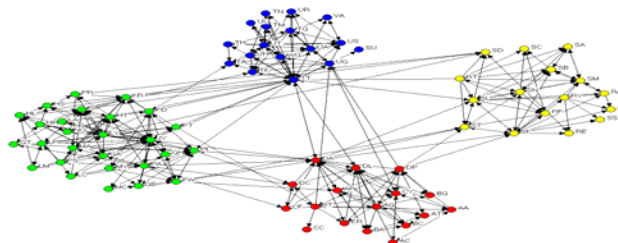


# **Managing Change through Networks and Values: How a Relational View of Culture Can Facilitate Large-Scale Change**

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### **Abstract**

Executives today must implement large-scale organizational change initiatives in ever-tighter time frames with fewer resources. Yet anticipated performance outcomes often do not materialize as internal resistance slows or derails change efforts. This article shows how combined assessments of culture and informal structure can identify barriers to change and facilitate change initiatives. Based on work with ten organizations, we demonstrate how this perspective helps to (1) drive change through people and values in certain network positions; (2) diagnose cultural drivers of network fragmentation; (3) identify dominant beliefs or paradigms impeding cultural change; and (4) intervene with a balanced emphasis on instrumental and expressive relations.

## **Managing Change through Networks and Values**

Organizations must learn and adapt at an ever-increasing pace. Technological change, shrinking product life cycles, increasing customer expectations, and the never-ending search for efficiency all demand that executives constantly revisit not only product and service offerings but also the alignment of strategy, structure, and processes.<sup>i</sup> This is no surprise to those who have been living this experience for some time. We have all been inundated with volumes written on ways to manage change through leadership,<sup>ii</sup> participation,<sup>iii</sup> and organizational alignment.<sup>iv</sup> Yet while advice for managers mounts, success in implementing change does not appear to be improving. One recent Gartner Group study found that, although 90% of companies surveyed had undertaken significant organizational change within the previous two years, only 5% had avoided substantial disruptions and finished on time.<sup>v</sup>

Part of the problem lies with resistance to change emanating from culture and informal structure, two forces that influence the success of change initiatives in dramatic but seemingly invisible ways. In the words of one executive, “[Change efforts] never die because of direct confrontation. Direct confrontation you can work with because it is known. Rather, they die a death of a thousand cuts. People and issues you never confront drain the life out of important [initiatives] and result in solutions that simply do not have the performance impact that they should have.” Mergers and acquisitions, for example, have an abysmal track record for generating anticipated financial results, due in large part to the difficulty of integrating different cultures.<sup>vi</sup> Similarly, recent research shows that the financial value of corporate restructurings undertaken over the past two decades—a

trend that has intensified recently—is questionable due to the substantial but often hidden costs of transition.<sup>vii</sup>

One step toward more effective change lies with better understanding how culture and informal structure influence a change process. Managers need to strike a careful balance between encouraging conformity to corporate values and allowing creative friction among those holding different perspectives. The most successful corporate cultures are not uniform, coherent, or “strong.”<sup>viii</sup> Rather, some degree of inconsistency and disagreement is important to innovation and survival over time.<sup>ix</sup> Organizational network analysis (ONA) provides a lens to understand patterns of collaboration that, when combined with an assessment of cultural values, more accurately portrays means of targeting and effecting cultural change in networks than more traditional diagnostics.<sup>x</sup> In this article, we will show how combining an awareness of where people or groups sit in a network with a deeper appreciation of their cultural values and practice can inform a change process.

### **Networks and Values in a Consumer Electronics Organization**

In the face of dwindling market share, the computer division of a well-known global consumer electronics company was under the gun to improve the speed and quality of its product development efforts. To innovate rapidly, engineers with disparate expertise needed to collaborate regardless of position in formal structure. Mechanical and electrical engineers needed to come together to design lightweight, thin, and power-efficient notebook computers for a fast-growing segment of the market. Software developers needed to work closely with electrical engineers to develop multimedia

components of the hardware. However, these collaborations were not occurring and this resulted in frequent decision-making delays and an inability to rapidly innovate along desired trajectories.

We conducted an assessment of this division's top 105 engineers and managers with a survey that focused on both cultural values and collaboration as revealed in an ONA. Lines in Figure 1 illustrate who turned to whom for information to get their work done, while shapes of each node (or person) in the network reflect hierarchical level. This diagram and other metrics indicated that information was principally sought from those higher in the hierarchy—visually engineers are on the periphery of the network; senior managers are central. Information silos also existed across departments and projects as well as between headquarters and a secondary site where much of the manufacturing occurred. In short, the network assessment confirmed management's suspicions that ineffective collaboration undercut this division's ability to innovate and thereby maintain or gain market share.

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However, questions remained as to why these disconnects were happening and what could be done about it. There could be several explanations, such as poor work flow and decision-making processes that forced engineers to reach up the hierarchy for information. But interviews indicated these aspects of formal structure were not problematic. It was only by focusing on “values” – members' perception of the organization's culture – that we found the drivers of network fragmentation.

For example, there was a striking contrast between engineers, who perceived the culture as rigid, and upper management, who perceived the culture as highly flexible. This was eye-opening to members of management, who felt they had created an adaptive organization. Somehow management and many senior engineers had come to operate on very different norms and values. Senior managers were crafting market and product strategies that anticipated creativity and lateral collaboration while the engineers' actions reflected a belief that initiative and creativity were not valued in the organization. The perception of those in upper management was influenced by their experience rising through the ranks. They had moved up at a time when the company was growing rapidly and competition in the marketplace was not so fierce. This was in stark contrast to current engineers, who were working in a more competitive environment. These engineers found their efforts driven by tight deadlines and hindered by constant sign-offs on critical decisions. They had little time for collaboration or exploration of ideas outside of immediate project goals. According to one senior manager, "Our culture *was* free and vigorous, but today, we might have lost that culture. Our young engineers feel isolated. We want the early days back."

Other cultural disconnects were also uncovered. There was clear fragmentation across departments that was driven by formal structure (e.g., reporting structure, physical location, incentives) but also by different occupational values. Certain engineers focused heavily on usability in product features; others were principally concerned with style and portability – values that often were not made explicit in team meetings but caused project delays as divergent decisions consumed time. Cultural perceptions also differed depending on staffing. Employees who worked on multiple projects (e.g., both notebook

and desktop computers) had much higher cultural scores, a “big picture” view of the organization and a broader network to tap into for information or resources. In contrast, project managers were central but had very low culture scores, as they felt overburdened and pushed into a bottleneck position. But this was a trap of their own making, as they continually reached up in the hierarchy for solutions to technical questions. This pattern that both project managers and executives had fallen into consumed a great deal of everyone’s time as people waited for answers.

In this case, the network analysis was an important aspect of the company’s change efforts. Those in management knew there were problems with information flow, problem solving, and decision making that hindered innovation. However, they had difficulty determining exactly what was wrong and how to fix it. Assessing informal structure with different lenses - through both formal structures such as hierarchy and job position as well as through cultural values - gave them insights that typical diagnostic processes would miss. The “*About the Research*” insert below provides more specific insight on how to obtain and interpret this information. The remainder of this article demonstrates how combining network and cultural assessments can help an executive:

- Work uniquely through brokers/central connectors and peripheral network members to enact cultural change.
- Identify fragmentation points in a network that can undermine a change effort and that are driven by clashes of cultural values or perspectives.
- Understand how certain beliefs or values are dominant in the way an organization evolves due to their prominent position in the network.

- Design interventions targeting the right balance of instrumental and expressive relational dimensions.

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**Driving Change through People and Values in Certain Network Positions.**

ONA provides a rich set of analytical tools to assess interaction patterns,<sup>xi</sup> and network research has shown how these patterns can affect change via power,<sup>xii</sup> diffusion of ideas,<sup>xiii</sup> and formation and maintenance of belief systems.<sup>xiv</sup> Yet, to date, these approaches have been largely structural, with little emphasis placed on the characteristics, such as beliefs and values, of people in a network. Assessing culture as distributed throughout a network identifies people who are influential (by virtue of their network position) *and* either embrace or shun certain beliefs or ways of working. While standard culture assessments can be disaggregated to show subcultures by various contours of an organization (e.g., function, hierarchy or site), formal organizational charts can be a poor indicator of how work is getting done,<sup>xv</sup> and managers inaccurate in their perceptions of who is collaborating with whom.<sup>xvi</sup> With a combined assessment, the cultural component can help reveal who holds (and how strongly) certain beliefs, whereas the network component can help inform the relative influence of these people within the network.

*Working through key culture carriers.* First, ONA can identify highly connected and influential people in an organization.<sup>xvii</sup> For example, consider a well-known government agency where we assessed a network of 108 people distributed across the organization. This group was formed to model cross-organization collaboration for the

agency. Traditional approaches to collecting and interpreting tactical information, developed during the Cold War era, had become obsolete. Sophisticated threats (e.g., biological, chemical, and nuclear weapons) coming from very different national contexts (e.g., North Korea, Middle East) demanded new ways of acquiring intelligence and making key decisions. Problems with information flow across departmental lines—lines drawn during the Cold War—hampered the organization’s ability to synthesize information regarding the technical, political, and cultural dimensions of threats. These problems were made worse by enduring features of the organization’s culture. More established Cold War veterans clung to a way of looking at the world that was not consistent with newer employees’ (often labeled Gen Xers) views.

Here our assessment combined the Cultural Values Inventory<sup>xviii</sup> with a network survey. This provided a rich view of both what people saw as the current cultural values and what they thought those values should be. For example, we consolidated 12 items to reflect a learning/openness scale. In Figure 2 we show each network member’s ratings on this value along with his or her position in the information network.

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Several interesting themes emerged with this perspective. For example, it turned out that both high and low culture carriers were central to the network. That is, people who believed the organization *was* flexible and learning oriented and those who believed it *was not* flexible and learning-oriented were highly connected. This odd scenario made sense when we factored in the direction of information flow. Those that felt negatively

about the culture tended to be central because other people came to them for information yet they did not reach out to others. These people were central because they held information or had expertise that others needed, not because they were inherently collaborative in their work. In contrast, those who felt positively about the culture tended to be central because they heavily sought out information (in addition to being sought after). In other words, the positive culture carriers were central because they were much more collaborative in their interactions.<sup>xix</sup>

Insights such as this afford opportunities to drive cultural change in a very targeted way. Negative culture carriers who are highly central are prime candidates for coaching or other developmental experiences. Alternatively, behaviors of positive culture carriers can be reinforced through stories and formal mechanisms such as performance assessments. The sponsor in this case organized an offsite meeting to assess the network results and brainstorm opportunities to promote more effective inter-agency collaboration. The first portion of the meeting covered the network analysis results; the second focused on teaching narrative techniques<sup>xx</sup> as a way to execute cultural change through the network. In the workshop, success and vision narratives were crafted to be communicated to the broader network as a first step to shift cultural values and old work practices. With the results of the network/culture assessment, the sponsor was better able to ensure that those people most influential in the network were on board and communicating the change to others in an effective and engaging manner.

A second route to cultural change lay with each network member's personal connectivity. When we conduct these assessments, people spend about 15 minutes completing an on-line survey that yields the information necessary for network analytics.

Once each survey is completed, a personal web site is generated that allows employees to assess their own network connectivity on dimensions that systematically influence learning and performance. Here it seemed that those who viewed culture negatively had fallen into a self-fulfilling trap. Not seeking opinions and advice, they reinforced their own perceptions that the culture was threatening and non-learning by never reaching out or putting themselves at risk to test these assumptions. Targeting such people specifically with developmental plans can help them begin to reach out or use experiential learning activities to shift their perspective of the culture. More broadly, change programs can leverage members' individual profiles to encourage desired shifts by building out relationships and engaging in more collaborative behaviors.

*Uncovering cultural brokers and marginalized perspectives.* Sometimes, important attitudes and values reside not with those who are playing a central role but with people who work on the periphery of sub groups or the entire network. In some cases, values that are peripheral today may prove central to the organization that change agents are trying to build. In other cases, brokers—those who sit between subgroups or functions in a network—prove critical to coordinating and getting buy-in to change efforts. Because they are often not immersed in the day-to-day interactions of any one group, brokers appreciate the expertise and values of one or more other subgroups and so have a unique ability to coordinate and execute large change initiatives.<sup>xxi</sup>

Consider Tom, a manager in the research and development function of a large consumer products company. Though the formal structure of Tom's unit included several research branches, an ONA revealed two distinct collaborative subgroups: new product development and support. Product development received a disproportionate share of the

resources and had higher status within the organization, whereas support found it difficult to influence decisions and resource allocation. The two groups also had very different cultures. Product development was influenced by the marketing function and so tended to take more risks, work on shorter time frames, and focus on market demands. The support groups put greater emphasis on scientific validity of claims, were more risk-averse in substantiating claims, and were much more comfortable with longer time frames.

Tom was responsible for substantiating the scientific validity of advertising claims. His role in a relatively small support group placed him well outside of the mainstream R&D unit. Yet, he was in constant contact with toxicologists and other scientists doing research on new product claims (a support function), product developers who were attempting to generate marketable innovations (new product development function), and marketers who were advancing the claims about certain products. In the course of his daily interactions, he had become fluent in the values and language of the two subcultures of R&D as well as the marketing department. At times, he found himself working on short time frames and suggesting possible reformulations of advertising claims that were more legally tenable. At other times, he appealed to the need to avoid litigation and emphasized the need for long-term research on a project. In short, Tom's skills and cultural awareness (i.e., deep connections to those with different values) allowed him to reduce friction between subcultures with competing interests and produce viable solutions on a day-to-day basis.

In network diagrams, brokers such as Tom can be identified by their ties across subgroups tightly clustered around a given set of cultural practices or values. Influential brokers exist in all companies but often go unrecognized because they are not highly

visible in any given subgroup and frequently not in a position of formal authority. Yet despite their lack of visibility, these brokers are very effective at coordinating across subcultures. If you are initiating a change process, people such as Tom are whom you want on the design and then implementation team. If you are communicating a change imperative, the Toms of the world can help you diffuse messages throughout the network in a much more effective way than proclamations at an all-hands meeting. Their structural position in the overall network and their connections across subcultures make them very effective in translating and brokering commitment to a course of action.

**Diagnosing cultural drivers of network fragmentation.** Survey-based research on organizational culture characterizes norms, values, and assumptions with averages of survey items.<sup>xxii</sup> Network analysis allows us to visualize culture as distributed throughout networks—a relational view that helps identify fragmentation points that can undermine a change effort but be invisible with standard culture assessments. Two subgroups—one that strongly advocates a value and another that equally opposes it—would cancel each other out in an average calculation and so hide very substantial impediments to change if assessed with traditional survey measures. Rather than claim, based on average responses to a survey, that an organization or unit has a given culture, a network perspective lets us see distribution of culture and where differences might be undermining performance.

*Assessing diffusion of prescribed values, norms, or practices.* Consider the R&D function of a global pharmaceutical firm. The product of a merger between U.S. and European parent companies, the firm's managers were keenly aware of potential cross-cultural problems. Decisions had been made to standardize many laboratory procedures

to leverage complementary expertise of legacy R&D units. After the change process, management conducted an ONA to measure progress in integrating the R&D unit. Initial results were promising. As seen in Figure 3a, although there were three discernible national subgroups in the network, there appeared to be strong communication ties between the subgroups.

However, the picture became more nuanced when managers also focused on certain cultural practices. We conducted a series of interviews to identify norms and practices and then turned specific observations into questions in the network analysis. A typical question was “(True or False) Clinicians become involved in project teams early in the development process.” Our assessment revealed that although there was consensus on some matters there were many points where important practices had not diffused well in the network. For example, one value that immediately stood out lay with management’s widespread efforts to “harmonize,” or standardize, the assays that scientists used to determine a compound’s properties. Figure 3b shows that, although scientists in each of the units agreed that harmonization *had not* worked, senior managers and team leaders in each location perceived that harmonization *had* occurred.

This kind of view can offer two general insights. First, it is no more than stating the obvious to tell a manager, with a network analysis or cultural assessment alone, that two groups that need to work together are doing just fine. On average, there may be communication and cultural consensus. Yet, specific barriers to successful collaboration, such as the unstandardized testing procedures at this company, may persist only to surface at an inopportune moment. Second, the structural position of the managers in this network insulated them and allowed them to live in a world where their beliefs did not

reflect reality on the issue of harmonization. Each senior manager was either highly networked with other senior managers (thus creating insularity in what they wanted to believe) or heavily tied to their own unit (leading them to see only those procedures in effect that were already standard in their geographical location).

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*Visualizing fragmentation driven by cultural rifts.* As outlined above, from a top-down perspective ONA can identify where fragmentation of prescribed practices or values is undermining performance. In addition, from a bottom-up perspective, it can also help isolate fragmentation caused by differing values and assumptions. Invisible differences in belief systems can increase the costs of change yet go unrecognized or be inaccurately diagnosed. In one merged company, we found a lack of integration at key points driven by differing values: One group focused on product features and style; the other had a long lineage of concern for product safety. We encountered similar circumstances in a major alliance between a well-known pharmaceutical company (that was progressive in thought and practice) and an established consumer products organization (which was highly controlling and conservative in thought and practice). In another merger of two consulting firms, hidden and often un-discussable conflicts emerged over legacy values: One focused on maintaining long-standing client relationships and the other on more immediate sales and profitability. In each of these cases, organization design and leadership decisions had been made that should have resulted in a smooth transition. It was only after looking more deeply at ONA results that

change agents were able to locate points of cultural resistance and diagnose change problems more accurately.

For example, we assessed an internal consulting practice of a large Canadian bank. The group was the product of a restructuring that integrated three practices: a business process reengineering group, an information technology consulting group, and a database management group. Overall, the company envisioned that capabilities in these three practices could complement each other and provide turnkey solutions to solve the bank's internal and external needs. However, months after the restructuring there was little evidence of effective collaboration.

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As Figure 4 demonstrates, consultants in the various practices were not collaborating because they did not know how to integrate specialized expertise on projects. This problem stemmed from deeper differences concerning how each subgroup thought about and organized their work. As one example, members of the business process group had devised a highly defined six-step engagement methodology for diagnosing and solving client process problems. By contrast, the information technology group had long worked on problems in an informal way. The nature of their projects—the group tended to work on one-off projects such as devising information architectures and pricing structures--demanded more flexible and customized approaches. By saying that they perceived the organization as inflexible and centralized, members of the information technology practice were saying that the department was becoming one in which it was

difficult to work in their preferred ways. By contrast, consultants in the more production-oriented business process group hesitated to get involved with the information technology group for fear that projects would become “derailed” by IT consultants who were more focused on producing technically elegant solutions than meeting client deadlines.

This is just one of many rifts that the ONA uncovered by allowing us to visualize points where differences in what people cared about in their work had resulted in subcultures and work practices that created silos in the network. These differences are common in most any restructuring or merger and can be output-oriented (e.g., a focus on product style versus safety) or process-oriented (e.g., flexible versus structured approaches to work). Regardless, value differences are often invisible and can quickly become labels applied to the “other” group (i.e., they are too rigid or they are too unreliable) rather than seen as different perspectives to be explored and bridged. Combining cultural values with ONA enables an executive to move from intuitively knowing that two divisions do not talk to a more complete view of how different values and practices are causing fragmentation.

**Identifying dominant beliefs and values.** In other cases, it is not merely the fact that views differ but that beliefs or assumptions become so pervasively held that they reinforce negative patterns of interaction and restrict new ways of working.<sup>xxiii</sup> Sometimes these assumptions are obvious, can be articulated, and fall into classic cultural definitions such as flexible versus inflexible. Other times, they are locally embedded and require change agents to be able to uncover subtle values and norms that tacitly dictate how people spend their time or what they care about in their work.

Managers at another large pharmaceutical company learned this lesson the hard way. This organization was in the midst of restructuring the R&D function, a process complicated by familiar concerns. Business units were spread out over three continents, there were separate functional units involved, and there was still residual fragmentation due to a prior merger. Midway through integration, management paused to analyze the networks developing in various units. There were certainly signs of the legacy subunits, but there were also fairly robust cross-unit ties forming. Moreover, the cultural assessment suggested that people in both former subunits saw the organization as task-focused and structured and had clear direction, goals, and objectives. The picture seemed positive but in practice the subunits were not able to devise projects that bridged the gaps between the old functional areas and there were political struggles over resources.

At this point, we began a series of interviews with members of both legacy subunits. They acknowledged the challenges of restructuring but most expressed a genuine interest in finding projects on which the newly integrated unit could collaborate. We then asked them, “What is the key strategic priority for this new unit right now?” One after another, interviewees began to give different answers: “building our own skill set and knowledge base”; “speeding up R&D’s overall development cycle”; “adopting uniform technical standards.” In the end we had a list of 18 *different* “top” priorities. As a follow-up in the ONA assessment we asked everyone in the unit to identify, from the list of 18 possibilities, the top five priorities in rank order. In this case, 12 out of the 18 options received at least one first-place vote. Clearly although this group had consistent cultural perceptions at one level, they were tearing themselves apart at a deeper level in the pursuit of conflicting objectives.

Two overarching sets of priorities emerged. On the one hand, there were the “marketing” priorities: enhancing the unit’s product range and understanding internal client needs. On the other hand, there were “technical” priorities: specific applications to improve and technical standards to unify. People who rated the marketing priorities highly tended to come from one legacy company and also tended to rate the technical priorities low. The reverse also held. Employees who rated the technical priorities high tended to come from one legacy company and also rated the marketing priorities low.

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Having such large numbers of employees subscribe to sharply different priorities was clearly a concern. Further it appeared to be a self-reinforcing loop. The overarching cultural values in the organization—which were shaped by a Germanic national cultural background and historic organizational norms—contributed to a sense that people should respect bureaucratic boundaries. This meant that the widely shared agreement that the unit’s culture was task-focused and structured, which managers had originally lauded as a sign of growing consensus, actually reinforced the idea that those pursuing one set of priorities had no need to consult with those pursuing the other. In short, the fact that employees agreed so much about the importance of divisional boundaries meant that they had no basis for agreeing on priorities.

Here, network analysis provided a rich yet simple intervention. What management had not done effectively was to articulate the objectives of the newly restructured unit or leverage the influential players in each unit to craft both a strategic and operational way

of working together. Taking the time to identify the specific cultural elements impeding the change effort kept managers from undertaking an overly ambitious program of change. Staffing or other more temporary mechanisms can select highly influential people in each subgroup and bring them together in ways that help a transition to ensue. The more fine-grained a manager's assessment of the dominant cultural paradigm in an organization, the more precisely they can work to change relevant norms and values.

**Design interventions targeting the right relational dimensions.** To date, social network theorists have focused heavily on structural properties of networks and paid comparatively less attention to the kinds of relationships that bind a network together.<sup>xxiv</sup> Research linking network characteristics with important organizational outcomes has largely focused on instrumental ties, such as task-related communication, information flow, workflow, or material and monetary resources.<sup>xxv</sup> However, recent work exploring expressive relationships such as friendship,<sup>xxvi</sup> personal or career support,<sup>xxvii</sup> and trust<sup>xxviii</sup> offer another avenue to driving cultural change. Values are highly influenced by relationships that have an emotional component as we tend to share opinions and views of those we enjoy being around, trust, or consider friends.<sup>xxix</sup> Culture is subjectively negotiated and validated in interactions with others—and quite often those we like being around tend to be more important in defining cultural perceptions than those whom we turn to for work-related information.<sup>xxx</sup>

Applying ONA to affective/emotional aspects of relationships provides another means of understanding where and how to intervene in cultural change efforts. For example, we assessed the HR division of a large northern European telecommunications

company. In addition to information flow we assessed whether members of the department energized each other in day-to-day interactions given recent findings relating energy to performance and innovation.<sup>xxx1</sup> In particular, we asked, “How do interactions with the people below typically affect your energy level?” (response of positively, neutral, or negatively). In this case, we clearly found that people were energized by those with similar perceptions of cultural dimensions such as formality and centralization. Similarly, in a financial services organization, we found that those who felt the organization *did* value teamwork were much more likely to be connected in the energy network than were those who felt the organization *did not* value teamwork. In other words, people were energized in interactions that confirmed their views and were more likely to seek out those with similar views over time.

In general, we have found that those sharing similar perceptions cluster much more strongly in the energy network than in the information network. At a high level this suggests that efficient routes to cultural change must also consider affective networks in organizations such as trust, friendship, or energy. For example, interventions can focus on creating energizing bridges across subgroups when greater uniformity of values is desirable. Fairly consistent behaviors have been associated with energizing relationships that can be encouraged through training, development, or human resource processes (e.g., hiring, on-boarding and performance evaluation).<sup>xxx2</sup> Creating targeted sets of ties through staffing, co-location, or just periodic meetings or task forces combined with a focus on behavioral aspects of energy helps to bridge these divides.

This perspective can also transform large-scale facilitated workshops designed to communicate the necessity for cultural change. Such workshops will succeed or fail

based on their ability to motivate a case for cultural change by appealing to energy and emotion in addition to focusing on hard facts and figures. Too often vision statements and the processes that produce them are intellectual exercises. However, some of the most successful vision statements and visioning processes leverage positive emotions such as fun, courage, and intensity. For example, at a leading manufacturer of advanced circuit boards, an early visioning process focused on space exploration as a metaphor for the product development process. Continuing its commitment to emotionally charged organizational change and growth, the company recently built its annual sales meeting around a team-building exercise. In each case, employees who had connected with each other only via emails and phone calls came together in high-energy environments and left with a renewed commitment to the company's mission.<sup>xxxiii</sup>

Finally, it is possible to reconsider work itself as a way to both bridge networks and generate energy and enthusiasm in a targeted way. Consider IDEO, a leading product development firm based in Palo Alto, California. IDEO's managers pay a great deal of attention to the interaction patterns that allow effective collaboration, going so far as to use video cameras to study how designers and engineers interact.<sup>xxxiv</sup> In turn, these patterns find their roots in a strongly held commitment to brainstorming and information-sharing. IDEO employees consider it a measure of status to be included in brainstorming and prototyping meetings in other departments.<sup>xxxv</sup> Employees seem energized by the company's commitment to breaking down boundaries and seeking out fresh, unstereotyped ideas. The result? IDEO's headquarters has been described, in various places, as a "zoo", a "playground", and a "kindergarten classroom".<sup>xxxvi</sup> Yet, there can be no argument with the string of creative designs IDEO has produced, from the Palm Pilot

to the Leap office chair line. Clearly engaging the heart at work and encouraging values and practices that energize as well as connect organization members can be enormously fruitful. At the heart of the collaborative and creative culture, which so many firms aspire to, is a carefully managed overlap between values, emotions, and interactions.

### **Conclusion**

Effective organizational change requires managers to go beyond formal organization charts and values statements. To understand the dynamics that promote greater integration and collaboration, managers need a clear view of how cultural forces may shape and, in turn, be shaped by the networks of interactions that constitute an organization's informal structure. Our research has demonstrated several ways in which networks and culture work together either to sustain effective organizational change or to undermine change interventions. Whether the context is a restructuring, a merger, or merely the ongoing improvement of a business unit, successful interventions rest on an awareness of cultural values and assumptions as they are distributed across networks.

Of course, this awareness rarely derives from intuition or from a general feel for the organization. Time and again, we have found that instincts about organizational culture can be highly unreliable. It is, after all, too easy to convince ourselves that the culture that we experience as individuals, through our immediate network interactions, must be the culture of the organization as a whole. It is also easy to imagine formal organizational structures and values statements to be much stronger than they actually are. It is too easy to underutilize central players who embody the desired cultural values and can play a key role in teaching others to collaborate, and it is all too easy to ignore

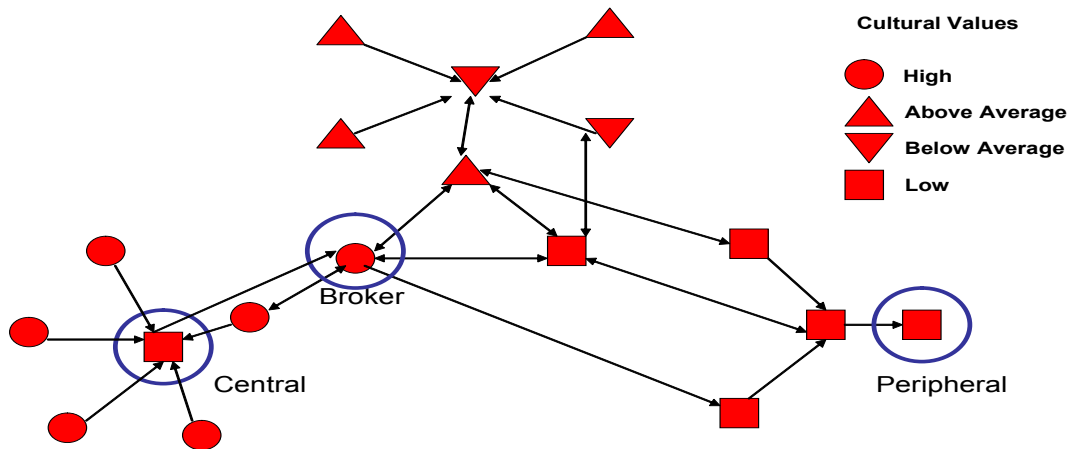
marginal players who have developed broad-based outlooks that can help to reconcile different subcultures. In the end, the techniques that we have described and illustrated in this article help managers to go beyond their intuitions and to test their general assumptions about organizational realities. Social network analysis, combined with measures of organizational culture, offers a unique tool for managers seeking to create collaborative and adaptable organizations.

## About The Research

This work has emerged from a broader program of research, conducted over the past eight years, focused on understanding various ways to promote organizational effectiveness through a network perspective. In this work we have applied network analytic techniques in over 80 organizations, with a subset of these also focused on understanding how culture can be assessed as distributed in a network. There are two ways to go about this kind of work (this article is based on the first approach, but for interested readers we also outline a second that is provocative as well).

*Measuring cultural values as distributed in a network.* One way of assessing values as distributed in a group is to combine a culture and network assessment in a single survey. Although the relational data can be obtained in a variety of ways, from tracking e-mails to observing people over time, the most efficient means is often to administer a 10- to 20-minute survey. These surveys are delivered via an on-line instrument and capture both relational characteristics of a network and cultural beliefs and values. Cultural items included in this kind of an assessment can either be established and validated scales relevant for the context at hand or ethnographically generated via open-ended interviews that inform question items. Regardless of approach, the key output is being able to generate network diagrams that show how culture (and its various dimensions) is distributed in a network.

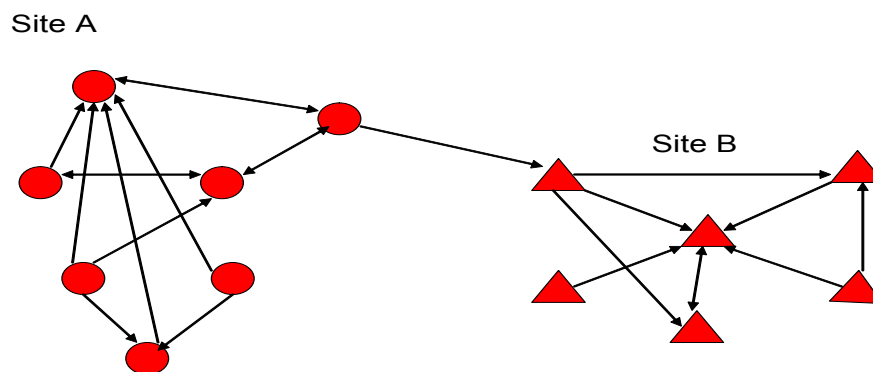
The results of the social network analysis survey are then used to create a network diagram, as shown below. Connections (depicted as arrows) among people (depicted as nodes) are drawn to show the level of connectedness, fragmentation points, and positions people have in the network (e.g., central, broker, and peripheral). We can then highlight nodes in the network by a person's demographic attribute, such as tenure, department affiliation, or work location. In this study, we depicted nodes by people's perception of the organization's culture. In many cases, we used the cultural values inventory scale (as shown in Figure 2a) to develop our culture value metric. Either two levels of cultural values (above and below the organization mean) or four levels of cultural values (above and below one standard deviation from the organization mean) were used in our figures.



In the diagram, four levels of culture values are shown. Employees who have a culture score one standard deviation above the organization's mean has a high perception of cultural values (depicted as a circle), employees who have a culture score that is between the organization's mean and one standard deviation above the organization's mean has an above average perception of cultural values (depicted as an upward triangle), etc.

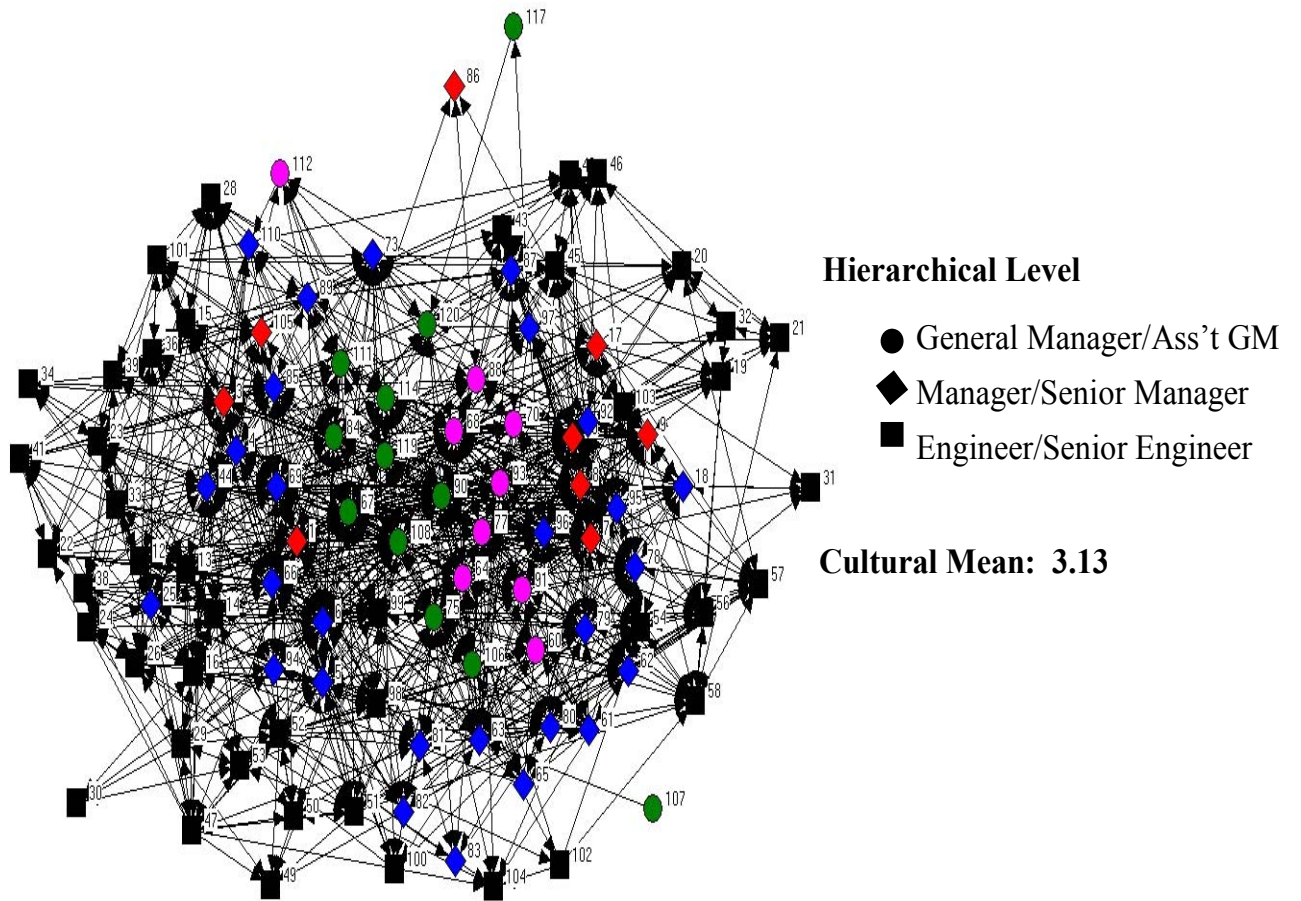
A critical consideration in a network survey is what dimensions of the relationships one is interested in assessing. In most companies managers are very interested in assessing information flow in networks. In addition, they are also frequently interested in relationships that help to assess aspects of social capital within a given group. For example, we will often map networks of trust (e.g., "I trust each person in this group to keep in mind my best interests") or energy (e.g., "When you interact with this person how does it impact your energy?"). A key point here is that we often find people with similar values to cluster more in networks of these expressive dimensions than instrumental dimensions.

*Identifying key culture carriers in an organization.* An alternative way to assess culture is to use network analytics techniques to identify the people who all others in an organization feel most reflect or embody the values of that organization. For example, we will often map a relationship to the effect: Please indicate the people below whom you feel most represent and embody the values of <organization x>? For example, in the hypothetical diagram below, this question was asked at two different sites in an organization. In this case, the employees tend to perceive others at their own site to represent the values of the organization. There was only one instance where an employee from Site A felt an employee from Site B embodied organizational values.

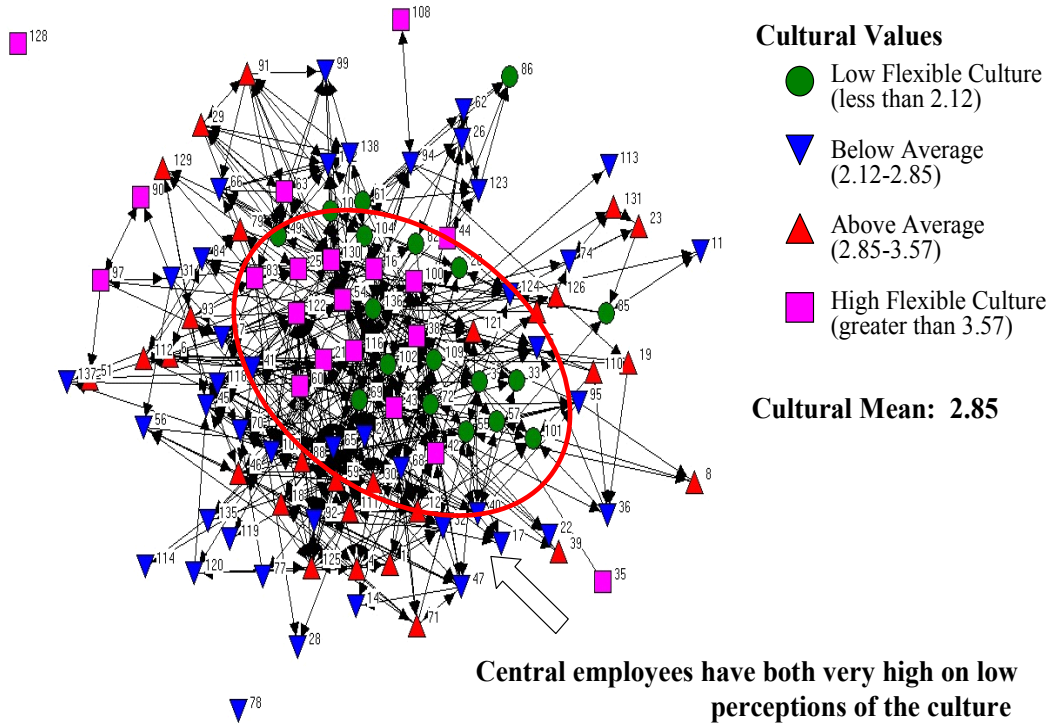


Networks generated in this way help identify culture carriers in a given organization (but provides no information about the values themselves). This approach is powerful in associations or other non-profits where departures of key people (as defined by the network) might dramatically shape or leave a void in terms of maintaining the values a group stands for over time. A common application of the ideas in these realms is to identify the key culture carriers, do interviews to determine what they represent, and then ensure these perspectives are represented by leaders entering the network.

**Figure 1**  
**Hierarchical Levels of Employees in a Consumer Products Electronics Firm**



**Figure 2**  
**Identifying Key Culture Carriers in a Government Agency**



**Items used to measure “flexible” culture**

- 1). Participation, open discussion
- 2). Empowerment of employees to act
- 3). Assessing employee concerns and ideas
- 4). Human relations, teamwork, cohesion
- 5). Flexibility, decentralization
- 6). Expansion, growth, and development
- 7). Innovation and change
- 8). Creative problem-solving processes
- 9). Task focus, accomplishment, goal achievement
- 10). Direction, objective setting, goal clarity
- 11). Efficiency, productivity, profitability
- 12). Outcome excellence, quality

Please assess the extent to which each characteristic is valued in your organization currently.  
 Response Scale: [1 to 5] from “little extent” to “great extent”

**Figure 3a**  
**Post-Merger Communication in a Pharmaceutical R&D Unit**

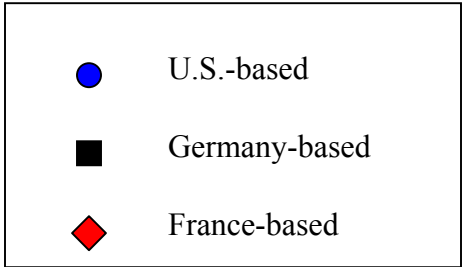
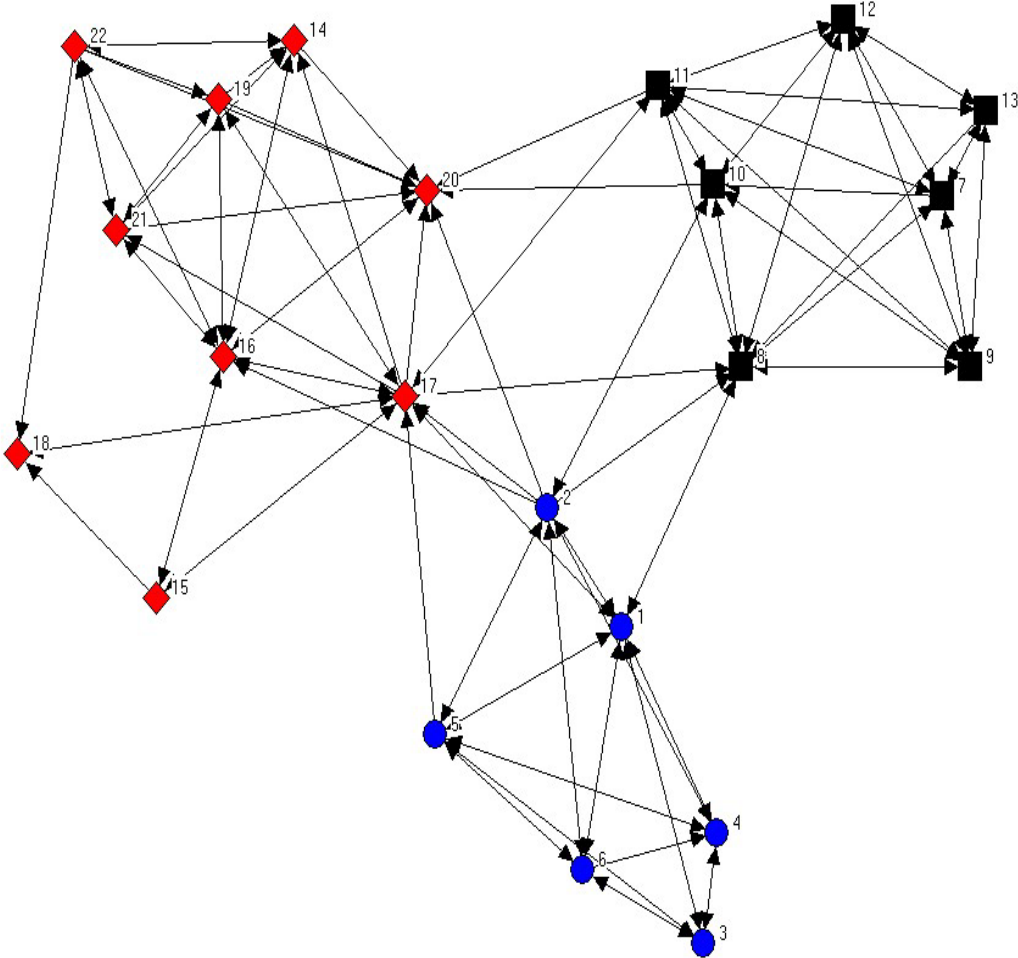
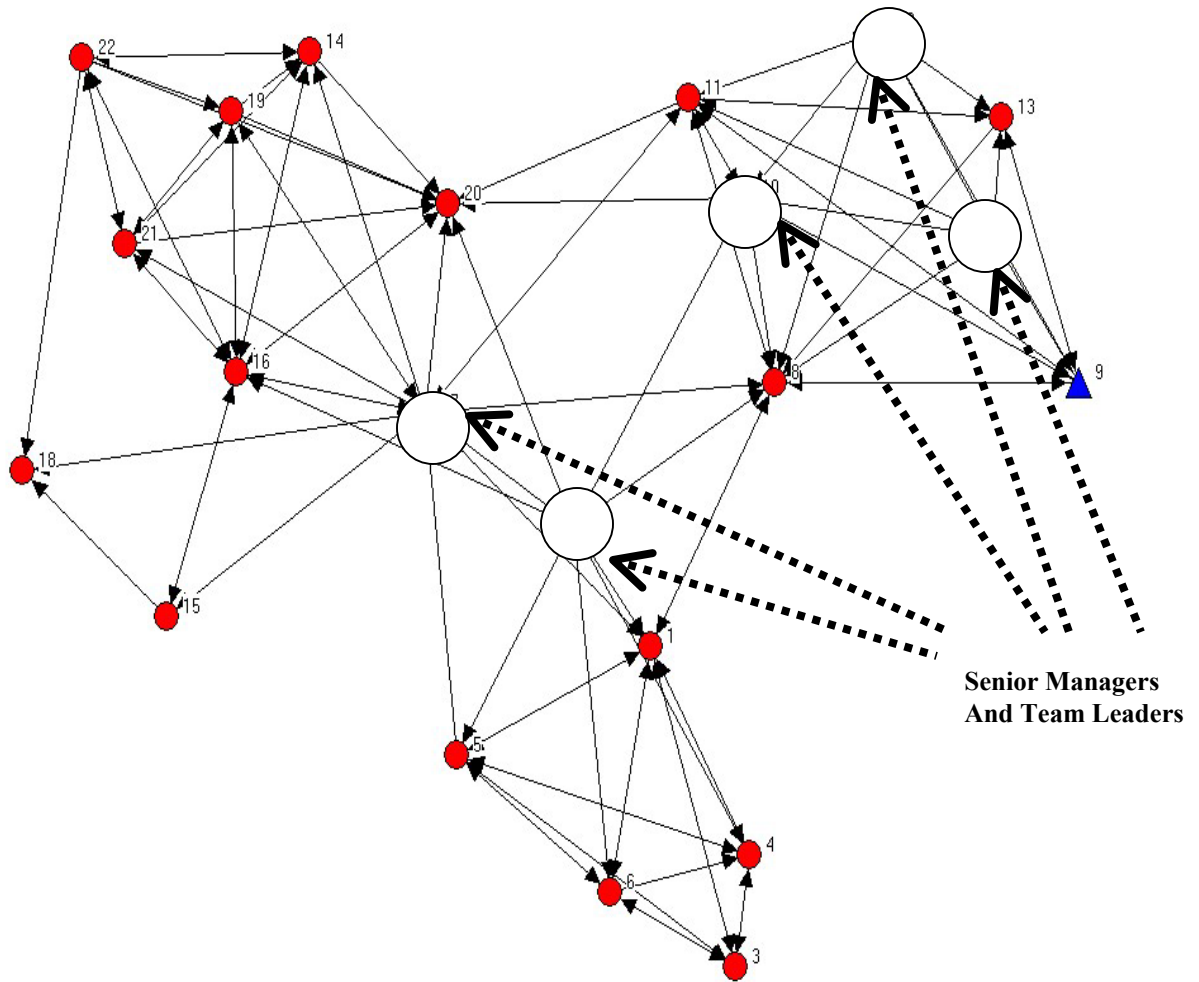




Figure 3b

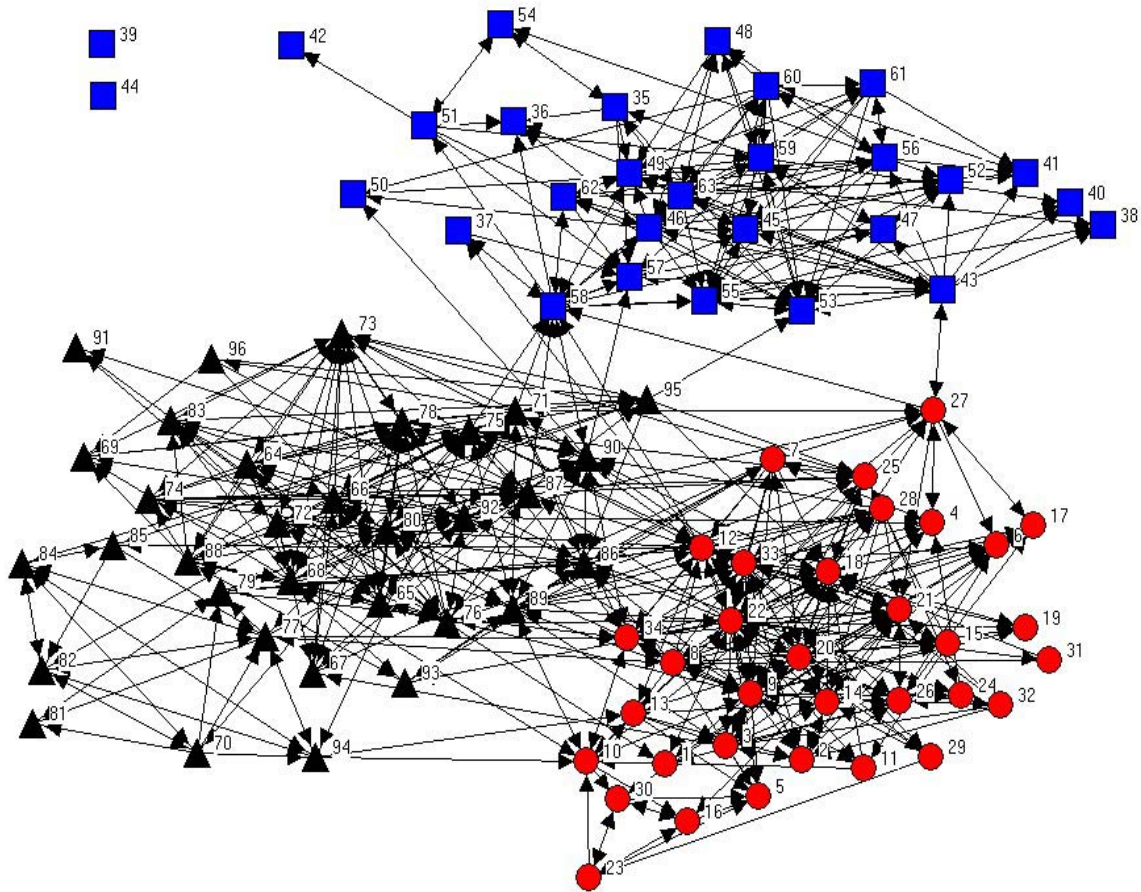
How Widespread Are Cultural Practices?



Question: (True or False) Most assays have been harmonized across sites.

-  True
-  False

**Figure 4**  
**Fragmentation at a Commercial Bank**



**Function**

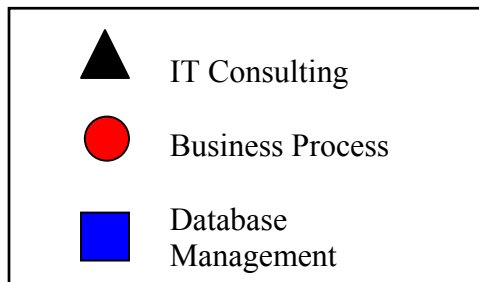
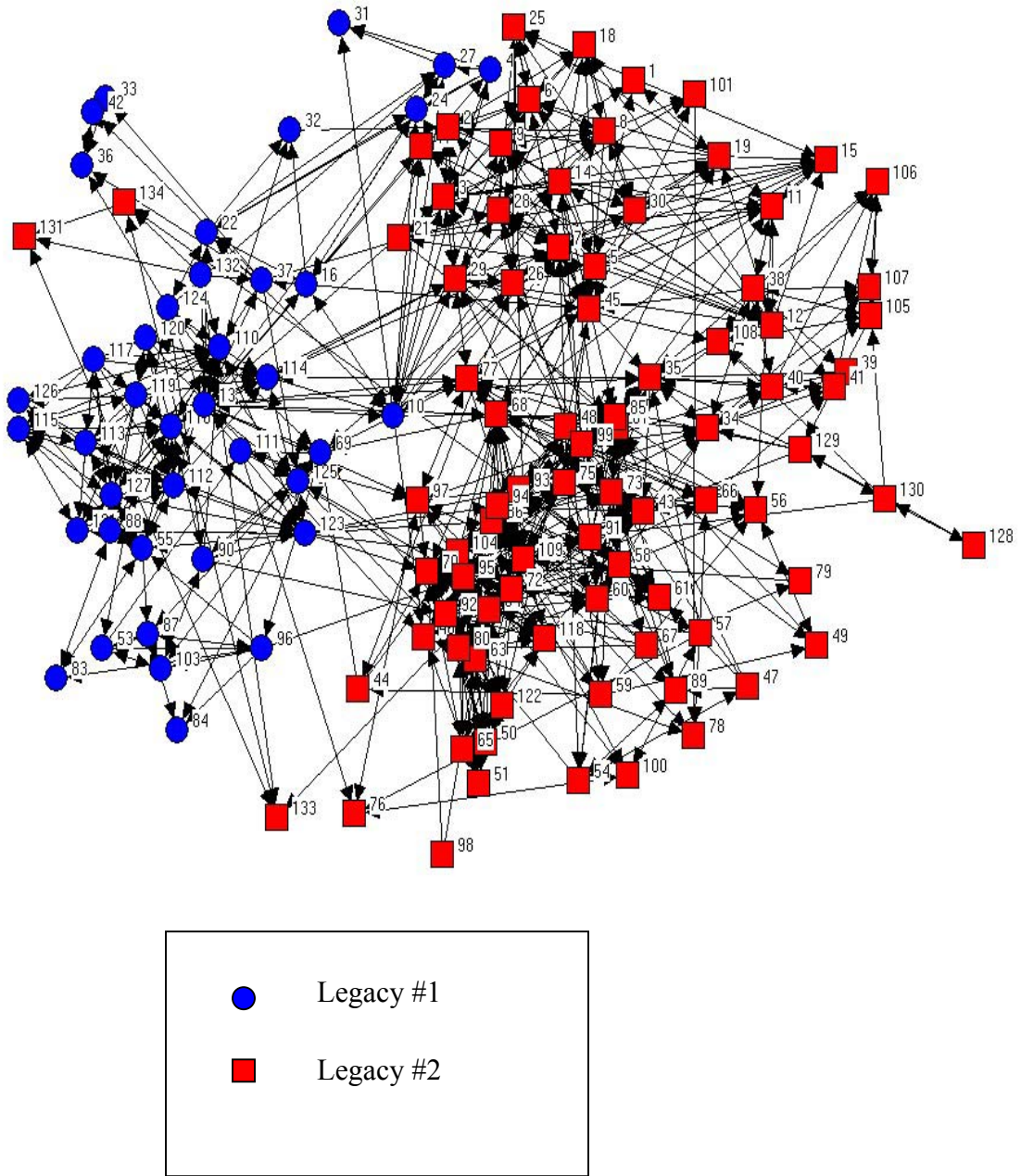
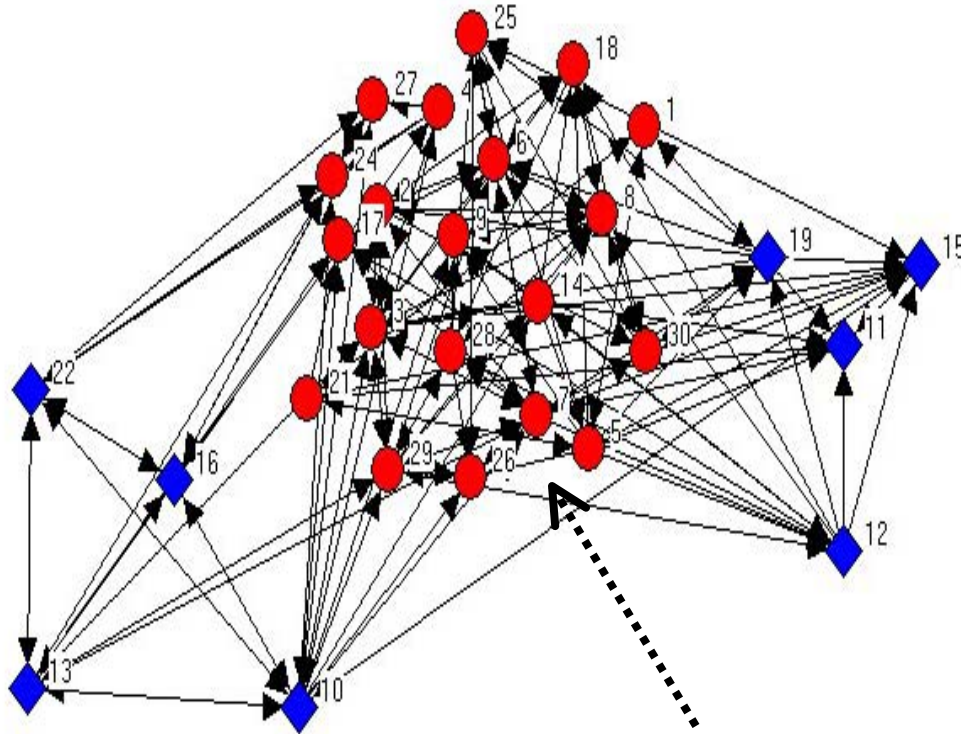


Figure 5a

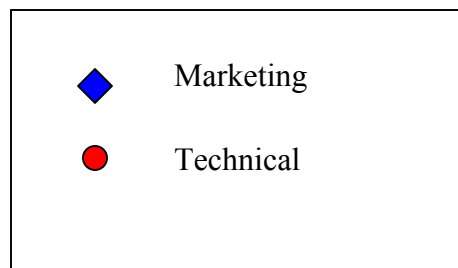
Legacy Subgroups in a Global Pharmaceutical R&D Unit



**Figure 5b**  
**Dominant Value or Paradigms in a Pharmaceutical Company (major site)**



**There is higher density of ties among employees with similar values**



## Notes

<sup>i</sup> D. Nadler. Champions of Change. (San Francisco: Jossey-Bass, 1998); R. Nolan & D. Croson. Creative Destruction: A Six-Stage Process for Transforming the Organization. (Boston: Harvard Business School Press, 1995); G. Stalk & T. Hout. Competing against Time: How Time-Based Competition is Reshaping Global Markets. (New York: Free Press, 1990).

<sup>ii</sup> J. Katzenbach. Real Change Leaders. New York, NY: Free Press, 1995); Nadler (1998), op. cit.; P. Vaill. Managing as a Performing Art: New Ideas for a World of Chaotic Change. (San Francisco: Jossey-Bass, 1989).

<sup>iii</sup> B. Bunker & B. Alban. Large Group Interventions (Special Issue). Journal of Applied Behavioral Science, 28/4 (1992); B. Bunker & B. Alban. Large Group Interventions. (San Francisco: Jossey-Bass, 1997); D. Conner. Managing at the Speed of Change: How Resilient Managers Succeed and Prosper Where Others Fail. (New York: Villard Books, 1993); M. Johnson-Cramer, R. Cross, & A. Yan. "Sources of Fidelity in Purposive Organisational Change: Lessons from a Reengineering Case," Journal of Management Studies, 41/3 (2003): 1831-64; W. Pasmore. Creating Strategic Change: Designing the Flexible, High Performing Organization. (New York: John Wiley & Sons, 1994); M. R. Weisbord. Productive Workplaces. (San Francisco: Jossey-Bass, 1987); M.R. Weisbord. Discovering Common Ground. (San Francisco: Berret-Koehler, 1992).

<sup>iv</sup> Emery, F. (1959). Characteristics of Socio-Technical Systems. In F. Emery (ed.) The Emergence of a New Paradigm of Work. Canberra: Center for Continuing Education; G. Ledford, S. Mohrman, A. Mohrman, & E. Lawler. Large Scale Organizational Change. (San Francisco: Jossey-Bass, 1989); D. Nadler, M. Gerstein, R. Shaw, and Associates. Organizational Architecture: Designs for Changing Organizations. (San Francisco: Jossey-Bass, 1992).

<sup>v</sup> J. Mahoney. Even Change is Changing: Now It's Organizational Angst. (Gartner Research, 2001).

<sup>vi</sup> See D.R. King, D. R. Dalton, C. M Daily, & J. Covin. "Meta-Analyses Of Post-Acquisition Performance: Indications Of Unidentified Moderators," Strategic Management Journal, 25 (2004): 187ff for the most recent meta-analysis of research predicting and explaining post-acquisition performance.

<sup>vii</sup> J. Liao. Restructuring Scope, Performance and R&D Intensity: Do All Restructuring Activities Create Value? Advances in Competitiveness Research, 12 (2004): 20-37.

<sup>viii</sup> T. Deal & A. Kennedy. Corporate culture: The rites and rituals of corporate life. (Reading, MA: Addison-Wesley, 1982); T. Peters & R. Waterman. In Search of Excellence: Lessons from America's Best-Run Companies. (New York: Harper, Row, 1982).

<sup>ix</sup> D. Denison. Corporate Culture and Organizational Effectiveness. (New York: John Wiley, 1990); D. Denison & A. Mishra. "Toward a Theory of Organizational Culture and Effectiveness," Organization Science, 6 (1995): 204-223; C. Wilderom, U. Glunk, & R. Maslowski. Organizational Culture as a Predictor of Organizational Performance. In N.

Askanasy, C. Wilderom, & M. Peterson (eds.) Handbook of Organizational Culture and Climate. (Thousand Oaks, CA: Sage, 2000): 193-210.

<sup>x</sup> R. Cross & A. Parker. The Hidden Power of Social Networks. (Cambridge, MA: Harvard Business School Press, 2004); D. Krackhardt & J.R. Hanson. "Informal Networks: The Company behind the Chart." Harvard Business Review, 71 (1993): 104-111.

<sup>xi</sup> N. Nohria. Is a Network Perspective a Useful Way of Studying Organizations? In N. Nohria & R.G. Eccles (eds.) Networks in Organizations: Structure, Form, and Action. (Boston: Harvard Business School Press, 1992); N. Tichy & C. Fombrun. "Network Analysis in Organizational Settings." Human Relations, 32 (1979): 923-956.

<sup>xii</sup> D. Brass. "Being in the Right Place: A Structural Analysis of Individual Influence in an Organization," Administrative Science Quarterly, 29 (1984): 518-539; M. Burkhardt & D. Brass. "Changing Patterns or Patterns of Change: The Effects of a Change in Technology on Social Network Structure and Power," Administrative Science Quarterly, 35 (1990): 104-127; D. Krackhardt. "Assessing the Political Landscape: Structure, Cognition, and Power in Organizations," Administrative Science Quarterly, 35 (1990): 342-369.

<sup>xiii</sup> R. Burt. "Social Contagion and Innovation: Cohesion versus Structural Equivalence." American Journal of Sociology, 92 (1987): 1287-1335; E. Rogers. Diffusion of Innovations (4th ed.). (New York: Free Press, 1995).

<sup>xiv</sup> B. Erickson. The Relational Basis of Attitudes. In B. Wellman & S. Berkowitz (eds.) Social Structures: A Network Approach (Cambridge: Cambridge University Press, 1988): 99-121.

<sup>xv</sup> Krackhardt & Hansen (1993), op. cit.; R. Cross & L. Prusak. "The People Who Make Organizations Go - - or Stop," Harvard Business Review, (2002).

<sup>xvi</sup> D. Krackhardt. "Cognitive Social Structures." Social Networks, 9, (1987): 109-134; Krackhardt (1990), op. cit.

<sup>xvii</sup> Clearly there are many ways to assess centrality in a network, ranging from direct measures (such as degree) to those that encompass indirect ties (such as betweenness and closeness). Although we might expect some interesting differences in these measures of centrality, in practice this distinction did not bear out as meaningful to the executives we worked with. Thus for purposes of the applied managerial perspective important in this article we will collapse these two categories. For a more thorough treatment of centrality measures, see S. Wasserman & K. Faust Social Network Analysis: Methods and Applications. (Cambridge: Cambridge University Press, 1994); J. Scott. Social Network Analysis. (Thousand Oaks, CA: Sage Publications, 1994).

<sup>xviii</sup> R. Quinn. Beyond Rational Management. (San Francisco: Jossey-Bass, 1988).

<sup>xix</sup> There were a few interesting anomalies in the network. For example, there were one or two people who did not believe the culture was open yet did reach out to others frequently in an effort to change the culture. Powerful lessons can often be learned from the behavior of outliers like this if we can replicate these tendencies throughout a network via coaching, hiring, or career development programs. In this case, one low culture carrier told us that a key to getting interesting project work as well as being a high performer in the agency was personal connections with the customer, in this case, other

government agencies. He was introduced to customers and key contacts through his supervisor early in his tenure at the agency, therefore helping to build his credibility. Realizing the impact that it had on his job, he's tried to do the same for newer employees in the agency. The key to becoming well-connected, in his point of view, was not to become too insular and have only ties with people in the same department or agency, but to build more external ties with influential people.

<sup>xx</sup> S. Denning. The Leader's Guide to Storytelling: Mastering the Art and Discipline of Business Narrative. (San Francisco: Jossey-Bass, 2005).

<sup>xxi</sup> R.K. Merton. Social Theory and Social Structure. (New York: Free Press, 1968).

<sup>xxii</sup> N. Ashkenazy, L. Broadfoot, & S. Falkus. Questionnaire Measures of Organizational Culture. In N. Ashkenazy, C. Wilderom, & M. Peterson (eds.) Handbook of Organizational Culture and Climate, pp 131-146. (Thousand Oaks, CA: Sage, 2000); Hofstede, G., B. Neuijen, D. Daval Ohayv, & G. Sanders. "Measuring Organizational Cultures: A Qualitative and Quantitative Study across Twenty Cases." Administrative Science Quarterly, 35 (1990): 286-316.

<sup>xxiii</sup> J. Martin & P. Frost. The Organizational Culture War Games: A Struggle for Intellectual Dominance. In S. R. Clegg, C. Hardy, & W. Nord (eds.) Handbook of Organization Studies, 599-621. London: Sage, 1996.

<sup>xxiv</sup> P. Adler & S. Kwon. "Social Capital: Prospects for a New Concept." Academy of Management Review, 27 (2002): 17-40; P. Monge & N. Contractor. Emergence of Communication Networks. In F. Jablin & L. Putnam (eds.) The New Handbook of Organizational Communication: Advances in Theory, Research and Methods. (Thousand Oaks, CA: Sage, 2002).

<sup>xxv</sup> R. Burt. Structural Holes. (Cambridge, MA: Harvard University Press, 1992); M.T. Hansen "The Search-Transfer Problem: The Role of Weak Ties in Sharing Knowledge Across Organization Subunits." Administrative Science Quarterly, 44 (1999): 82-111.

<sup>xxvi</sup> M. Kilduff. "The Friendship Network as a Decision-Making Resource: Dispositional Moderators of Social Influences on Organizational Choice," Journal of Personality and Social Psychology, 62 (1992): 168-180; D. Krackhardt The Strength of Strong Ties: The Importance of Philos in Organizations. In N. Nohria & R. Eccles (eds.) Networks and Organizations: Structures, Form and Action, pp. 216-239. (Boston: Harvard Business School Press, 1992); J.R. Lincoln & J. Miller. "Work and Friendship Ties in Organizations: A Comparative Analysis of Relational Networks." Administrative Science Quarterly, 24 (1979): 181-199.

<sup>xxvii</sup> M. Higgins & K. Kram. "Reconceptualizing Mentoring at Work: A Developmental Network Perspective," Academy of Management Review, 26 (2001): 264-288; H. Ibarra "Homophily and Differential Returns: Sex Differences in Network Structure and Access in an Advertising Firm," Administrative Science Quarterly, 37 (1992): 422-447.

<sup>xxviii</sup> W. Tsai & S. Ghoshal. "Social Capital and Value Creation: The Role of Intrafirm Networks," Academy of Management Journal, 41 (1998): 464-476; B. Uzzi. "Social Structure and Competition in Interfirm Networks: The Paradox of Embeddedness," Administrative Science Quarterly, 42 (1997): 35-67.

<sup>xxix</sup> D. Krackhardt & M. Kilduff. "Friendship Patterns and Culture: The Control of Organizational Diversity," American Anthropologist, 92 (1990): 142-154.

<sup>xxx</sup> M.J. Hatch. The Cultural Dynamics of Organizing and Change. In N. Ashkenazy, C. Wilderom, & M. Peterson (eds.) Handbook of Organizational Culture and Climate, pp 245-260. (Thousand Oaks, CA: Sage, 2000).

<sup>xxxii</sup> Cross, R., Baker, W. & Parker, A. (2003). "What Creates Energy in Organizations?" Sloan Management Review, 44(4), pp. 51-57. Baker, W., Cross, R. & Wooten, M. (2003). Positive Organizational Network Analysis and Energizing Relationships. In K. Cameron, J. Dutton, & R. Quinn (eds.) Positive Organizational Scholarship, (Berrett-Koehler Publishers).

<sup>xxxiii</sup> Op. Cit.

<sup>xxxiii</sup> K. Kane. "Vision for All to See," Fast Company, 02 (1996): p. 44; Vault.com, "Farming out your training management," at Web site: "[http://www.thevault.com/nr/newsmain.jsp?nr\\_page=3&ch\\_id=402&article\\_id=21189&cat\\_id=2071](http://www.thevault.com/nr/newsmain.jsp?nr_page=3&ch_id=402&article_id=21189&cat_id=2071)".

<sup>xxxiv</sup> P. Roberts, "Live! From your office, it's ..." Fast Company, 47 (1999).

<sup>xxxv</sup> T. Perry. "Designing a culture for creativity." Research Technology Management. 38 (1995): 14-17; S. Thomke & A. Nimgade. "IDEO Product Development" Harvard Business School Case, 9-600-143 (2000)..

<sup>xxxvi</sup> T. Peters. "The Peters Principles", Forbes ASAP, September 13, 1993, p. 180.