

Globalisation and Creative Abrasion: Impacts on Performance

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The diffusion of technology has fostered rapid growth over the last 15 years in numerous emerging economies, leading to significant changes in business and trading relationships around the world. The results of Globalisation have been a two-edged sword that has seen both opportunity from increased access to lucrative markets, cost effective resources and rapid knowledge acquisition as well as threats from increased pressure by unprecedented sources of competition and lowered barriers to entry. Both organizations and individuals are required to continuously adapt to rapidly changing competitive landscapes in order to achieve and retain success. Globe-spanning partnerships with vendors, customers, and even competitors are multiplying. Potential obstacles to performance lurk in this unprecedented attempt to integrate cultures, languages, world-views and ethical systems.

This paper focuses on the quality of relationships as a key factor in the pursuit of organizational goals and the challenges presented by the arrival of a sizable global component into today's workforce. It looks at two established constructs for effective integration of a diverse or culturally heterogeneous workforce through the lens of a dynamic model of the adaptive learning organization, and discusses implications for quality, customer relationships, innovative capability, and employee performance and retention.

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Previous Presentations

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Presented at International Conference on Managing Innovation in Technology, Singapore
- *The Role of Communication / Information in Leveraging Critical Knowledge to Create Value* 1999
Presented at Portland International Conference on Management of Engineering and Technology
- *A Tool to Assess Organizational Vitality In an Era of Complexity*© (with Gary Y. Adkins) 1998
Presented at Conference on Managing Change in Complex Organizations, Portland OR
Published in *Technological Forecasting and Social Change* Spring 2000
- *Critical Knowledge Areas: A Linchpin Between Chaos and Order In Organizations* 1997
Presented at Portland International Conference on Management of Engineering and Technology

1. Background

Technological, demographic, and educational trends are pointing to a significant shift in workforce alignment across countries, particularly in technology and scientific fields. Large portions of the skilled workforce in developed economies are approaching retirement age and most developed economies have birth rates that barely, if at all, are at population replacement rates. Many western European countries have social policies that protect the status quo and restrict options that large companies have in utilizing their workforce (Charlemagne 2006). In the United States, interest in careers in technology and the sciences seems to be waning. Global organizations are already looking to emerging economies in countries such as Brazil, China, India, Poland and Russia to provide a young, ambitious and well-educated workforce.

Advanced wireless and satellite technologies allow developing nations to leapfrog over yesterday's communications technology. Emerging economies have managed to provide high percentages of their population with cellular telephone services, and to generate a significantly higher level of broadband penetration. In 2003, broadband subscriptions per 100 inhabitants in South Korea (21.3) and Hong Kong (14.9) were three and two times the number of subscriptions in Japan (7.1) and the United States (6.9). Taiwan, Luxembourg, Hong Kong and Italy all had over 100 cell phone subscriptions per 100 inhabitants. Among the developed economies, the United Kingdom ranked 8th (84.0), Germany ranked 22nd (78.5), Japan ranked 32nd (68.0), and the United States ranked 42nd (54.3) (ITU Database).

This technology diffusion and high penetration allows the provision of high end services at low cost, which tends to push innovation, and to create a demand for totally new services. It also has a positive effect on quality, as access to the technology creates a more knowledgeable, more demanding customer. Because of these factors, successful companies achieve a competitive advantage toward developing breakthrough technologies, capitalizing on markets in countries that are increasing their broadband penetration. For instance, as early as 2003, Italian cell phone providers gave subscribers access to third generation technology features such as video phone calls, interactive gaming, downloading soccer highlights, and multimedia messages (Sylvers 2003). Those providers have proceeded to launch similar services in markets like Latin America.

In the meantime, rapid economic growth, especially in Southeast and Central Asia and in Eastern Europe, has encouraged aspirations to ride the technology wave. Emerging countries are graduating more engineers, scientists and technically trained workers than the developed countries, and place a greater emphasis on educating science and technology professionals.

China is graduating 4 times the number of engineers as is the United States; Japan, with half the population, is graduating almost twice the engineers; and South Korea, with one-sixth the population is graduating virtually the same number. These two countries, with Russia, India and Taiwan, are now graduating 45% of all engineers receiving Bachelors degrees worldwide in a given year. Both China and India now have as many or more young professionals

Country	Bachelor Degrees	Percent of World Total
China	219,563	21%
EU-15	179,929	17%
Japan	104,478	10%
Russia	82,409	8%
India	82,107	8%
United States	59,536	6%
South Korea	56,508	5%
Taiwan	26,587	3%
Mexico	24,184	2%
Poland	21,618	2%
SOURCE: U.S NATIONAL SCIENCE FOUNDATION		

Table 1: Engineering Degrees Awarded (2000 or most recent)

(university graduates with seven or less years of work experience) in the fields of finance & accounting and engineering as the United States.¹ McKinsey Global Institute projects that China and India will have 35% more young researchers in the Life Sciences by 2008 (1.6 million) while the U.S. total will be 11% lower at 760,000.

Although it is generally recognized that the U.S. universities are on average the best in the world, this perceived gap appears to be significantly diminishing. A recent study indicates that the recognized worldwide university rankings place far more emphasis on the more visible criteria of research and publications than on any attempt to measure the quality of the educational process. Thus English speaking universities have a built-in advantage in the rankings because the leading international journals are published in English (Levin, *et al*, 2006). However, where major companies are finding the graduates to meet their needs for technically trained workforce has little to do with these rankings. In commenting on the software, mathematical and technology fluency skills of Indian engineering graduates, Dan Scheinman, Cisco System's Senior Vice President for Corporate Development is quoted as saying "I find Bangalore to be one of the most exciting places in the world... We came to India for the costs, we stayed for the quality, and we're now investing for the innovation." Major research centers are being built and staffed with local talent in Russia, India and China.²

At the graduate level there is also strong evidence that talent is moving increasingly in the direction of emerging economies. Historically, U.S. universities have been highly attended by foreign students, especially at the graduate level. In 2002, 47% of the U.S. Masters degrees in Engineering and in Computer Science, and 37% of those in Mathematics, went to foreign nationals. In the same year, doctorates awarded to foreign nationals were in Engineering; 56%; in Computer Science: 45%; and in Mathematics: 53%. Historically, a majority of those getting advanced degrees in the United States and Western Europe would remain in that country to establish their career, often because there were few opportunities to use their acquired skills in their home country. However, over the past few years, those nations have been raising the barriers to foreign nationals to enter or remain in the country, while simultaneously, the economies of many of these new graduates' home countries are growing in a direction and at a pace that offers very attractive opportunities. As a consequence, the number of applications for visas for high-skilled categories fell 6% in the United States to less than 496,000 in 2003 (from 2001), while the number of applications accepted fell over 14% to 413,200. (NSF, 2004)

Emerging economies are investing in developing their universities to world class standards, and are competing effectively for talented students who several years ago would have chosen to go abroad to study. Between 2003 and 2004 foreign applications to U.S. graduate programs declined 22% in physical sciences, 24% in life sciences, and 34% in engineering (Council of Graduate Schools, 2004), the 3rd consecutive year of decline. CGS did report a 1% increase in first time enrollments of foreign students in U.S. graduate institutions in 2005. (Kujawa, 2005) These students are highly likely to remain at home as part of a highly skilled work force after they graduate. In a similar fashion, many foreign nationals who have built successful careers in developed economies are emigrating back to their home country to take advantage of their skills in a faster growing and more wide open competitive landscape. In the past few years, well regarded business schools like INSEAD have established campuses in Asia to meet rising demand.

Comparatively aging workforces and birth rates that do not sustain their populations also put developed economies at a demographic disadvantage. For example, according to the U.S. census bureau, the proportion of the U.S working age population (24 to 65) will fall from 53% in 2002 to 49% in 2025. More significantly, the ratio of working age people to "retired" people will fall from 4.4 in 2002 to 2.7 in 2025. As a point of contrast, by 2025, the population of both China and India is projected to be approaching 1.5 billion, while the U.S. will be less than 400 million. The average age

¹ "A New World Economy", *BusinessWeek Online*, August 22, 2005

² *ibid*.

of the workforce in China will be just under 40, slightly higher than in the United States. India's average workforce age will be considerably lower, at 30 years.³

2. Issues that Arise from the Changing Workforce Worldwide

As global organizations use a broader range of solutions to recruit a qualified workforce, the probability of that workforce consisting of a greater array of diverse backgrounds, ethnicities, languages, worldviews and ethical systems increases significantly. The technological ability to create virtual teams with members from any element of the global organization in real time negates the need for proximity or mobility. Most work in today's information intensive work world demands a high degree of communication and information exchange with others both inside and outside of the organization. Therefore workers are more likely to have important and even critical interaction relationships with people who think and see the world in ways quite different from themselves, and in some cases these interactions may take place primarily by telephone, email, or electronic texting.

Trompenaars and Hampton-Turner (1998) delve extensively into the value spectrums that differentiate cultures from one another and their implications in the business setting. Where one's own values sit along these spectra depends greatly on the assumptions one has about how the world works. Cultural values are learned through example and confirmation by others and become accepted as the convention which provides meaning to interpreting experience and guiding personal actions. Within a given culture, shared assumptions make it likely that attributed meaning coincides with intended meaning. However, when cultural assumptions differ, there is a high probability of misinterpretation.

The five primary dimensional elements of how culture impacts relationships are:

1. Particularity - the importance of rules versus the importance of relationships
2. Community - the primacy of the group versus the primacy of the individual
3. Affectivity - the range of acceptable expression of feelings and emotions
4. Diffusion - the degree to which people who are enmeshed in one aspect of our lives (e.g. work) are allowed involvement in other aspects of our lives (e.g. our leisure activities, our private relationships)
5. Ascription - the factors that influence the conferment of status on individuals (what they have done versus who they are).

There are clear parallels between these dimensional elements of national, ethnic, religious, or societal culture and the elements of a given organizational culture. All of these elements rest upon implicit basic assumptions that generate behavior around norms and values. When an individual's assumptions, norms and values converge with organizational assumptions, norms and values, abrasion, discomfort and conflict is minor. When there is dissonance or conflict between individual and organizational assumptions, norms and values, the level of abrasion and discomfort rises, but so does the possibility of creative contribution. It is the collision of different ideas, perspectives, awarenesses and approaches that sparks the innovative solution if effectively channeled.

So, an organization's ability to compete successfully in today's information-based economy springs from creative thinking, innovation, and rapid adaptation to relevant information generated in the marketplace. Critical capabilities of the organization and its individual employees must be continually upgraded through effective linkages and relationships with related resources. Core Competencies must never be allowed to congeal into "core rigidities" (Leonard-Barton 1995). The adaptive abilities of the organization are heavily dependent upon the use of, and the value it places on the expertise, talents, skills and experiences of its members. The critical components of today's products and services are not raw materials and energy, but the ability of people throughout the organization to anticipate and respond to complex and shifting customer requirements through

³ *ibid.*

effective interaction with colleagues and external partners. In a competitive industry, every possible source for new ideas on approaches and solutions to issues must be mined diligently. The successful firms in the knowledge economy will be those who effectively manage the consistent creation, sharing, harvesting, and leveraging of their people's abilities, knowledge, and interactions into learning and into intellectual capital. This is a profound change in the nature of work, of the relationship of the employee to the organization, and the relationship of the organization to the employee. Increasing the degree of diversity in an organization increases the potential for innovative solutions to competitive challenges, but it also makes their realization more complicated.

In a classic HBR article, Thomas and Ely (1996) propose eight preconditions to making the paradigm shift from recruitment and retention of employees from a diversity of backgrounds and identity groups to capitalizing on and leveraging the varied perspectives and approaches to work that members of different identity groups bring. A truly inclusive environment must be sustained if realized benefits of a diverse workforce are to “encompass learning, creativity, flexibility, organizational and individual growth, and the ability of a company to adjust rapidly and successfully to market changes.” Five of Thomas and Ely’s preconditions are particularly relevant to the questions at hand:

1. The leadership must understand that a diverse workforce will embody different perspectives and approaches to work, and must truly value variety of opinion and insight.
2. The leadership must recognize both the learning opportunities and the challenges that the expression of different perspectives presents for an organization, and have a commitment to persevere through a demanding process of learning and relearning through creative abrasion.
3. The organizational culture must create an expectation of high standards of performance from everyone, and that all its members can and should contribute fully. This is necessary to create an environment where workers feel encouraged to take initiative, develop and apply skills in new ways, and feel valued for their contributions.
4. The organizational culture must encourage openness through a high tolerance for debate and support for constructive conflict on work-related matters.
5. The organization must have a well-articulated and widely understood mission that provides a focal point to drive behavior and decisions toward the accomplishment of goals and objectives which relate to that mission.

3. A Framework for Understanding the Dynamics

Traditional management processes rely on the design and implementation of efficient and productive techniques to identify variances from standards and expected outcomes and the use of negative feedback loops to make modifications to eliminate them. The objective is to achieve and sustain an effective “equilibrium” state. It is a necessary form of feedback, which relies on a deterministic set of rules that ideally are linear but often turn out to be nonlinear. CHART 1 in the Appendix models the Negative Feedback Loop Promoting Equilibrium.

Today’s competitive environment is turbulent. Advances in communications technology drive customer expectations and demands, create rapid product obsolescence, and promote competition from unexpected sources. The norm today is dealing with the non-routine situation rather than the predictable, repeatable processes that can be controlled with negative feedback loop corrections. This demands an ability to respond based upon available information and resources rather than a thoroughly designed and tested model. “Knowledge-based advantage is slippery, easily dispersed and copied.” (Williams, 1998). In this environment, the ability to create, capture, and share ideas and information, and leverage these into new knowledge and innovation that can be broadly useful to the organization is critical in adapting to changing markets, to changing resources, and to changing sources of competition. To accomplish this, we need a model that captures the essence of nonlinear dynamics.

Complex adaptive systems (CAS) are composed of simultaneously independent and interdependent agents who, operating for their own benefit, interact with each other according to sets

of rules that require them to examine and respond to each other's behavior in order to improve their 'fitness'⁴ or comparative advantage, within the system. As part of this effort, they often create alliances with others within the system who are attempting to do the same, essentially self-organizing into emergent patterns (with no blueprint or external guidance) of behavior that tend to maximize the likelihood of mutual success, and thus the fitness of the system they comprise (Kauffman, 1993). At the same time, as individual agents in the system modify their own behavior, other agents make behavior modifications of their own in response (co-evolution). Thus the co-evolution of the various agents generates continuous shift throughout the system landscape. In other words, such systems operate in a manner that constitutes learning and adaptation. Because those learning systems operate in environments that consist mainly of other learning systems, together they form a coevolving suprasystem. Because of this framework, every company is comprised of a series of consecutively imbedded and interdependent systems: an economy residing within a global sociopolitical system; an industry within that global economy; a company within the industry; divisions, departments, and other subgroups within the company and its stakeholders; and individuals within the subgroups.

The important point for our consideration of the impact of global workforces is that agents within a system, whether a company or an individual, select what phenomena to consider in their "discovery." The meaning that is attached to the information gathered within that consideration is based upon mental models consisting of the regularities that an agent has perceived in the complex world it has to operate in, and these models form the basis for the behavioral rules for operating in that world. This is akin to what Kuhn (1970) called a *paradigm*, Huff (1990) labeled *cognitive maps*, and Stacey (1996) refers to as a *schema*. In the case of individuals, we can consider these models the cultural assumptions, norms and values based upon all the social and psychological aspects of their previous experience. Each adaptive action taken by an agent, determined by such model, has an effect upon other agents in the system, and perhaps on those in linked or embedded systems, leading them to respond and causing effects that feed back again into the first agent's discovery process. Feedback is positive when it enters the discovery-choice-action loop in a way that amplifies and destabilizes it. Because of this, small events sometimes blow up into large consequences.

Within organizations, changes in behavior create variances, but these variances are not subject to the control mechanisms of negative feedback loops. Although there may be control mechanisms that attempt to eliminate unexpected anomalies (such as an individual's cultural assumptions that are unsupported within the organizational system) within the "legitimate" system, every organization also contains a "shadow system" that is subject to a different set of rules that factor in flows of emotion, friendship, trust, and other qualities. Interactions within the shadow system take more diverse forms than in the legitimate system, and tend to be nonlinear, according to varying degrees of uniformity versus diversity, conformity versus individuality (Stacey, 1996). CHART 2 (Appendix) shows The Legitimate and Shadow Systems.

Those variances which are attractive enough to collect a consistently growing constituency eventually amplify the variance to a degree that penetrates the legitimate system and destroys the status quo (Maruyama). These attractors can exist in any of the embedded levels. Where they arise is unpredictable. And as they induce movement in one level (movement along a fitness landscape (Kauffman, 1995) to increase the likelihood of success or survival), the impact upon that level and on other levels is also unpredictable. This dynamic is a cogent model of Schumpeter's (1934) concept of "creative destruction." CHART 3 (Appendix) illustrates Positive Feedback Promoting Amplification.

⁴ "Fitness" in this sense is the suitability of the strategy that a given agent pursues to achieve its purpose: its survival or success compared to the relative suitability of the strategies used by other agents in the system of *their* fitness. A three-dimensional plot of the fitness of all the potential strategies that could be employed by the agents that compose the system environment gives us the fitness landscape. This landscape consists of a range of peaks and valleys whose heights correspond to the advantage or disadvantage that a given strategy offers compared to the other potential strategies. The peaks represent strategies that lead to success; the valleys represent strategies that lead to extinction. (See Waldrop 1991, Lewin 1992, Casti 1994, Goodwin 1994)

It is in the interest of the competitive organization (and of competitive individuals!) to encourage and sometimes even accelerate variances that lead to changes that promote achievement of its goals and objectives. We cannot “make” this amplification happen. It is a condition of the tensions present in the environment contained within the system. Likewise, we cannot stop negative or dysfunctional variances from gaining a constituency. We cannot legislate them out of existence or declare them invalid by fiat. We can only attempt to identify the drivers, often intangible, that promote the disruptive constituencies and try to influence their presence within the system.

Stacey has identified five key aspects of an organizational environment that promote effective and healthy adaptation at both the organization and individual level:

- 1) how information is channeled and used within the organization;
- 2) the degree and quality of connections between components of the organization as well as its external stakeholders;
- 3) with whom power and influence within the organization reside;
- 4) the degree of diversity within the organization, measured in both cultural and cognitive parameters; and
- 5) the degree to which the organization can contain the level of anxiety generated in its members by the destruction of the status quo inherent in any creative or innovative activity.

The interplay of these elements influences the tensions between inspiration and anxiety and its containment, between conformity and individualism, between leadership and followership, and between participant and observer roles that exist in a given environment.

The desired state is an environment where creativity and innovation thrive (Vitality), as opposed to where control (Rigidity) or turbulence (Fragmentation) impede the conditions for innovation,.

Element	Rigid Organization	Vital Organization	Fragmented Organization
<i>Information flow</i>	Restricted and monitored	Open and relevant	Abundant but indiscriminate
<i>Interconnectivity</i>	Strong and inflexible	Relevant but fluid	Loose and fleeting
<i>Power and Influence</i>	Hierarchical and defined	Determined by expertise	Abdication of decisions
<i>Inclusiveness</i>	Assimilation & conformity expected	Diversity encouraged and celebrated	Affiliations opportunistic & factionalized
<i>Anxiety Containment</i>	Anxiety suppressed	Good enough holding area	Overwhelmed by anxiety

Table 2 – The nature of adaptive elements in different states of organizational vitality

Rigid organizations put a premium on predictability and control. Information is protected, distributed on a “need to know” basis, and accessible to a selected elite who control when and to whom it is passed. Employees are not expected to think outside the established rules and processes, and in fact are discouraged from doing so. Connections and communication within the organization, who talks to who, and under what circumstances, are well entrenched and prescribed. These processes are not fluid. Power and influence is a factor of title and position, answers are expected to reside in the experts at the top, and deviations are not to be acted upon without approval. There is pressure on the individual to conform and assimilate to the overriding cultural norms. Alternative perspectives or opinions are not sought out, in fact, the environment makes people, especially those outside the ‘power group,’ tend to be cautious and even fearful of expressing diverse points of view. Perhaps counter-intuitively, anxiety levels in this atmosphere tend to be low because people are insulated from having to solve non-routine problems by the strict adherence to established rules and practices.

In the fragmented organization information is readily available, but is often distributed indiscriminately or in a way that makes separating the important from the useless difficult and time consuming. Therefore it can be overwhelming. Everyone is connected to some degree, but communication tends to be focused on self-interest, and politics is often rampant. Decision making can be difficult and haphazard because power and influence are so widely distributed that rather than

seeking consensus, each faction tends to emphasize its differences in an effort to promote its own agenda, making problem solving slow and difficult. There is little sense of common purpose. The atmosphere is highly pressurized because people feel that it's "everyone for themselves" and are reluctant to trust.

A healthy organization is on a boundary between the two constructs above. Information is freely accessible, but retained and acted upon based on what is important at the local level. Connections are widespread both to internal and external sources, but intensity varies with need and importance, for example with the creation of "red teams" or cross-functional task forces that disband when their task is completed. Influence is based on knowledge and expertise rather than on position or title, and shifts as project needs shift. Employees are provided with and expected to operate with a broad understanding of how the parts of the business fit together and of the influences that external forces have on the company's strategies and success.

The "individuality" of each person's ability to contribute is sought out and rewarded. Different ways of thinking, learning and communicating inherent in individual cognitive diversity are seen as contributors to a variety of potential solutions. Expression of opinion leading to creative abrasion and even subversive creativity are recognized as pathways to innovation. There tends to be a high tolerance for ambiguity and acknowledgment that uncertainty is the nature of the beast. The 'glue' that provides cohesion in this potentially volatile environment is a clearly articulated and commonly held sense of purpose and "reason for being." That commonality provides focus for processes that include ways to resolve differing approaches, perspectives, and priorities. The organization places importance on the improvement of interpersonal and leadership skills as well as on developing technical, functional and management skills. The interplay of all this creates a "good enough" environment that contains the natural anxiety that dealing with continuous change processes inevitably generates in human beings.

The various elements within each of these models influence each other considerably as described in the works cited. It is in the cross-characteristics between Stacey's framework, the value spectrums present in Trompenaars and Hampton-Turners' culture differentiation factors, as well as Thomas & Ely's preconditions for leveraging diversity, where important commonalities have implications for any organization with global links among its employees, vendors, customers, or other key stakeholders. By focusing on these commonalities, we can more clearly define the nature of links and tensions, potentially leading to approaches to guidelines for building and sustaining environments where diverse ideas, worldviews and approaches to work can consistently integrate and collaborate. CHART 4 (Appendix) is a Matrix of Factor Relationships Across the Models, delineating which factors in one model strongly influence factors in the others, based upon analysis of definitions and common aspects.

The robustness of Stacey's analysis can be seen in the multiple influences on both other models that each Vitality element has. Information Flow is the most broadly influential, strongly linked to 6 of the 10 other Culture and Diversity Factors. Power & Influence and Inclusiveness both link strongly to 5 of the other factors, while Interconnectivity and Anxiety Containment link strongly with 4. In another direction, within Trompenaars' construct, particularity relates strongly to power & influence; community to interconnectivity and inclusiveness; affectivity to information and inclusiveness; diffusion to interconnectivity; and ascription to influence and inclusiveness. Ascription is the most interlinked Cultural Factor, reciprocally strongly influencing 5 of the other 10 factors, with Community and Affectivity interlinked to 4.

Within Thomas and Ely's construct, diverse perspectives relates to information, interconnectivity and influence; creative abrasion to information and anxiety containment; high standards to influence and inclusiveness; openness to information and inclusiveness; and purpose to information, interconnectivity and anxiety containment. Valuing Variety is the most broadly interlinked Diversity Factor, strongly influencing 6 of the 10 Stacey and Trompenaars Factors, with Tolerance for Creative Abrasion Processes influencing 5.

The most sensitive connections between the Cultural Factors and Diversity Factors would appear to be the degree of Particularity, Affectivity and Ascription with Tolerance for Creative Abrasion processes, and the degree of Community orientation, Affectivity, and Diffusion influencing the ability to Value Variety. It is necessary to keep in mind that each of the Cultural Factors cover a spectrum of attitudes and behaviors that vary across cultures, but are not indicators of functionality, dysfunctionality, or level of desirability. The Stacey Vitality Elements and Thomas & Ely Diversity Factors have identified segments of the spectrum for each element that is considered more functional and therefore more desirable for a healthy, inclusive, creative and adaptable organization. Discordance, if not resistance, is likely when an individual has personal cultural attributes that are inconsistent with these more desirable organizational cultural elements.

Complexity increases as the number of interconnections and relationships increases; thus we can identify the most critical elements of each model that must be paid attention, where amplification dynamics will be more present and more unpredictable, particularly within the Shadow System where they are most disruptive. The Vitality elements most highly linked to Diversity and Cultural Factors are Information Flow (6 linkages), source of Power & Influence (5), and Inclusiveness (5). Most highly linked Preconditions for Diversity are Valuing Variety (6), and Tolerance for Creative Abrasion (5). Cultural Differentiators that are most influential are degree of Ascription (5), Affectivity (4), and Community orientation (4). Four relationships contain common links across all three models: Information Flow – Valuing Variety – Affectivity; Information Flow – Creative Abrasion – Ascription; Power & Influence – Valuing Variety – Affectivity; and Inclusion – Creative Abrasion – Ascription.

Affectivity describes the degree to which an individual is inclined to express feelings or remain neutral. Cultural variations occur in voice modulation, use of humor, cross-talking and respect for space. Assumptions cannot be made about geographic regions. For instance, the nationalities least likely to show being upset at work are from very different parts of the world: Ethiopia, Japan, Poland, and New Zealand. Ascription determines how one accords status to others – either through achievement or through factors such as age, education, gender, social status, or profession. The countries most oriented toward achievement as the basis for status are all English speaking or Scandinavian.⁵ Even experienced or well-educated people from highly ascriptive cultures will dismiss the value of or “work-around” those who are seen as acting out of place or not respecting appropriate attributes of others. These cultural dimensions are most likely to present significant potential obstacles to communication, training, process improvement, and negotiation if their approaches are not designed and implemented with awareness and cautious consideration for their ramifications.

4. Conclusions and Suggestions for Further Research

We have used three complementary models to anticipate and attempt to specify potential obstacles to effective working relationships in globalised operations with an international workforce, particularly including those trained or experienced in emerging economies that have not historically been relied upon for critical functions or management material. We have been able to identify several potential cultural impediments likely to interfere with operational effectiveness and efficiency in organizations attempting to integrate diverse cultures and backgrounds into their international workforce and support providers, but we have not gone into depth in specifying detailed elements or comparative approaches. We have used an analytical approach to identify the most likely critical relationships between important influences. There is little rigorous research on cultural hurdles to supplement the anecdotal material that often ignores the complexities of the situations described. Most useful would be case studies applying the models discussed above, either singly, or as a source of comparative data, to an operation or operations with a substantial international employee population.

⁵ Additional detailed data on topics in this paragraph can be found in Trompenaars, *op. cit.*, Chapters 6 and 8

APPENDIX

CHART 1 - Negative Feedback Loop Promoting Equilibrium

CHART 2 - Legitimate System and the Shadow System

CHART 3 - Positive Feedback Promoting Amplification

CHART 4 - Factor Relationships Across Models