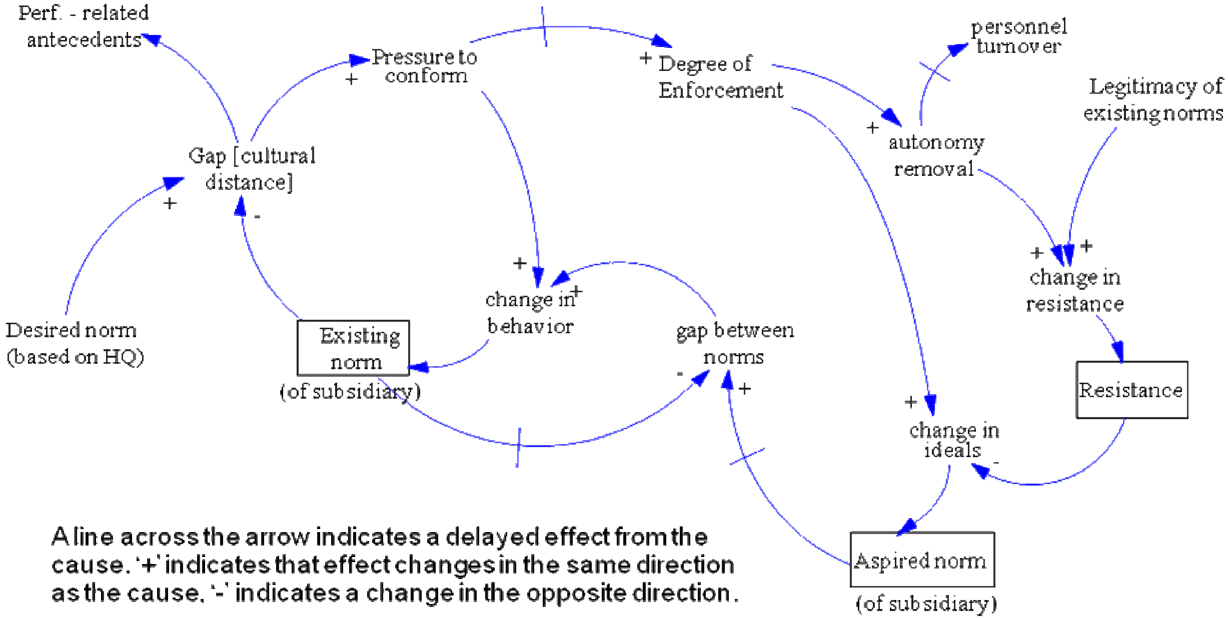
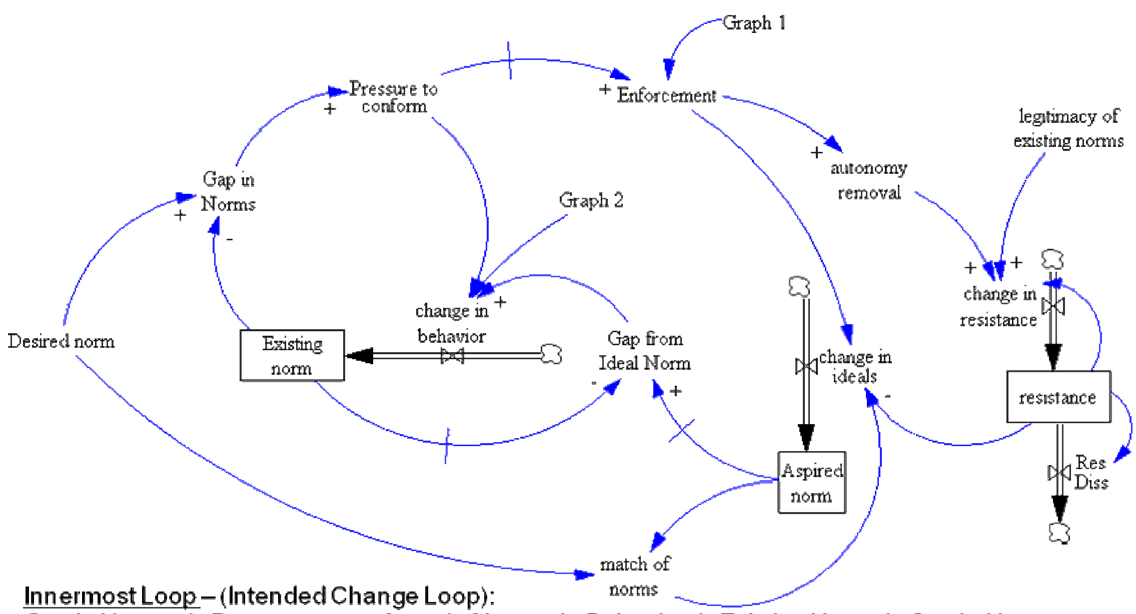
Figure 1 – Process Diagram



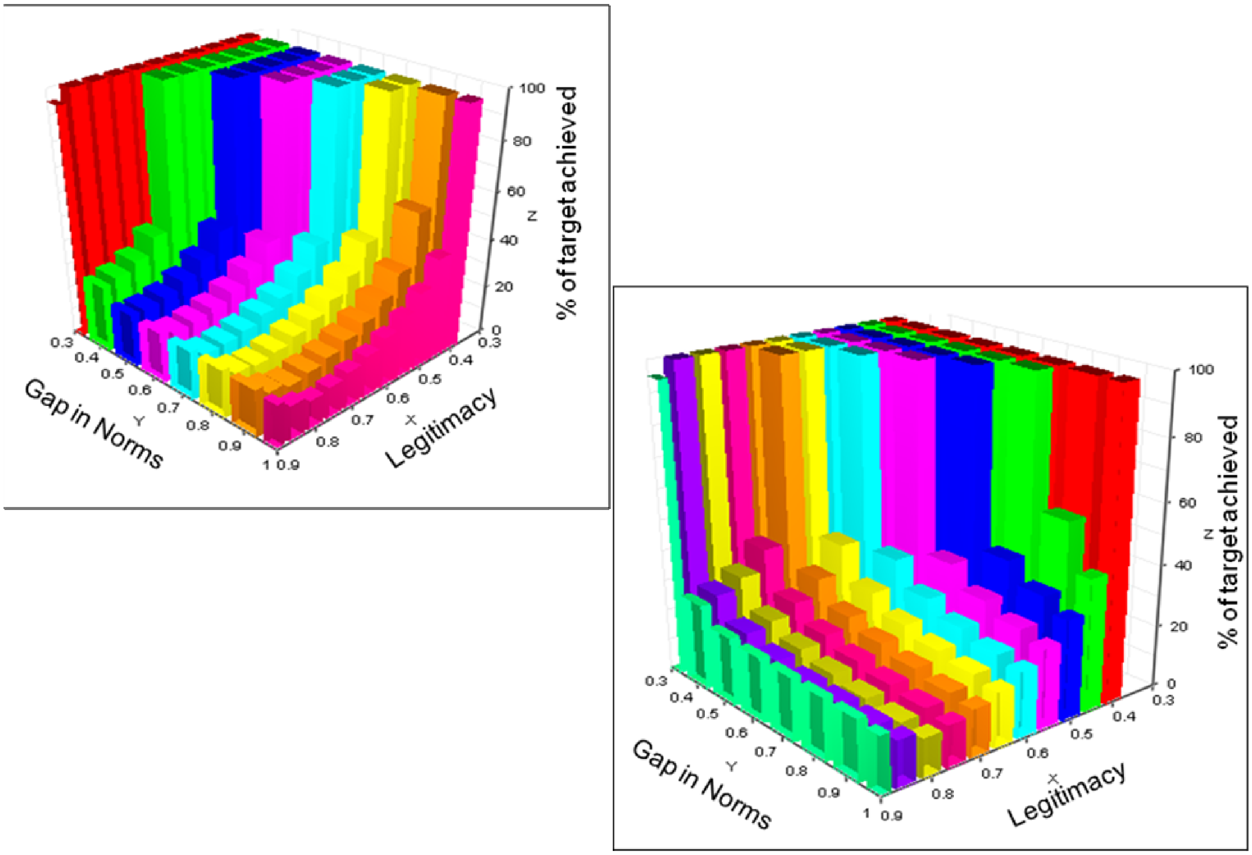
A line across the arrow indicates a delayed effect from the cause. '+' indicates that effect changes in the same direction as the cause. '-' indicates a change in the opposite direction.

Figure 2 – Model Diagram



Innermost Loop – (Intended Change Loop):
Gap in Norms → Pressure to conform → Change in Behavior → Existing Norm → Gap in Norms
Middle Loop – (Ideals Change Loop):
Gap in Norms → Pressure to conform → Enforcement → Change in ideals → Aspired Norm → Gap from Ideal Norm → Change in Behavior → Existing Norm → Gap in Norms
Outer Loop – (Resistance Loop):
Gap in Norms → Pressure to conform → Enforcement → Autonomy Removal → Change in Resistance → Resistance → Change in Ideals → Aspired Norm → Gap from Ideal Norm → Change in Behavior → Existing Norm → Gap in Norms

Figure 3 – Simulation Results



APPENDIX 1

Aspired norm= INTEG (change in ideals), initial value = 0

autonomy removal=   DELAY1((Enforcement*0.9)^2, 1)

change in behavior=

IF Gap from Ideal Norm / (Pressure to conform+0.001)<0 THEN Pressure to conform*
Graph 2(Gap from Ideal Norm)/12 ELSE Pressure to conform/12

change in ideals=

IF match of norms> 0 THEN MAX (MAX (Enforcement, 1) - resistance, 0)/24 ELSE 0

change in resistance=

IF resistance>=1 THEN 0 ELSE autonomy removal*legitimacy of existing norms^2

Desired norm= 0.8

Enforcement= Graph 1(Pressure to conform)

Existing norm= INTEG (change in behavior), initial value = 0.1)

Gap from Ideal Norm= Aspired norm-Existing norm

legitimacy of existing norms= 0.4

match of norms= Desired norm - Aspired norm

Pressure to conform= DELAY1I(Gap in Norms,1,0)

Res Diss= resistance / 36

resistance= INTEG (change in resistance - Res Diss), initial value = 0

Graph 2([(-0.1,0)-(0,1)],(-0.1,0),(-0.09,0.01),(-0.08,0.04),(-0.07,0.1),(-0.06,0.16),(-0.05,\
0.25),(-0.04,0.36),(-0.03,0.49),(-0.02,0.64),(-0.01,0.81),(0,1)])

Graph 1([(0,0)-(1,1.2)],(0,0),(0.1,0.05),(0.2,0.173684),(0.3,0.321053),(0.4,0.5),(0.5,0.67),\
(0.6,0.85),(0.72,1.02),(0.8,1.1),(0.88,1.16),(0.94,1.19),(1,1.2)])

Simulation Control Parameters

FINAL TIME = 100 Month