STRATEGIC PROCESSES FOR HUMAN RESOURCE DIVERSITY:
TOWARD A COMPLEX ADAPTIVE SYSTEMS VIEW

The objective of this paper is to analyze the evolving conceptualization of strategic processes in organization studies, identify relevant approaches, and gain insights to explore a complex adaptive system view of diversity. We propose that diversity strategies, structures and inclusion co-evolve with internal and external pressures and agents’ schemata, as organizations adapt over time.

Introduction

The issues of diversity, inclusion and effectiveness are of immense significance all over the globe, especially given recent developments in the world. How people belonging to different groups get along and what they accomplish is at the very heart of the human civilization in all its aspects, from teams to nation states and from the level of a tribal village to the level of the United Nations. The record of handling diversity over the course of the human history as well the contemporary state of affairs is decidedly mixed. Therefore, how we conceptualize diversity, teach it through our educational systems, and practice it at various levels have tremendous implications for future generations. Consequently, a sophisticated understanding of the strategic processes of human resource diversity is indispensable.

Most research on diversity takes an individual-level perspective and focuses on diversity training and other isolated initiatives. However, micro organizational behaviour scholars are increasingly becoming aware of the limitations of an individual-level focus (e.g., Cox, 1993; Tsui & Gutek, 1999; Williams & O’Reilly, 1998). They are proposing concepts as well as methods for a multi-level approach to organizational behaviour in general (Klein & Kozlowski, 2000; Klein, Tosi, Cannella, 1999). Such an approach is particularly important for research on diversity. Managing diversity is, quintessentially, a “wicked” (versus “tame”) problem (Mason & Mitroff, 1981; Rittel & Webber, 1973). Wicked problems are the result of “organized” complexity and are characterized by interconnectedness, complicatedness, uncertainty, ambiguity, conflict as well as social constraints. Wicked problems may need participative, adversarial, integrative, and managerial thinking process, which may require multi-level research rather than atomistic solutions (Mason & Mitroff, 1981).

For building a multi-level theory, researchers may work from several directions to generate alternatives that may be combined in an overarching paradigm. For example, there is a need to build models of diversity from the macro (e.g., organization level) perspective so they can be refined and integrated with models from micro (e.g., individual level) or meso (e.g., team level) perspectives. After interest in gestalts and
After the World Wars I and II, general systems theory led to the view of organizations as open systems (Katz & Kahn, 1978) involving evolutionary tendencies (Campbell, 1969; Hannan & Freeman, 1977) and loosely-coupled systems with feedback loops (Weick, 1979). Subsequent research on social construction of reality (Berger & Luckmann, 1966), structuration (Giddens, 1979), identity (Ashforth & Mael, 1989), and cognition and social learning (Bandura, 1986) have been particularly influential on organizational studies. Further developments in resource dependence (Pfeffer & Salancik, 1978), interdependence among organizations and environments (Aldrich, 1979), institutionalism (DiMaggio and Powell, 1983; Meyer & Rowan, 1977; Scott, 1995), embeddedness (Granovetter, 1985), and social capital and networks (Burt, 1992) have generated a host of overlapping approaches in management studies. More recently, interest in organizational learning (Crossan, Lane, & White, 1999), knowledge (Nonaka, 1994), human capital and other resources (Barney, 1991), and dynamic capabilities (Teece, Pisano, & Shuen, 1997), among others, have opened up possibilities for blending these approaches across levels.

As a result of these developments, a new systems perspective in the form of complex adaptive systems approach, which spans multiple levels, uses multiple theories and has the potential to deal with the wicked problems, is emerging (Aldrich, 1999; Anderson, 1999; Brown & Eisenhardt, 1997; Lewin, Long & Carroll, 1999; Peteraf & Shanley, 1997; Stacey, 1995). The objective of this paper is to explore a complex adaptive systems (CAS) view of diversity. The paper is organized as follows. First, we briefly comment on the current problems and prospects for future research on diversity strategies. Then, we provide a theoretical background and an outline of the recent qualitative research studies on strategic processes in general. The attempt is not to be exhaustive but to indicate the trends in organization studies and derive a limited set of approaches that researchers have found useful in in-depth empirical studies. Next, we attempt to apply these lessons learned and insights gained to explore a CAS approach to managing diversity. In this section, we propose five key characteristics and a few examples of related research questions and propositions that can be tested in empirical research in the future. Finally, we conclude the paper by drawing out implications of this view for diversity theory, research and practice.

**Diversity Strategies: Current Problems and Future Prospects**

Over the last decade, diversity theorists, researchers and practitioners have presented various models of diversity that involved individual-, group-, and organization-level constructs (e.g., Cox, 1993; Ibarra, 1995; Nkomo & Cox, 1996; Tsui & Gutek, 1999; Williams & O’Reilly, 1998). Still others have suggested macrolevel perspectives and related diversity strategies such as reactive (resistance), defensive (discrimination and fairness), accommodative (access and legitimacy), and proactive (learning and knowledge) (e.g., Ely & Thomas, 2001; Thomas & Ely, 1996). These perspectives and strategies can be implemented in different ways such as episodic, freestanding, or systemic (Dass & Parker, 1999). These approaches represent different levels of structure (integration), systems and functions (e.g., control systems, reward systems, information systems, performance appraisal and promotion).

A literature search for diversity and complex adaptive systems reveals there are only a few studies that relate human resource diversity to the ideas of complexity. For example, McDaniel and Walls (1997) argue that the application of complexity and chaos theories can help us integrate the issues of organizing and effectiveness with those of seeking requisite variety and diversity instead of being obsessed with conformity. They contend that diverse organizations can make use of the strength of weak ties to build effective “bridges” among diverse sub-groups (Granovetter, 1973). Agreeing with most of these ideas, Krefting, Kirby and Krzystofik (1997), however, caution against the use of identity-conscious approaches to inclusion. Harrison, Price and Bell (1998) distinguish between surface-level (demographic) versus deep-level (attitudinal) diversity, which may be recognized in the ideas of heterogeneous agents and their diverse schemas (Anderson, 1999; Chiva-Gomez, 2003).
Comparing theoretical progress in organizational studies in general to that of diversity research reveals that diversity researchers have a long way to go. For example, the realized diversity strategies and structures may result from formal, rational, intended strategies and structures as well as from informal, political, and emergent strategies and structures (Chaffee, 1985; Mintzberg, 1978). These strategies may follow from a confluence of logical and generative mechanisms through teleological, evolutionary, revolutionary, punctuated equilibrium, and dialectical processes (Van de Ven & Poole, 1995). In addition, they may involve single- as well as double-loop learning (Argyris & Schön, 1978), first-, second, and third-order changes (Bartunek & Moch, 1987), political processes such as negotiation, bargaining and compromise (Allison, 1971) and narratives (Calas & Smircich, 1999; Kirby & Harter, 2003).

In fact, cognition, learning and knowledge though often isolated from the issues of interest, power and politics, and conflict are inseparable in the processes of (de)institutionalization, managing diversity and strategic change (Contu & Willmott, 2003; Foucault, 1980; Lave & Wenger, 1991; Lawrence, Mauws, Dyck, & Kleysen, 2003; Lorbiecki, 2001). Further, new streams of research such as communities of practice (Brown & Duguid, 1991), actor-network theory (Fox, 2000), (adaptive) structuration theory (DeSanctis & Poole, 1994; Sarason, 1995), varieties of capitalism (Hall & Soskice, 2001), and post-colonial theory (Calas & Smircich, 1999; Prasad, 2001) provide ample opportunities for advancement in diversity research.

Likewise, while diversity consultants and practitioners find extant conceptualization and frameworks of diversity strategies and structures (e.g., Dass & Parker, 1999; Ely and Thomas, 2001; Thomas and Ely, 1996; Prasad, 2001) very useful, they need further support to deal with the new trends and changes in other sub-systems, inside and outside the organization. For instance, Sanchez and Tennis (2002) who experienced the use of extant diversity models in several units of Fortune 500 companies, found that there is no one best approach to diversity for all firms and that managers need to follow a contextual approach. Further, they observed, “In many cases, they (managers) come to accept that they cannot get from where they are to where they’d ideally like to be without creating far more robust internal pressures for diversity” (Sanchez & Tennis, 2002: 2). To do so would require a deeper and integrated understanding of the strategic processes in organizations, which may be enabled by a complex adaptive systems approach.

The above-mentioned discussion, on the one hand, indicates the dearth of research on strategic processes in human resource diversity and reflects a conspicuous gap in diversity research. However, on the other hand, progress of research in organization and management studies provides an excellent opportunity to close this gap. Therefore, in the following sections, we attempt to blend insights gained from recent theoretical developments in organizational studies as well as practical applications of diversity models in organizations. More specifically, our goal is to comprehend strategic processes in organizations and apply these insights to explore a CAS view of diversity, which appears to provide an excellent theoretical framework to address the topical issues in diversity management. For example, CASs incorporate the important dimensions of agents and their schemata at different levels of analysis (e.g., individual, team, organization), evolution, networks, positive feedback loops and increasing returns (small causes accumulating to result in large effects commonly known as the butterfly effect, Gleick, 1987), and the sensitivity to initial conditions. In our view, CASs also have the potential to bring in the issues of power, conflict, human agency and change in a fruitful way (e.g., critical complexity theory by ).

Emerging Approaches to Strategic Processes

Research on development, change and strategic processes has a long history. Over the years, several models of the process and content of organization and management have emerged. The first stream included Allison (1971), Andrews (1971), Ansoff (1965), Bower-Burgelman model (Noda & Bower, 1996), Cohen, March and Olsen (1972), Greiner (1972), Meyer and Rowan (1977), Miles and Snow (1978), Mintzberg (1978), Mintzberg, Raisinghani and Theoret (1976), Pfeffer and Salancik (1978), and Williamson (1975).
Subsequently, DiMaggio and Powell (1983), Miller and Friesen (1984), Mintzberg and McHugh (1985), Mintzberg and Waters (1985), Pettigrew (1985), Porter (1980), Quinn (1980), and Tushman & Romanelli (1985), among others, have added their models. From an academic perspective, the first task in organization and management discipline was to develop a unifying framework so the models scattered across different disciplines and perspectives could be brought together. Several scholars provided conceptual foundations and classification frameworks to organize the complex array of perspectives. For example, Scott (1998) categorized them in the rational, natural and open systems models and examined their interplay with one another (e.g., rational-natural systems). Chakravarthy and White (2001) brought them together in a typology of four perspectives of rational, political, evolutionary and administrative.

Developing a broad framework, Mintzberg and his colleagues (Mintzberg, 1990; Mintzberg, Ahlstrand, & Lampel, 1998; Mintzberg & Lampel, 1999) organized various strategic process models into ten process schools. The nine schools are as follows: Design, planning, positioning, learning, cultural, environmental, political, cognitive, and entrepreneurial. The tenth school is titled configurational, which may combine the other nine schools in a single process of management. This typology represents an outstanding and comprehensive framework from an academic point of view and provides a bird’s eye-view of possible organization and management processes. Of late, however, there is a realization that the “neatness” of this typology is being “messed up” due to overlaps across different schools (Mintzberg & Lampel, 1999). In addition, researchers are consciously integrating different process schools and are building linkages across in order to make sense of the reality of the organizations around them. As a result, a number of newer models have emerged. For example, dynamic capabilities model (Teece et al., 1999) combines the design and learning processes. Likewise, institutional theory (Scott, 1995) may combine elements from environmental, power, and cognitive schools. Moreover, other scholars may differ on where and how a process school should be categorized. For example, Mintzberg and his associates have used resource-based theory in terms of culture and learning, whereas others may categorize it as a part of economic or design schools.

Interestingly, Mintzberg and his associates have posed the question: Is it one process or different approaches? In other words, could these different processes co-exist in a single overall process or do they represent incompatible models? It is hard to answer this question theoretically because organizations have consistencies as well as contradictions. Therefore, ‘how’ and ‘which’ of these schools are used simultaneously and under what conditions can only be observed in in-depth empirical studies. Moreover, the same approaches may combine in different ways or the dynamics of different combinations may vary from one another. Taking an example from physical sciences, one can argue that though different atoms and molecules may combine in numerous ways; however, there are limited ways in which they do combine and are found in natural systems. For example, Oxygen combines two atoms, whereas Ozone combines three of the same atoms. Moreover, the properties of these combinations are vastly different from each other.

Reviewing empirical studies of the processes of development and change, including strategic processes, Van de Ven (1992) developed a taxonomy of four broad theories and argued that they used four motors: teleological, life cycle, evolutionary, and dialectical. Van de Ven and Poole (1995) further explicated these broad process theories and motors and showed how different theories represented illustrations of single-, bi-, tri-, and quad-motor theories as well as gaps in the literature. Garud and Van de Ven (2001) extended this agenda further and argued that in reality, these theories and motors were likely to combine in dynamic, even non-linear ways. Other researchers have recognized the value of this taxonomy. For example, according to Khanna and colleagues (2000), Van de Ven (1992) “offers an excellent taxonomy that distinguishes four kinds of theories of strategy process . . .” (p. 783). More recently, Austin and Bartunek (2003) complemented Van de Ven & Poole’s (1995) framework of four motors from change process theories with four motors of implementation theories used in practice: participation, self-reflection, action research, and narrative/rhetorical intervention.

As a follow-up to Van de Van (1992) and Van de Ven and Poole (1995), we were interested in
understanding the recent trends in the study of strategic processes in organizations. In particular, we wanted to identify a limited number of theoretical approaches that researchers have found useful in their research. Therefore, we undertook a literature search of relevant major academic and practitioner journals in organizational and management (Details are available from the author on request). The objective was not to be exhaustive but to be illustrative. Since our interest was in studies that used the richest concept of process as a sequence of steps describing the pattern of change over time (Mohr, 1982; Van de Ven, 1992), we focused on qualitative studies of strategic processes. This followed a ‘dirty hands’ approach rather than a ‘clean models’ approach to ensure depth (Hirsch, Michael & Friedman, 1987; Khanna, Gulati, & Nohria, 2000). Therefore, we focused on an illustrative list of 20 studies to compare and contrast with one another to develop a taxonomy of limited approaches that were emerging. We analyzed these studies with respect to the motors they focused on based on Van de Ven and Poole’s (1995) four academic motors and Austin and Bartunek’s (2003) four practitioner motors.

This review of the recent process research with respect to its content and context leads us to believe that there are five types of overlapping but distinct approaches that are getting particular attention from management process researchers. These are guided co-evolution, executive (strategic leader) cognitive maps, structuration theory, complexity theory, and post-modern models.

Van de Ven and Poole (1995) after reviewing process theories of organizational development and change, turned to their interplay and complex dynamics. Continuing with their journey in Garud and Van de Ven (2001), they remarked, “While each of these types has its own internal logic, complexity and the potential for theoretical confusion arise from the interplay among different motors,” (p. 26) and focused their paper on complex non-linear dynamics, including increasing returns and other properties of complex adaptive systems. Likewise, Bettis and Prahalad (1995) adopted the paradigm of complex adaptive systems. Similarly, in a special issue of Organization Science, Philip Anderson (1999) described the four well-known properties of complex adaptive systems: a) Agents with schemata; b) Self-organizing networks sustained by importing energy; c) Co-evolution to the edge of chaos; and d) Recombination and system evolution.

It is clear from the above that the five models and others we have derived in this study have much in common with one another. Therefore, following Aldrich (1999), we argue that they could be variously combined into an overarching framework. However, this framework may go beyond evolutionary ideas to models of complex adaptive systems. It is important to keep in mind that we are not looking for a hegemonic model, but a plurality of approaches that can be available to support the researchers’ as well as practitioners’ minds. We agree with Garud and Van de Ven (2001) when they argue:

As organizations open themselves to a multitude of stimuli, change processes will become more complex . . . . Under these conditions, it is important for us to have a way of thinking about strategic change that matches the complex environments that we have to navigate. We would indeed be conducting a procrustean transformation if we were to use a unidimensional motor as the basis for the articulation of strategic change when the phenomena itself asks for a more sophisticated analysis involving the interplay of more than one motor. (Garud & Van de Ven, 2001, p. 43).

The objective of the above review of recent qualitative research was to synthesize their findings into a set of ‘dirty hands’ strategic process models to build variance. This variance is expected to provide requisite variety according to Ashby’s law (Weick, 1979) so researchers can enrich their conceptual repertoire to guide future research to generate interesting theoretical insights. We have applied these insights to our research studies. We have also used this framework to build models in real organizations as part of business students’ capstone experiences. These models have contributed to a more clear understanding of organizational realities for researchers as well as students of management. In the following section, we briefly use explanations and insights from the five models derived in this study and others to explore a CAS view of diversity.
Toward a CAS View of Diversity

While building an evolutionary approach to organizational behavior, Aldrich (1999) stated, “I believe that a diversity of approaches is not only tolerable but also necessary, given our subject matter. I also believe that the evolutionary approach serves as an overarching framework within which the value of other approaches can be recognized and appreciated. The evolutionary approach constitutes a set of concatenated principles and uses multiple approaches to explain particular kinds of changes.” (p. 42). We believe, CASs provide even a better overarching framework that can use varying approaches, including the evolutionary one, to understand strategic processes for human resource diversity to raise and address appropriate research questions and propositions for the future. More specifically, we borrow from the emerging literature on CASs (e.g., Anderson, 1999; Anderson, Meyer, Eisenhardt, Carley, & Pettigrew, 1999; Cohen, 1999; Lewin et al., 1999) as well as the models described in the previous section. In addition, we propose to include learning, power and politics and networking approaches and other insights that we have learned through our experiences with diversity consultants and practitioners.

As depicted in Figure 1, our conceptual model can be characterized by the following five key elements, related questions and propositions. In this effort, we draw from an earlier diversity model and diversity strategies matrix (Dass & Parker, 1999; Figure 2) as well.

The Concept of Agents

Traditionally, organization and management studies conceptualize individuals and organizations as rational or bounded-rational (Cyert & March, 1963). The ideas of entrepreneurship, intrapreneurship (Mintzberg et al., 1998), stewardship theory, and human capital improved upon this concept for conceptualizing the role of top management. Using concepts of strategic choice (Child, 1972), upper echelons perspective (Hambrick & Mason, 1983), and strategic intent (Hamel & Prahalad, 1994), organizational behavior scholars have attempted to bring in the concept of human agency. However, this concept was still limited to the dominant coalitions. Giddens’ (1979) concept of agency proposed in his structuration perspective provides a breakthrough in understanding agent’s multifaceted, dynamic behavior (Sarason, 1995). According to Giddens, traditional social scientists portray agents as “cultural dopes . . . of stunning mediocrity” (1979: 52). In contrast, Giddens conceptualizes agents as aware, purposeful, reflective and powerful. In other words, the essence of human agency is to act as a subject capable of choice and/or intervention rather than as a mere object.

For the purpose of diversity research, these agents can be individuals at any level of the organization, may belong to any race, gender, ethnicity, sexual orientation, ideology, or other types of diversity. Agents monitor their behavior, reflect on their performance, learn and change to adapt to the new conditions, even though all behaviors may not be at the same level of consciousness. In fact, Giddens acknowledges three levels of consciousness and behaviors: unconscious, practical conscious, and discursive or reflective conscious (Dear & Moos, 1994). Therefore, human agency is ascribed not just to those belonging to dominant identities or ideologies, but also to “Others” who may otherwise be labeled as “minorities,” “blue-collar,” “handicapped,” “weaker-sex,” “immigrants,” “untouchables,” “gypsies,” “backward classes,” or simply “lay people.” In addition, we propose that these agents may be heterogenous with respect to any type of diversity, depending on the context. Furthermore, agents may include not just individuals but also groups or coalitions of groups.

Broadening the concept of agents, it is interesting for diversity researchers to examine espoused as well as practiced concepts of agents in organizations. More importantly, how do ‘dominant’ individuals view their own agency as well as agency of ‘Others’ who may be discriminated against within organizations? For example, individuals may be perceived as “the subject” i.e., capable of human agency or choice, or “the
object” i.e., incapable of human agency or choice (Lawrence, Winn, & Jennings, 2001). It may be particularly useful to test whether managers’ concepts of agency vary with respect to agents’ demographic and diversity characteristics. For example, dominant individuals may believe that women and minorities do not fare well as top executives. Given the current state of affairs such as glass ceiling and lower number of minorities in top management positions in the organizations, we propose, for example

Proposition 1. Managers’ concepts of agency are likely to vary according to agents’ demographic and diversity characteristics.

Proposition 1a. Managers are more likely to view agents belonging to dominant identity groups as subjects (as having agency), whereas managers are more likely to view agents belonging to non-dominant (others) identity groups as objects (as lacking agency).

Further, it may be interesting to explore the self-perceptions of ‘others.’ It is possible that after a prolonged period of discrimination, ‘others’ may internalize these views and may view themselves as objects rather than subjects.

Multi-level effects

In traditional theorizing in diversity as well as in other areas of organization and management studies, outcomes at one level are explained in terms of causal factors at the same level. In contrast, in CASs, typically outcomes at one level are understood to be emergent property of agents’ behavior and their interactions at the lower level (Anderson, 1999). Undoubtedly, higher-level agents could also influence the lower-level phenomena, as conceptualized in industrial organizational economics, positioning (Porter, 1980), environmental, ecological, and institutional approaches (Mintzberg et al., 1998). In fact, human resource and organizational behavior theories (Klein & Kozlowski, 2000), including most diversity models recognize the influence of globalization and demographic changes on organizational behaviour.

Therefore, we explicitly conceptualize that agents and their interactions at the same, higher as well as lower levels may impinge on the internal and external pressures, which, in turn, may influence the diversity strategies (reactive, defensive, accommodative, proactive), structures (episodic, free-standing, systemic), inclusion and effectiveness (see Figure 2; Cox, 1993; Dass and Parker, 1999; Ibarra, 1995; Mor-Barak, 2000; Mor-Barak & Cherian, 1998; Nkomo & Cox, 1996; Pelled, Ledford, & Mohrman, 1999; Tsui & Gutek, 1999; Williams & O’Reilly, 1998). Hence, we propose, for example,

Proposition 2. Internal and external pressures for and against diversity influence diversity strategies and structures.

Proposition 2a. External pressures for and against diversity are influenced by several external contextual conditions at different levels (e.g., geographic area, industry, type and extent of diversity in the geographic area and the industry, institutional environment, and extra-institutional factors (e.g., social movements, global interdependence).

Proposition 2b. Internal pressures for and against diversity are influenced by several internal contextual conditions at different levels of a system (e.g., the founding conditions of an organization, history of adaptation, management logics, legacy, type and extent of diversity in management as well as workforce, and technology).

Proposition 2c. The higher the level of external pressures for diversity, the higher the likelihood of a system to adopt a proactive diversity strategy. The lower the level of external pressures for diversity, the higher the
likelihood of a system to adopt a *reactive diversity strategy*.

Proposition 2d. The higher the level of *internal pressures* for diversity, the higher the likelihood of a system to adopt a *systemic diversity structure*. The lower the level of *internal pressures* for diversity, the higher the likelihood of a system to adopt an *episodic diversity structure*.

**Schemata**

According to CASs, agents have schemata, mental models, causal maps, neural networks, or dominant management logics (Bettis & Prahalad, 1995). These schemata may be heterogeneous, multiple, competing, or even conflicting and may include identity, strategic intent, mission, perceptions, and priorities (Hargadon & Fanelli, 2002; Nkomo & Cox, 1996). These schemata have main as well as interactive effects on agents’ conceptions, strategic responses and structural approaches to diversity and inclusion. The schemata may also evolve over time (Campbell, 1974), as Anderson asserts, “*Evolving actors develop vicarious selective systems so that they can experiment and fail without being killed; for example, animals have inherited instinctive pattern-recognition systems that let them identify potential predators and flee. Such indirect selective systems are nearly universal, because animals that fall heir to them from their ancestors are more likely to survive.*” (p. 221).

We recognize the self-influences (self-evolution) within each of the agents as well as the interacting effects through others (co-evolution). Evolutionary approaches have paid more attention to the macro-ecology involving evolution of populations rather than micro-ecology concerning evolution within individuals, groups, or organizations and their identities or other parts of their schemata (McKelvey, 1997). Recent trends seem to rectify this weakness. For example, Peteraf and Shanley (1997) bring together the micro concepts of social identity and social learning and the economic, historical and institutional forces of macro environment to propose a model of strategic group identity, the dynamic processes involved in its evolution, and its consequences. Similarly, Lewin and colleagues (1999) examine the micro-evolution (e.g., exploration, legacy, exploitation, strategic intent, slack, performance), macro-evolution (e.g., competitive dynamics in the industry, institutional environments or the form of capitalism in the country, and extra-institutional factors of rule of law, and educational system) and their co-evolution.

We suggest the following propositions for illustrating the co-evolution of agents’ schemata, internal and external pressures for diversity, diversity strategies, structures, inclusion and effectiveness:

**Proposition 3a.** Diversity strategies and structures are influenced by agents’ schemata (including identity, strategic intent, mission, perceptions, and priorities).

**Proposition 3b.** Diversity strategies and structures are influenced by *interactions* of internal and external pressures for diversity with agents’ schemata.

**Proposition 3c.** Diversity strategies and structures influence the level of inclusion, which in turn, influences the system’s effectiveness.

**Proposition 3d.** Agents’ level of inclusion and effectiveness are likely to influence their *subsequent schemata* as well as internal and external pressures for diversity.

**Non-linear Effects of Networks and Power**

CASs are characterized by self-organizing networks that are sustained by importing energy (Anderson, 1999). In other words, the pattern of connection among agents, and their interactions are
extremely important for how a system and its agents evolve. Small differences in initial conditions may result into small, medium, or large effects, depending on the feedback loops. Causes and effects may not be proportional; rather, they may have non-linear relationships. Stated differently, a large cause may have a small effect and vice-versa (Bettis & Prahalad, 1995). A small effect multiplying by increasing returns is popularly termed as the butterfly effect (Gleick, 1987) and can make the rich richer and the poor poorer. Ultimately, it may tip the balance so the ‘dominant’ groups, cultures, or ideologies may attain hegemony, whereas ‘others’ may disappear. For example, two agents who may begin at similar levels may end up at vastly different positions over time because of the positive feedback loops. A similar point was illustrated in the Hollywood movie Trading Places, where a poor, uneducated person becomes an executive due to the virtuous cycle. Likewise, a successful executive ends up as homeless because of the vicious cycle. These consequences may be attributed to the mutually reinforcing effects of cognition and learning, economic/political power (strategic maneuvering), social capital/networks and alliances, cultural coalitions, and institutional framework (Mintzberg et al., 1998).

A new stream of research is emerging that raises the issue of how schemata, learning, knowledge, power, institutionalization, discourse and rhetoric may reinforce one another to lead to non-linear effects and increasing returns. For example, Fox (2000) uses ideas from situational learning (Lave & Wenger, 1991), actor network theory and others (e.g., Foucault, 1980) to examine unequal power relations within communities of practice. Similarly, Hargadon and Fanelli (2002) using structuration theory propose how existing knowledge in the form of scripts, maps, goals and identities may enable as well as constrain the evolution of new knowledge and schemata. For instance, dominant groups, depending on their perceptions and priorities, may proactively adopt or resist diversity initiatives, which over time, may lead to self-fulfilling prophecies in terms of performance and progress of a system and its agents. Therefore, agents interacting within their networks may enact their environments and schemata, consistent with the social construction of reality and knowledge (Ibarra, 1995; Berger & Luckmann, 1966; Moch & Bartunek, 1990; Weick, 1979).

Likewise, Contu and Willmott (2003) assert that knowledge and learning needs to be (re)embedded in the relations of power. Further, Lawrence, Mauws, Dyck, and Kleyens (2003) integrate a learning model (Crossan et al., 1999) with power and institutionalization. Different power tactics may be used, depending on how management views the agents: as subjects (capable of agency or choice) or as objects (incapable of agency or choice). Similarly, management may adopt an episodic or systemic mode of structuring or power. Using these two dimensions of agency and mode of power, Lawrence and colleagues (2001) conceptualized four mechanisms of institutionalization: domination, discipline, force and influence. In addition, diversity strategies could be ‘legitimized’ and proactively manipulated by different ways (e.g., co-optation) to serve the needs of the dominant agents rather than the ‘others.’

We can draw several propositions; however, for illustrative purposes, we limit ourselves to the following, as depicted in Figure 3.

Proposition 4a. Organizations using a reactive diversity strategy and episodic diversity structure are more likely to use the power mechanism of force.

Proposition 4b. Organizations using a reactive diversity strategy and systemic diversity structure are more likely to use the power mechanism of domination.

Proposition 4c. Organizations using a defensive diversity strategy and episodic diversity structure are more likely to use the power mechanism of influence.

Proposition 4d. Organizations using a defensive diversity strategy and systemic diversity structure are more likely to use the power mechanism of discipline.
Balance, New Synthesis and Renewal

CASs tend to co-evolve to the edge of chaos by re-combination and sub-system evolution (Anderson, 1999). The edge of chaos represents the balance between flexibility and bureaucracy (Weick, 1979). In their examination of several organizations, Brown and Eisenhardt (1997) found that successful organizations in high velocity environments tend to engage themselves in small probes into the future, use more real-time knowledge, try multiple strategies simultaneously, improvise and continuously evolve by patching and re-patching different units. There are multiple, competing and conflicting expectations from organizations, therefore, systems may be suboptimal and continually seek to adapt to improve their functioning (Bettis & Prahalad, 1995). They contain sub-systems that have similar properties and are subject to adaptive pressures. Consequently, the nature of the feedback loops themselves may change in a process of creative destruction (Schumpeter, 1950).

New synthesis may emerge from re-combinations from internal as well as external influences. With new agents and schemata, their learning and evolution, an organization may face varying internal and external pressures with respect to different types of diversity. It may undertake episodic responses to new types of diversity for experimentation, may convert old freestanding programs to systemic approach, or may de-institutionalize approaches that have outlived their usefulness. Similarly, using various power tactics, discourse, and narrative approaches, agents may undertake second-order or third-order changes (Bartunek & Moch, 1987) in their schemata and re-enact their realities, which, in fact, is the core of human agency. These re-enactments could be conducted by the dominant sections or diverse others, depending on the circumstances. From the perspective of diversity, it would be interesting to examine the emergence of new identities and schemata and disappearance of old identities and schemata. The new identities and schemata may reflect re-combinations of old identities and schemata, similar to the old tree analogy by Mintzberg and Lampel (1999).

The propositions mentioned heretofore suggested that *diversity strategies and structures are influenced by* the pressures for and against diversity, the schemata of the agents involved, the use of power mechanisms, the level of inclusion and effectiveness of an entity. Further, to illustrate, we propose

**Proposition 5.** Over time, *the agents and their schemata are influenced by* the internal pressures for diversity, external pressures for diversity, diversity strategies and structures, level of inclusion, and effectiveness, improving their adaptation to the new context.

**Conclusion**

Managing diversity in organizations is a “wicked” (versus “tame”) problem. “Wicked” problems are characterized by complexity and interdependence and require multi-level approaches and integrated solutions. Research in strategic processes offers opportunities to improve our understanding of diversity strategies, structures, inclusion and effectiveness in organizations. The objective of this paper is to review strategic processes in organizational and management studies in general, identify relevant approaches, and gain insights to explore a complex adaptive system view of diversity.

Our review of strategic processes in organization and management studies using four academic motors of teleological, life cycle, evolutionary, and dialectical (Van de Ven & Poole, 1995) and four practitioner motors of participation, self-reflection, action research, and narrative intervention (Austin & Bartunek, 2003) revealed that five broad, albeit, overlapping approaches are emerging: Guided evolution, executive (strategic leader) cognitive maps, structuration theory, complexity theory, and post-modern models. Other ideas of learning, power, networking, etc. add further insights to lead us to believe that complex
adaptive systems approach may provide an overarching framework for a more sophisticated understanding of strategic processes for human resource diversity. We take a first step in this direction by combining insights from extant diversity strategy models (e.g., Dass & Parker, 1999; Ely and Thomas, 2001; Thomas and Ely, 1996), practice of these models by diversity consultants and practitioners and the emerging approaches to strategic processes to explore a complex adaptive systems view of diversity.

In this model, we identify five key elements with examples of related questions and propositions that can guide future research. We broaden the concept of agents, consider factors at multiple-levels that influence internal and external pressures for change, agents’ schemata, their linear and non-linear interactions on diversity strategies, structures, inclusion and effectiveness. We also include their mutual co-evolution with networks and other mechanisms of power, as well as their adaptation and renewal over time. In other words, managers’ diversity perspectives and their implementation that are shaped by the external and internal pressures as well as cognition and involve network processes and power mechanisms can lead to distinct strategic and structural choices. These different strategic choices regarding diversity approaches are likely to result in varying levels of inclusion in organizations. For example, episodic, freestanding and systemic approaches may result in low, moderate, and high potential for inclusion, respectively. Further, diverse levels of inclusion in organizations are likely to lead to dissimilar consequences in terms of employee and organizational effectiveness. The model needs to be strengthened further and tested using suitable samples in varying contexts and by using methods appropriate for multi-level analysis, and non-linear and reciprocal influences (Anderson, 1999; Klein & Kozlowski, 2000; Klein et al., 1999).

The model implies that the diversity-oriented theorists, managers, and consultants may need to work at both fronts: Increasing the internal as well as external pressures and on developing the theories and perspectives that reinforce agents’ schemata, networking as well as the abilities to think and push the envelope further. Moreover, there may be an interaction between the pressures for diversity and the diversity theories and perspectives. Through various strategic processes of development and change both pressures and theories are likely to lead to improved cognitions of all involved parties and to new discourses, which help enact new realities for individuals and organizations. Similarly, these processes need to go hand-in-hand with developing institutions at the country or regional level to reinforce these trends. In this way, organization theorists and practitioners can at least make a small, incremental and thoughtful contribution toward building a future where opportunity and inclusion are the norm.
REFERENCES

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FIGURE 1. A MODEL FOR DIVERSITY, INCLUSION AND EFFECTIVENESS
(Adapted from Dass & Parker, 1999)
### FIGURE 2

**Diversity Strategies Matrix**  
(Adapted from Dass & Parker, 1999)

#### Strategic Responses for Managing Diversity and their Implementation

<table>
<thead>
<tr>
<th>Episodic</th>
<th>Freestanding</th>
<th>Systemic</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Reactive</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Deny an assignment to an employee because a client might object to the employee’s nationality, race, gender, age, etc.</td>
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<tr>
<td>2. Choose to risk fines or other costs, rather than engage in equal employment opportunity practices</td>
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<tr>
<td>3. Choose geographic locations for the business which avoid diversity / where the local workforce does not contain protected classes</td>
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<td></td>
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<tr>
<td><strong>Defensive</strong></td>
<td></td>
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<tr>
<td>4. In response to a governmental employment audit, provide a workshop for protected groups on “how to succeed by adapting to fit into the organization”</td>
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<tr>
<td>5. Regular sexual harassment training which focuses on how to avoid legal liability</td>
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<tr>
<td>6. Performance appraisal standards for managers include specific targets / quotas for hiring of protected groups</td>
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<tr>
<td><strong>Accommodative</strong></td>
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<tr>
<td>7. To increase diversity awareness for managers, bring in a speaker to tell them how to value the diversity of their employees</td>
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<tr>
<td>8. Sponsor an annual event that celebrates a protected group, e.g., Special Olympics</td>
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<tr>
<td>9. To ensure equal pay, program the HR computerized management system to annually review and adjust pay differentials between non-protected and protected groups</td>
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<tr>
<td><strong>Proactive</strong></td>
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<tr>
<td>10. Pilot an employee network conference that engages employees and their managers in reciprocal learning activities</td>
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<tr>
<td>11. Regularly include vendors, suppliers, and customers in the organization’s diversity training offerings to increase their involvement in and contribution to diversity efforts</td>
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<td></td>
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<tr>
<td>12. Different business units continually share information about their diversity successes and failures, then adapt and integrate them into their businesses</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Executive Priorities for Managing Diversity

- **Marginal**
- **Strategic**

#### Pressures for Diversity
- **Low**
- **High**
FIGURE 3
Power tactics for Managing Diversity and their Implementation
(Adapted from Dass & Parker, 1999 and Lawrence et.al., 2001)

Implementation/Structure/Power Mode

<table>
<thead>
<tr>
<th>Diversity strategy</th>
<th>Episodic</th>
<th>Systemic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reactive</td>
<td>Force</td>
<td>Domination</td>
</tr>
<tr>
<td>Defensive</td>
<td>Influence</td>
<td>Discipline</td>
</tr>
</tbody>
</table>

Concept of Agent
As an object
As a subject