Organizational Agility

How Targeted Network Investments Promote Organizational Responsiveness

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Abstract

Successful organizations must become increasingly agile as the pace of change in the business environment accelerates. Leaders often seek to promote agility through matrix-based designs or through the de-layering of formal structures. Unfortunately, these efforts are disruptive in implementation and often lead to unintended consequences that slow decision-making around roles or layers in the hierarchy, create collaborative inefficiencies, and inhibit flexible response from cultures that are overly consensus-oriented or misaligned. As an alternative approach, organizational network analysis (ONA) can help leaders make more targeted investments to enhance organizational agility. Based on interviews conducted with 160 leaders in 20 organizations and quantitative assessments of networks in 32 organizations, we show how cognitive, affective and behavioral dimensions of employee networks can be developed through such investments to improve organizational agility.

Summary Table. Relational Conditions for Agility Through Networks

Relational Driver	Rationale	Network Actions
Cognitive: Ability to envision value-added possibilities by integrating expertise in networks	Most innovative outcomes occur from employees developing an insight through non-insular networks or tapping into adjacent expertise early in projects. A first step in agility involves creating a context through which employees can envision opportunities and respond with capabilities distributed in a network.	**Develop**: Transparency of expertise and forums that enable emergence through cross-boundary collaboration **Remove**: Network siloes—often driven unintentionally by formal structure and compensation schemes—that preclude scale or innovation
Affective: Motivational interactions to encourage initiation of action and persistence through obstacles	Once a possibility is recognized, employees must be motivated to act. Organizations miss opportunities when formal or informal incentives discourage action. No large organization in our work shared in rewards in as equitable a way as many start-ups do, but leaders of those businesses could still motivate discretionary effort through networks that generate energy and purpose.	**Develop**: Energized and purpose-driven networks to stimulate employee desire to take discretionary action on possibilities **Remove**: Interactions that create fear or risk aversion unnecessarily and so preclude innovative possibilities
Behavioral: Create context that enables capacity to initiate action and persist through implementation	Once motivated to take action, employees must have the capacity to accomplish objectives efficiently. This occurs through formal mechanisms (e.g., sponsorship, funding, and decision-making authority) and, just as importantly, through the removal of obstacles to action (e.g., collaborative overload or overly relational cultures).	**Develop**: Conditions that enable lateral networks to share information and resources dynamically **Remove**: Collaborative overload and goal misalignment that mire action

Agility

"People underestimate, fundamentally, the level of leadership required to run a matrix. It's unbelievably higher and more time-consuming than the skill level needed to run a command model. Massively different. Without direct ultimate sanction of authority, you are basically relying constantly on fantastic leadership and good group behavior. Normally, something is not right: The people are not right, or the incentives are not right, and then people go into unbelievable amounts of process to solve the problem, set objectives —whatever it is."

– Senior executive who both architected and operated in a matrix structure.

To succeed in rapidly changing environments, most executives claim their organizations have to move faster.[1] They must be quicker to respond to demanding clients with a full array of capabilities. They need to decrease time to market for the next consumer innovation, blockbuster drug, or breakthrough technology. Or they have to be able to pivot more quickly to respond to emerging market threats and opportunities.[2] And, paradoxically, they need to accomplish greater agility at the same time that they relentlessly pursue efficiencies and economies of scale.[3]

Many executives turn to formal restructurings to enable rapid response—typically by de-layering to reduce the distance between decision-makers and frontline employees, by restructuring around markets, or by implementing some form of matrix or lattice structure.[4] In particular, matrix-based structures have become a common approach to promote responsiveness. For example, a recent survey found that 84% of employees were matrixed to some extent,[5] and another study found that 85% of organizations have experienced a restructuring or reorganization in the past three years.[6] These initiatives typically aspire to more seamlessly bring the full capabilities of an organization to bear on opportunities and threats, to speed decision cycles by reallocating decision rights, to reduce functional silos through matrixed reporting, and to remove bureaucratic layers.[7]

Unfortunately, history indicates that these efforts are more difficult to implement than people anticipate[8] and rarely as effective.[9] For example, de-layering via the "spans and layers" methodologies advocated by so many consulting firms today[10] can create unintended negative consequences by overwhelming middle management roles or by creating decision gridlock with relationally-oriented cultures.[11] A fundamental problem is that most formal design methodologies do not adequately consider the collaborative intensity of work in decisions on spans of control and role design. By simply inserting dimensions in matrices or removing layers from the hierarchy to hit a universal span of control, leaders often end up overwhelming roles and hierarchical levels with collaborative demands.[12]

Network forms can provide benefits over traditional hierarchies, particularly in innovative and fast-moving environments, where informal coordination enables important strategic collaborations.[13] Today more than ever, innovation and the ability to respond to opportunities or threats occur not through formal structure but through the invisible networks of collaboration that enable employees to bring the capabilities of an enterprise to bear.[14] Taken to an extreme, however, network-centric designs also have their shortfalls. For example, the less-formal "circles" intended to replace hierarchy in the more recent "holacracy" organizational design suffer from ambiguity around both individual accountability and career advancement.[15] Other unintended negative consequences include confusing decision processes, increased time in meetings, and other costs of coordination.[16]

The stability that a hierarchy brings through longer-term strategic planning, resource allocation, and process efficiency is important.[17] Yet because work of substance in most organizations has become an inherently collaborative endeavor,[18] efforts to promote agility must create the conditions for the right kinds of collaborations to form at the right points in time.[19] Our research suggests that organizations that succeed in responding more quickly to rapidly changing environments have a clear formal structure but also create a context for agility to occur through networks. Moreover, empowering local decision-making throughout an organization enhances adaptability[20] when leaders resolve factors that constrain employees' ability to react nimbly.[21]

Below, we describe in depth how one organization transformed itself into an agile enterprise capable of moving at the speed of its environment. There, senior leaders' core insight was to implement an informal structure that enabled rapid and effective action. In the sections that follow, we reflect on the lessons taken from this case and then lay out a framework from our program of qualitative and quantitative research to identify the means of promoting agility through networks. Specifically, three relational dimensions matter:

① *Cognitive*—Are networks sufficiently rich and diversified to help employees to see possibilities more broadly than their own expertise would allow?

② *Affective*—Does the relational environment motivate people to invest discretionary effort into possibilities they envision?

③ *Behavioral*—Does the collaborative context enable streamlined action in the approval and implementation phases? (See Figure 1).

In general, we see that leaders who attend to these important aspects of networks are typically able to promote agility in ways that formal restructurings alone do not accomplish.

ENABLING AGILITY THROUGH NETWORK-CENTRIC LEADERSHIP

We first explore a case study of agility through networks in what most people would perceive to be an organization dedicated to hierarchy and chain of command—the U.S. military. Not unlike many other large organizations, traditional militaries are purpose built for scale and efficiency. For generations, the greatest military planners have been part logistician and part warrior. Indeed, understanding how to build and move an army with predictable timelines and dollar figures was every bit as important as knowing how to employ it effectively once the soldiers had arrived at the field of battle. Not surprisingly, this sort of thinking directly informed how the U.S. Special Operations community operated throughout the 20th century. But the post-9/11 age of conflict saw the emergence of a new information-age battlefield. The fact that the U.S. military was optimized for fighting other similarly structured opponents produced two flawed assumptions that made it challenging to identify problems early on.

First, military leaders incorrectly assumed that the United States' comparative advantages in combat capabilities would lead to battlefield dominance. The list of significant advantages it had over the average Al Qaeda fighter was extensive, including highly trained operators with the world's best weapons systems, cutting-edge night vision, and precision targeting capabilities. Even so, the impact that the commoditization of communication technologies would have on the battlefield had been vastly underestimated, as was the subsequent impact of these inexpensive technological capabilities on agility—a phenomenon that many in the corporate world have also observed.[22] A purpose-built global military communication network was no longer required in order to wage war. Al Qaeda benefitted from this in the same way that advances in information sharing, communication, and networking have helped smaller, growing businesses to overcome similar liabilities.[23] With a smart phone, an e-mail account, and countless other free or inexpensive tools, Al Qaeda members could connect, share information, and coordinate action in near real time.

Figure 1: Cognitive, Affective, and Behavioral Network Dimensions in Organizational Agility

Second, military leaders had also mistakenly assumed that, to gain scale, any group of individual actors engaged in warfare would eventually need to assume the shape of a more traditional hierarchy. If this were true, it would result in stability and predictability in those enemy groups, putting them on a more conventional playing field with much more dominant actors such as the U.S. military. Contrary to generations of experience, however, this turned out not to be the case. Instead, the proliferation of easily accessible communication networks created a new version of an old problem for U.S. special operations teams.
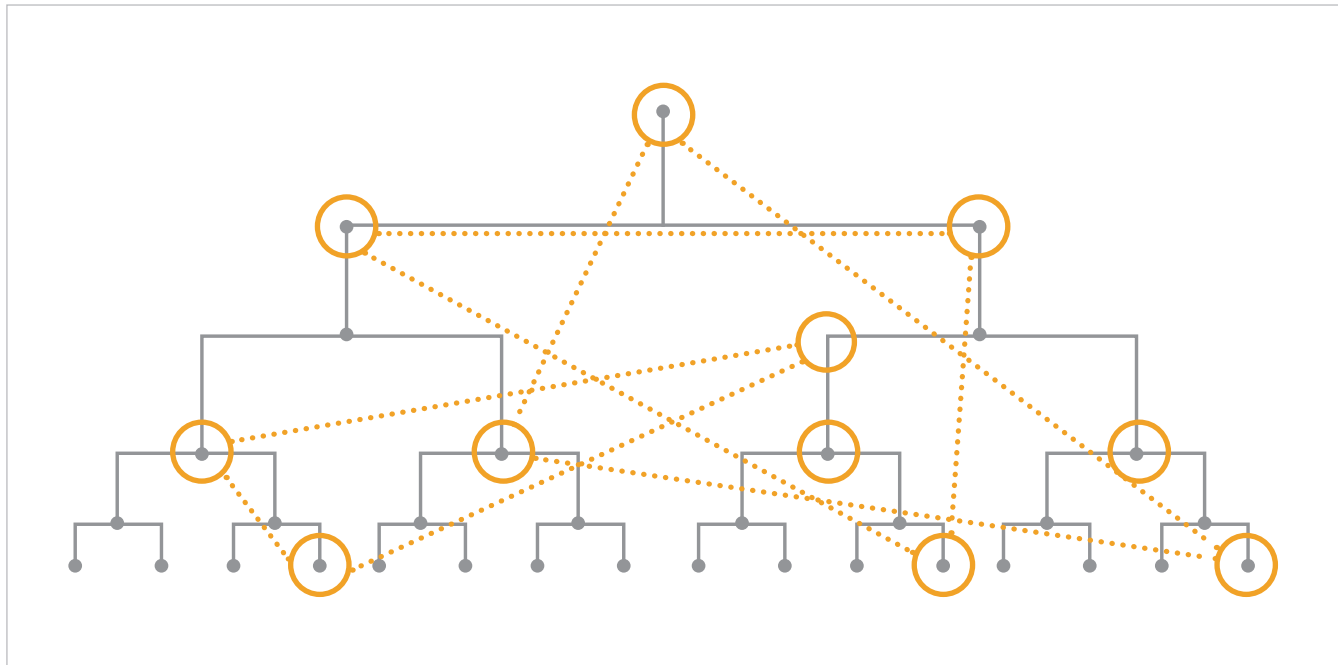
Small threats were not new. In fact, fighting small but dangerous groups was one of the things that U.S. special operations teams did well. But now these small threats were able to connect into a larger network and could suddenly act as part of a broad collective. In essence, the commoditization of communication technologies had created a new type of problem—networks that could scale far beyond the size that would have historically led to instability without strong hierarchical control. In short, the U.S. military was now facing a new type of threat: distributed networks of enemies that could move with a speed and agility that far exceeded the upper limits of its own more traditional hierarchy. These enemy networks could scale their numbers and maintain just enough common focus on mission to operate as a collective organization.

In the early stages of its fight against Al Qaeda, the U.S. military typically reacted within the confines of its hierarchical structure, falling back on perceived advantages. Specifically, the U.S. military had more capable operators; it

was the better equipped force; and it was the more stable organization. Accordingly, the immediate reaction was to pull traditional levers that would have historically led to fast gains. In industry, this might mean a re-organization, a new strategy with a set of cascading goals tied to a reward structure, some process improvements, or any number of other time-proven levers. But, as in business, when the competitive environment is changing quickly, such structured responses often result in losses to opponents.[24] The bottom line was that the traditional levers used by the U.S. military – deploy more forces, secure additional resources, and so on – were now ineffective. In fact, the faster the U.S. military moved, the quicker the enemy networks seemed to expand.

Around this time, Lieutenant General Stan McChrystal took command of a unique Counterterrorism Task Force formed to defeat Al Qaeda in Iraq. He was the first senior leader that one of the authors (Fussell), then a tactical-level leader in McChrystal's organization, saw demonstrate a willingness to step back and ask fundamental questions about the type of fight that the U.S. was facing. This included the crucial question, "What if we're facing an enemy that operates by fundamentally different rules?" McChrystal would ultimately command the Task Force for five years, and Fussell would spend a full year as his aide-de-camp, able to witness the changes that McChrystal and his leadership team had implemented at both a process and leadership level. Over this time, the globally distributed team of many thousand U.S. Special Operations personnel was able to rewire itself so that it could maintain the strength and predictability of the hierarchical model when necessary,

Figure 2: Hybrid Formal and Informal Structure in Special Forces

while also developing the capability to move as a series of interconnected networks when the threats on the ground demanded more speed and adaptability, thereby combining the differing advantages of both formal and informal structures as visualized in Figure 2.

At the time, the hybrid structure was never formally drawn out, but in reality it was how the Task Force operated. Although the organization was led through the solid lines of the hierarchy, it fought through the dotted-line networks that were in a state of constant adaptation. To make this possible without producing complete chaos, senior leadership built a communication structure that allowed for daily synchronization on critical issues across the globe, enabling adaptive and effective knowledge sharing. At its peak, this communication forum saw upwards of 7,000 to 8,000 individuals, both military and civilian from multiple government agencies, dialed in to hear the most current and relevant updates from the battlefield. It was here that the organization re-affirmed its shared cognition—its collective understanding of the situation and the current strategic intent of the leadership team.[25] With this in place, those closest to the problem could agilely move into a phase of execution[26] during which they could live inside the dotted-line networks of the Task Force. Having re-aligned their collective understanding of the situation, small teams and individual leaders were motivated—and expected—to move with agility and speed to engage with the constantly shifting problems that they were seeing emerge within the Al Qaeda network.

Much effort was required to accomplish this, and it took several years of iteration to ensure that the other components of the organization were in place so that a massive communication forum could prove effective. There was no single roadmap to success but, in retrospect, the general roadmap that was followed involved significant process change as well as a shift in the leadership model of the organization. The process aspect involved understanding and cascading strategic intent, having thoughtful debates about how fast the organization must *actually* move (not how fast it was comfortable moving), and redesigning communication and decision-making structures toward a much more inclusive and transparency-based model. All of this was underpinned by a change in approach from senior leadership because transparency and inclusion only enhance adaptability when leaders are willing to change the conversations between and across layers from bureaucratic and transactional to honest and relational. This required a willingness on the leaders' part to encourage those closest to the problem to shift their communication from "Here's what I plan to do. Do you approve?" to "Here's what I'm doing/I've done. Here's what I'm learning. Here's why that matters to the organization." It was an entirely different conversation but critical to enabling agility.

Tangible metrics as to the merits of this organizational transformation were readily apparent. Consider, for instance, the rate at which tactical units were encouraged to operate. In 2004, the Task Force's teams launched 18 direct action missions a month—a figure that by then-standard measures was thought to be exceptional. And yet by 2006, those same units were able to launch 300 individual missions each month. This was not primarily due to any increase in financial resources or personnel, or an abundance of targets. Rather, at the heart of this newfound success was a change in the organization's decision cycle—a drastic shortening of it, driven by a divestment of decision-making authority from the Task Force's senior leadership in the formal hierarchy to its tactical teams across the informal network.

All this involved a significant cultural change built around trust and a shared understanding that was informed and necessitated by the ever-shifting environment. When it became clear to senior leaders that conditions on the ground were changing too rapidly for a traditional bureaucratic structure to handle, their response was not to hoard authority but to cede it to the tactical teams. The Task Force shifted to a 24-hour operating rhythm, in which teams would report back daily to inform and explain to the rest of the organization what they had accomplished within the previous cycle. They would then hear the same updates from other teams before returning to periods of autonomous decision-making. No longer would they be forced to report back up the chain of command with the results and new intelligence received at the end of every mission. Rather, they would be liberated from the burden of having to constantly keep solid-line leaders in the loop, or to ask permission to act on new information.

The key to enabling emergent agility was informed, decentralized decision-making rooted in cognitive, affective, and behavioral dimensions of the organizational network. Providing strategic context to tactical team leaders during check-ins and empowering them to make decisions based on what they came across in the field helped minimize the likelihood that their autonomous actions would have negative consequences for the rest of the organization. It's also important to note that agility might not have been achieved so soon (if at all) without shortened decision cycles underpinned by a demonstration of trust between senior and tactical-level leaders, all supported by the decentralization of decision-making authority. Of course, the military did not abandon formal structure, but McChrystal's understanding was that the dominance of formal structure was preventing the organization from moving nimbly in response to a rapidly shifting environment, which led to the implementation of network interventions.

A GROUND LEVEL VIEW OF AGILITY

The Special Forces example provides lessons for commercial enterprises that want to enhance their agility.[27] Specifically, augmenting command-and-control structures to enable agile responses through networks can help organizations handle the increased volatility and pace of their environments.[28] Some practices from this network-centric model that organizations can employ to promote agility include the following: increasing lateral information flow to stimulate rapid response, delegating decision rights to improve resource allocation, and establishing collaborative forums to create network alignment. Obviously, however, the military is a unique context that enjoys a well-defined objective, common sense of purpose, value orientation, and motivational context. As such, we were interested in exploring dimensions of networks that mattered in commercial contexts, with the goal of being able to use network analysis to help leaders assess and develop collaboration that would potentially yield agility in their organizations.

For the past several years, we have employed a mixed-method approach to study how organizations can become more agile by managing the right dimensions in networks. One phase of work was conducted through interviews of 160 leaders across 20 well-known organizations in financial services, software, consumer products, retail, professional services, manufacturing, and life sciences. We asked each organization to provide eight successful leaders—four men and four women—and then conducted 60-90-minute interviews that explored in depth the times in these high performer's careers when they had rapidly and effectively responded to a threat or capitalized on an opportunity that required them to leverage networks inside and outside their organization. Each leader we spoke with identified one or more significant accomplishments, and the interview then focused on the role that collaborative relationships played from the inception of that project through to implementation.

This in-depth, qualitative work helped us to understand the ways in which collaboration and the critical dimensions of networks in organizations enabled agility not in the abstract but where it really mattered—at the point of execution. For example, consider how Fritz, a well-regarded leader in one of the world's largest engineering consultancies, built and leveraged a network to secure a multi-year contract that, at that time, was the largest project the company had ever landed. Pursuing a project of this scale was risky, but if the firm was able to win the bid and deliver the result, the success would materially change both the capability and reputation of that company. According to Fritz, "A transformational project like this is one that you've never done before. If you do it, it's like taking a quantum leap upwards to a new atmosphere of other similar projects. Other clients now see, okay, you did that, then you can do mine."

Developing a new, large-scale strategic capability—and having the essential skills to win the work—began with Fritz's team. As head of a unit that managed the design and development of water infrastructure projects, Fritz had built his team's expertise through three significant multi-year projects. As Fritz recalled, "We were able to tell this client, 'Yes, we're qualified. This is larger than anything we've done before, but look how similar it is to the last three projects that we've worked on.' We convinced them to

sign us because we would bring that same team." However, because of the size and complexity of the project, Fritz also needed experts from across his organization. "I had to go on an internal campaign of building the network and the rest of the project team to commit to the proposal—the geotechnical staff, modeling staff, architecture, power generation, fuel management, transportation. Literally, we had to draw from the whole company."

In short, a first network driver of Fritz's success was cognitive—his awareness of expertise across the organization and his ability to tap into a network to mobilize a larger response than his team could produce. This is not a small issue. Time and again throughout all of our interviews, the high performers we spoke with marked a transition point in their careers when they stopped viewing work as linear activities they needed to accomplish and instead began to envision work as activities that they mapped onto others in their network. In a very real sense, who these leaders knew—and their contacts' capabilities—had a real effect on the leaders' ability to propose relevant and significant solutions at the point of need. This capability existed only when our interviewee had been proactive in building a non-insular network or the organization had employed practices that created greater transparency of expertise and boundary-spanning collaborations throughout the network.

Of course, simply envisioning a possibility and mapping it to capabilities in a network was not enough to yield an agile response. Fritz also had to convince both individuals and their business unit leaders to get behind the project. "To win large projects like this," he said, "you're up against the best of the best. So, you need your best staff, and, inevitably, the best staff always has something to do. They're never the ones with time on their hands." To engage the people Fritz needed, he showed them how the project would change their careers while also building a strategic capability for the business. "You know what's downstream of this for the company if we're successful?" he would ask people. "I know you're busy right now. Help me with this project, and your next five or 10 years will be materially different." Fritz had to convince top performers and valued experts to believe in—and stay engaged in—his multi-year project.

Thus, a second network driver of Fritz's success was affective—his ability to generate a sense of purpose that

motivated the right people to engage with his project. The formal and informal reward mechanisms in his organization encouraged people to focus on work and on building their reputations within their specific practices. Engaging in Fritz's project was both risky from a reward standpoint and carried the personal cost of travel to the client site for years. Importantly, Fritz's scenario was not unique. Our interviews repeatedly underscored the importance of interactions that created a sense of purpose to entice people to commit their discretionary effort to opportunities. All interviewees were able to recall almost daily scenarios in which they envisioned other possibilities but chose not to pursue them due to personal cost or lack of an engaged social context. Yet it was also clear in our work that some organizations acted on larger principles—establishing the "why" in the work before the "what" and "how," co-creating, and keeping values central to resource allocation—that created more energized networks where people voluntarily took action.

Finally, although envisioning and motivating people to a desired end are important, they alone do not guarantee an effective, agile response. Fritz also had to focus on a behavioral aspect of the network to create capacity for employees to act and stay engaged. Specifically, he reached out to senior leaders to obtain their commitment. Because of the project size and the demands across the company, the buy-in and the decisions had to go all the way up to the CEO. Fritz also invested significant time in discussions with both formal and informal influencers throughout the company, with two main goals: first, to convince them of the importance of the project so that the right experts would be staffed to it and, second, to ensure that the experts' prior responsibilities would not follow them to the project and undermine their ability to contribute.

After many months of negotiating and planning, the company's proposal was accepted. The project took over four years, involving more than 500 staff based in 70 locations. A core group of project managers and technical leads were on site full time, working daily with the client, but most of the team worked remotely, traveling to the site every few weeks. Scheduling and project management systems, collaborative processes, and technologies were ramped up or expanded across the business to accommodate both internal needs and client expectations. Even so, Fritz was wary of burnout, and he adjusted the collaborative workloads and travel demands to counteract overload. Still, project fatigue set in during the last year of the project, and Fritz needed the team to stay engaged, even as the intensity was reduced. "One thing we did was to rotate people out on three- or four-week holidays from the project, just to give them a breath. When we were at peak, nobody got to come up for air," he recalled. "Also, we didn't draw the team down too quickly. We kept everybody on, but not running at the same pace. They weren't put on other projects right away, so that gave people some space, too."

Overall, the project was both a financial and strategic success. Financially, the company benefitted from Fritz's ability to mobilize a network to win the project. In addition, a new strategic capability was established, which has opened doors to other large-scale, multidisciplinary projects.

THREE NETWORK DRIVERS OF AGILITY

To be sure, Fritz changed the strategic landscape for his organization, but his agile response was not a product of the organization's matrix structure or formalized innovation processes. Rather, it was enabled through networks that he mobilized and engaged over time. Yet unfortunately this win—and most others in our interviews—occurred through individual efforts that were to some degree heroic. The members of our research program were interested in a broader objective: What if networks could be built that might spur this activity more routinely and make significant accomplishments more the norm than the realm of the hero?

The second phase of our work was motivated by the idea that leaders at all levels of an organization can create an environment conducive to emergent agility by building cognitive, affective, and behavioral elements of networks (see Table 1).[29] To assess these ideas at an organizational level, our research employed quantitative methods via Organizational Network Analysis (ONA) to model these network dimensions in large groups as a way of helping leaders take actions in targeted ways. Specifically, we worked with 32 organizations engaged in some form of significant transition toward becoming more responsive to market needs. In each case, a network analysis was used to diagnose one or more of the key relational drivers shown on the left side of Table 1 and to provide managers with the insights they needed to promote agility in their organizations.

Using a network perspective, leaders can see barriers to agility and the three dimensions (cognitive, affective, and behavioral) they need to encourage in order to help their organization become more responsive in a fast-paced, interdependent environment.[30] In the following sections, we offer vignettes and network analyses from a range of organizations that sought to become nimble.

① Cognitive Network Dimension:

Create transparency of expertise and boundary-spanning collaborations to enable employees to envision possibilities

Our interviews revealed the critical importance of expertise transparency. Quite often, who people knew had a significant effect on the early definition of a problem space and concurrent trajectory of a project. For example, bankers or consultants would frame possible solutions in meetings with clients not just based on their own experience, but also based on the expertise of specialists they could help bring to bear on a project. Software engineers envisioned product enhancements with a broader lens of market needs and technical possibilities. And commercial scientists saw possibilities at the intersection of established bodies of science that more insular scientists never envisioned. The key in all these interactions was an awareness of diverse capabilities that could be brought to bear so that problems could be framed differently as a product of individuals' diverse networks. Rather than seeing work as self-assigned tasks, our interviewees did the following: 1) envisioned a project or opportunity as a set of activities, 2) had rich awareness of others' expertise and mapped activities onto those in their network, 3) enrolled people in those activities by knowing their aspirations, and 4) engaged only where they had unique value to contribute.

By thinking of the work and network simultaneously, our interviewees were able to scale accomplishments beyond their own abilities and create agility through organizational networks. For example, consider Margaux, whose career path reflected her interest in bringing different perspectives to any problem. She had a Ph.D. in biology, worked in academic research, and then crossed into industry to join a pharmaceutical firm. She subsequently earned an M.B.A. and later gained further training in statistics and analytics. "I am primarily a scientist," she said, "but I believe there is additional benefit to having formal training in areas outside of science." At the time of our interview, she was in a process development role with a global pharmaceutical company, where she had worked for nearly 10 years.

In her work, Margaux crosses business functions and research practices, often taking ideas and processes that succeeded in one space and adapting or scaling them into other areas. To be effective establishing new, consistent systems, she had to gain an understanding of the network and learn to mobilize expertise in scenarios where she had little authority. She learned to see where opportunities existed and viewed possibilities or projects as elements to be mapped onto various people in the network. "That's not taught anywhere that I can recall in all of my education," she noted. "But it is a huge differentiator between somebody who has more of a managerial focus versus a leadership mindset. Earlier on in your career, you are more focused on your immediate area. As you move up in the organization, it becomes more important to be able to identify how your local space might have tie-ins with other parts of the organization."

Margaux tries to understand a problem and potential solutions by working though her network. She'll work with an initial group to get their framing of the problem space, then branch out to find other potential players or stakeholders. According to her, "When you start to think bigger, you don't stop at your immediate group or closest contact. I try to hop across networks to get to other areas, other expertise.... Each person is a conduit to see how much further we can go to have a broader discussion." For example, when one team developed a set of tools with one part of the business in mind, it discovered that those tools didn't map well for one of Margaux's groups. As she recalled, "The initial conversation was along the lines of, 'While these tools are a good start, they don't really address all our needs.... I bet we are not the only area that has gaps. Who can we reach out to?'" As a result of that conversation, a more expansive, cross-boundary group was formed to address challenges and create a scalable solution.

With a clear sense of a need and shared interest, Margaux invests in getting the right people on a project as well as the necessary sponsorship. She lines up formal support and resources based on the size and nature of the project, but what she does to engage influencers has the greatest impact on acceptance and implementation. Specifically, she enlists influencers as both sponsors and team members, as well as for finding allies who could work behind the scenes to bring naysayers or resistors along. She facilitates the group to find solutions, beginning by setting aside assumptions and preconceived notions. According to her, "It is important not to get too far down the path with a solution before we fully explore what the problem is. That is a pitfall. I encourage groups to step back and not be constrained by what we currently have available. What is the ideal state?.... I want everyone to have a chance to air concerns as well as their ideas before narrowing to a certain path of action."

In sum, when it comes to the cognitive network drivers of agility, we can take the following lessons from Margaux:

- **Create transparency of expertise throughout the network.** Continually invest in building people's understanding of others' capabilities and aspirations in the network.
- **Tap boundary-spanning ties early to frame a broader problem and solution space.** Focus on interactions with core influencers to understand all the dimensions of the problem space. Then, tap bridging ties in the network to get to other expertise, perspectives, and novel solutions.
- **Learn to see opportunities and map them to the network to scale beyond yourself.** Seek an understanding of the capabilities and aspiration of those in the network, which will then enable you to see broader possibilities and scale work beyond yourself.

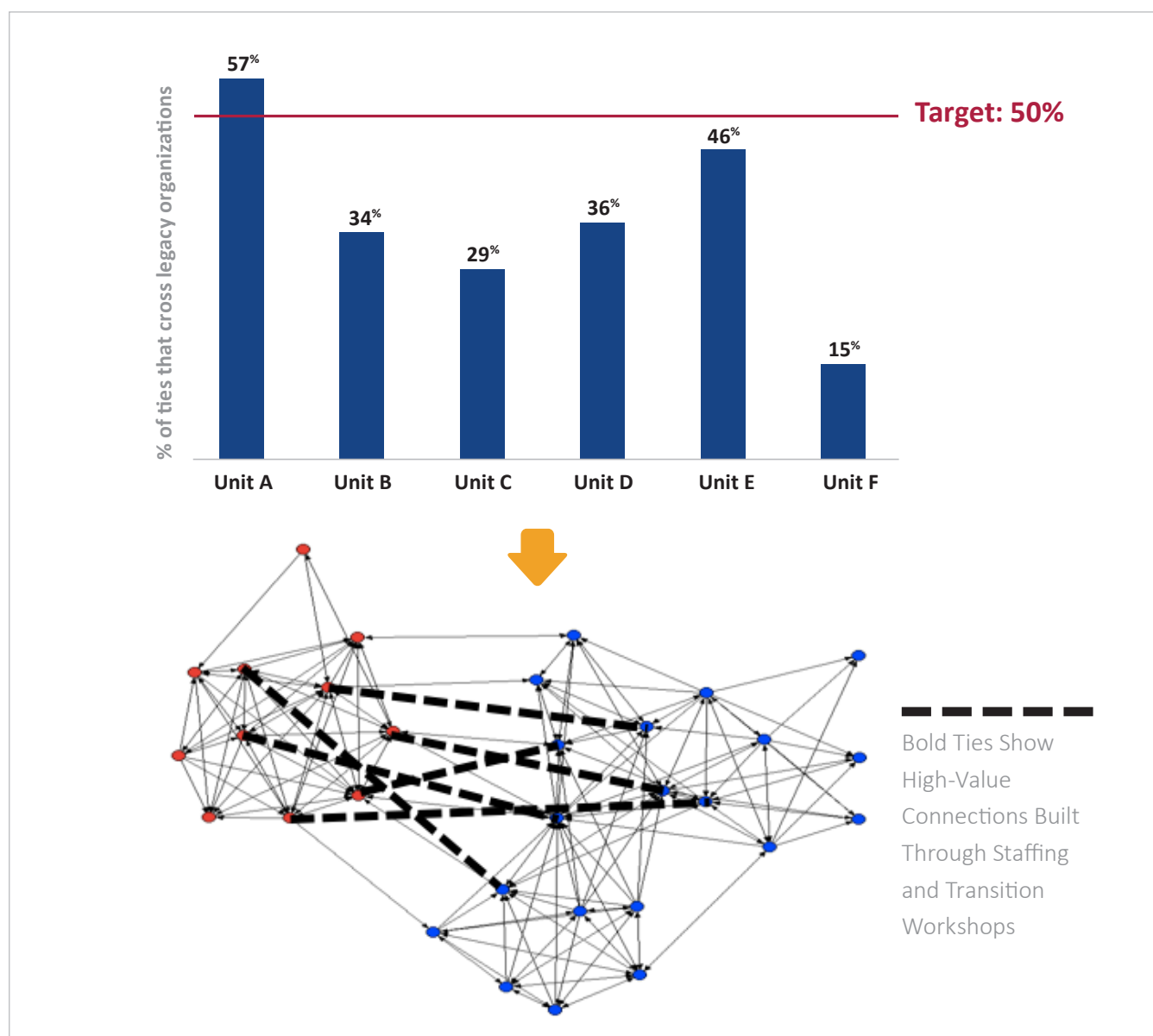**Stimulating Transparency of Expertise**

Having a leader like Margaux with cognitive network skills is one thing, but then how can an organization scale that capability so that it is not just one high performer engaging in this work but an increasingly larger portion of the workforce? Here is where network analysis can play a critical role.

Perhaps nowhere is the rapid integration of expertise more important than in the context of a merger or acquisition. The sorts of synergies and innovations that executives have in mind as a desired outcome of an M&A are often only possible when employees who are comfortable working within their own firm can learn about the expertise, capabilities, and opportunities that exist in the newly combined organization. Without awareness of capabilities on the "other side,"

there can be no transformational integration, from which combinations of capabilities drawn from legacy units generate entirely new forms of value for customers.[31]

Network analysis has been used to identify and address integration challenges across a range of M&As, but none larger or more complex than a recent merger of two global consumer products organizations. Senior executives anticipated billions of dollars in cost savings from the elimination of redundancies, and they also hoped for significant new revenue streams to come from newly combined capabilities. The organization had used many M&A best practices and, over time, executives could point to many signs that the merger had been a success. However, almost a year after the merger was finalized, senior leaders in one part of the newly combined organization saw

Figure 3A: Mapping the Cognitive Dimension of Agility—Stimulate Transparency of Expertise
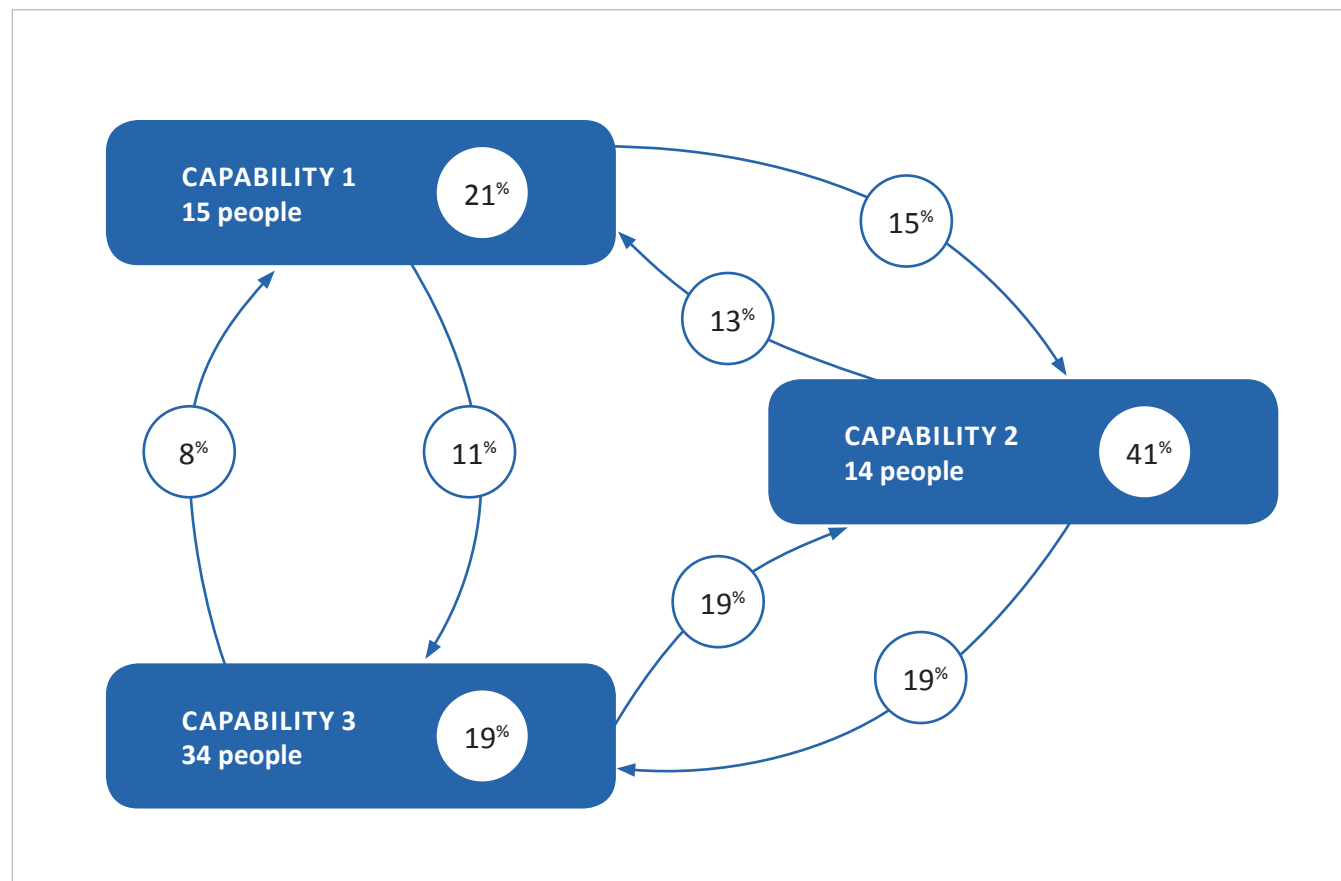
uneven performance across a range of business units, and they suspected that poorly intertwined networks between legacy employees could be part of the problem. An ONA was conducted, which confirmed that the company's best-performing unit (Unit A in Figure 3) had a much higher proportion of ties connecting employees across legacy organizations. It also revealed that the unit with the slowest revenue growth since the merger had a significantly lower proportion of cross-legacy ties among its members (Unit F).

The network maps confirmed relative integration across legacy employees for Unit A but not for Unit F, where clusters of individuals remained more tightly knit with their legacy colleagues. Using these results, the leader in charge of the division containing these units could implement actions across a range of strategic intersections, targeting high-value network improvement opportunity points. One initiative, for example, used the network analytics to identify both well-connected people on each side of a strategic gap as well as those often-hidden individuals who act as boundary spanners with connections to each side. Once identified, this group was brought into integration workshops that specifically focused on impediments to collaboration, creating an awareness of the capabilities on each side of the "silo" so that people knew when and where to reach out.

In one workshop activity, the participants had to consider a work-related challenge they had for the coming six months in which they thought there was a reasonable likelihood that others in the room might be able to help through information, contacts, resources, or experience. People would document these needs and then brainstorm solutions at their tables, using a visualization tool. Then, at breaks, participants from other tables would review the visualization tool and make offers to as many needs as they could. The results of these exercises always surprise people by unearthing capabilities and expertise in the room that might otherwise have remained hidden. In the words of the project sponsor, "We discovered ways to integrate by creating, in essence, a knowledge market. No amount of team building or off-sites had the same impact as these activities that helped create an understanding of capabilities and also, to some extent, a degree of trust. Though subtle, being pushed to declare what you need help on also made people be vulnerable as well as taught them the value that others could bring to their work."

Another highly effective program involved short one-week work rotation programs that brought together highly connected people from either side of the divide. Pairings were decided based on connecting those who could most help to integrate the networks. The selected individuals

FIGURE 3B. Mapping the Cognitive Dimension of Agility—Remove Silos Where Potential Value Exists

would spend a week with their counterparts at their counterparts' site. Targeted introductions were made and work was accomplished throughout the week, enabling each side to learn about the expertise and capabilities of their counterparts. As with the integration workshops, the primary value was in increasing the awareness of expertise across the combined organization, from which people could then reach out to, and engage, their new colleagues much more effectively than at other junctures between the two companies that did not invest in building networks in this way.

Removing Network Silos that Preclude Scale Efficiencies or Innovation

Another core challenge for organizations is to obtain the benefits of scale. Traditionally, this has been accomplished through functional structures that could consolidate activities and gain scale through volume. In more matrix-based structures, scale often comes through collaborative networks that connect people doing similar work across organizational and geographic boundaries. Consider one global corporation in our research with seven autonomous business units spread across the globe and literally hundreds of operating entities supporting product and service offerings in different geographies. The company had been successful in large part through a decentralized model—in essence, each division was run as a separate company. Although this provided a degree of nimbleness to the organization, it did not enable the company to attain the scale and efficiency benefits it should have given its size. Moreover, incentives and career paths ran counter to enterprise collaboration and, unfortunately, the leaders of each unit valued their autonomy to a great degree, and so they signaled in different ways for people not to reach out.

In this case, the CEO sponsored a global network analysis of the top 2,000 employees to focus on targeted ways to build enterprise collaboration in the pursuit of scale efficiencies. Figure 3B shows a deep dive into one network of R&D scientists who were not integrating well across core capabilities. This deficiency was causing problems both in conceiving possibilities at the front end and in driving ideas into commercially viable outcomes at the back end of the innovation cycle. With this insight, the organization could focus on co-locating this specific group along with a set of other activities to create greater cross-capability collaboration at a critical juncture for the organization.

Other opportunities emerged where there were stark fragmentation points across functions, technical capabilities, and leadership roles doing similar kinds of work. These employees were often distributed across locations and business units and so they had no means of connecting with colleagues in similar positions to share knowledge, experience, or resources. Employees who performed similar tasks or deployed comparable technical solutions across the organization, for example, could have benefited from sharing best practices,

regardless of official titles or place in the hierarchy. Moreover, executives and managers across business units who were at the same level of leadership had much to learn from each other, despite being geographically or functionally diverse. In turn, the wider organization could benefit from increased efficiencies through the spreading of best practices and through innovative collaborations that exploit novel combinations of existing knowledge and resources across the organization. In short, a set of network silos was dramatically undermining this organization's ability to capture the benefits of scale.

As with the earlier M&A example, a network understanding of the organization helped remove silos by assisting in identifying and targeting key employees for collaboration. In the latter part of Figure 3B, we see how this firm leveraged network analysis to gain efficiency through networks. The first visual shows a group that should have been working together more effectively in pursuit of a core market segment. The second visual simply pulls out those in one key role—finance—and then shows how their lack of coordination and connectivity was hurting the firm in terms of promoting efficiencies of practice and purchasing scale. The final visual shows that same network six months later, after the implementation of a set of simple but targeted actions to promote collaboration.

Here, a three-stage leadership program involving both face-to-face and virtual components was deployed as one mechanism to help connect this group. In all aspects, there was not only an emphasis on cutting-edge content domains but also an equal emphasis on efforts that helped employees better understand the work and capabilities of others so that they would know when and how to reach out. Other simple investments were made in the form of a social media platform for this group to collaborate and a monthly check-in call that brought everyone together. And to ensure that employees were leveraging their newfound colleagues, changes were made to resource-allocation processes to require people to prove they had reached out before they could obtain funding.

Although the investments were fairly simple, the payoff was substantial in obtaining purchasing scale and other efficiencies. And this was just one of a series of groups for which targeted efforts were deployed to promote valuable collaboration. Other points included different functional specialists, select technology roles that had a disproportionate effect on the organization (e.g., infrastructure architects), first-level leaders, and then those with scientific and engineering depth in domains that mattered for the organization's strategy. Each focal area applied slightly different sets of activities to promote information flow within that network. And the result was substantial not just in targeting collaborations that mattered but in promoting interventions that did not simply overload all employees in the way that restructurings often do. A post assessment two years later revealed much greater lateral connectivity without collaborative overload impairing performance and agility.

❷ Affective Network Dimension:

Encourage discretionary action through networks that generate purpose and fight fear/risk aversions

Although good ideas are abundant in most organizations, moving one into action requires substantial effort that often runs counter to formal and informal reward systems. Few leaders we worked with had the authority to alter incentive schemes in a meaningful way. They did, however, have the ability to mobilize action by creating a context in which energy and purpose flourished in networks.

A core insight from our interviews arose from an understanding of the degree to which purpose is built through interactions with others in a network. Of the 20 highly successful organizations in our sample, one stood out as having leaders throughout who felt a sense of purpose and impact that brought them fully into their work. Yet interestingly enough, of all the companies, this organization made the most boring and least inspiring product.[32] Some firms in our study were promoting well-being, curing cancer, or improving living conditions in poverty-stricken regions. Unfortunately, these leaders were too often mired in process minutiae, routine decision flows, financial metrics, and deadlines to such a degree that these activities had become the goal rather than the means to an end. In short, the leaders of these firms had lost the sense of purpose that our more successful exemplar organization had built into its culture. The implication for us was that it was less the work that mattered and more the nature of the interactions in networks around the work that create a sense of purpose and desire to invest effort.

Consider Tia, who built a reputation as a marketer and manager, having been rapidly promoted from individual contributor, to first-level leader, to alliance leader, to functional manager. She had worked across divisions and locations on established products and new-product launches. At the time of our interview, Tia was leading the global forecasting and strategy for a well-known life sciences organization. Her team included 30 people on site and another 46 globally who engaged directly with the research side of the business.

Over 15 years, Tia had developed an approach to work that fueled her sense of purpose and energy every day. As she explained, "I have a real passion for this work. I love the scientific rigor. I love developing high-performing teams." Much of her enthusiasm came from the relationships, and she took her role as leader seriously. "If people aren't happy and having fun and being themselves at work," she said, "what are we doing this for? People who are not engaged are not going to be innovative." Whenever she stepped into a new role, Tia looked to solve problems quickly, gain credibility, and build trust. She would ask everyone the following crucial question: *"If you could change one thing to make you more excited about coming to work, what would that be?"* Then she made it her top priority to both remove a pain point and shape some elements of work

to engage each person. She felt that the answers came down to fundamental things. "People want to feel valued, to feel their voice is heard, and to look forward to coming to work," she said. "Once I have that engaged workforce, the level of innovation and execution is an order of magnitude higher."

Tia saw the development of her people as key to innovation and execution spreading throughout the business. Her teams typically assigned people to tasks based on the need to stretch them and to grow overall capacity. "When a new project comes up," she explained, "we look at who has the interest, skills, or development need. Who at the end of this project will come out a better person? The whole goal is to get people better positioned to move up in the organization…. In fact, my team sees it as a leadership failure if one of our employees goes for another role and [doesn't] get it."

Another way that Tia started to build engagement was to talk openly about purpose and identity. "A couple months into a new role," she explained, "I pull a tool called 'Dimensions of Difference' into my weekly one-on-ones and then eventually into larger team meetings…. It walks through the things you are born into, and family life, relationships, education, and work style…. It gets you to what are the three things that define you as a human being. If we have that open, raw dialogue, people can really be themselves moving forward…. People can get to know where I come from; I get to know where they come from." Such personal insights helped Tia and her team through some outwardly difficult or professionally challenging moments. "People don't know what I'm thinking or feeling; they only see my actions," she said. "If I can give them a lens to what's underneath, they can infer that my intent is pure, and we build trust."

Tia also drove purpose by placing the patient—the ultimate customer—in the center of team conversations. "I elevate the patient we serve, especially when we go through hectic periods," she said. To that end, for meetings Tia has brought in YouTube clips or a story from a patient or family—putting names and faces to people's purpose. At the same time, she is matter-of-fact about the business and financial demands, acknowledging that they lack the power to inspire others. According to her, "Real inspiration has my team thinking about their business in the shower or driving home; they want to make a difference for a patient. That's the North Star, not some business target." As such, Tia and her teams have spent a lot of time thinking about how to create purposeful interactions in the network. She has encouraged her team and leaders to focus on the "why" of the work they are doing before the "what" or the "how." And she has encouraged co-creation and a number of other forums that help people derive a sense of purpose from how they are interacting with each other. As she explained, "People always say it is the

work that gives them purpose. But I don't think that is right. I think it is the network built around the work that matters. I have seen people get inspired by mundane work and do great things when this exists."

Acknowledging accomplishment and giving recognition have also helped people feel like part of a team, generating purpose and energy. As Tia explained, "Whether it's acknowledgement of someone's work anniversary or recognition of a project going well, it gives a nice buoyancy to the person being called out and it makes people want to be part of that kind of culture." Fun, too, is part of the mix. "FUN is one of my leadership principles," she said, emphasizing, "the only one I put in capitals."

To open each meeting, Tia typically starts with a "wow" moment, with team members taking turns to bring in something interesting and inspiring to the team—for example, an ad or video from a completely unrelated industry or from pop culture that brings humor to kick things off. "It's a moment to say, 'let's not take ourselves too seriously,'" notes Tia. "We laugh together before we get down to work." Feeling part of the team also builds accountability and commitment, while honest and open start/stop/continue meetings help people to focus on improvement by highlighting when there is a need to do extra or do better to get results.

Tia also focuses on the positive, which fuels both energy and innovation. She contends that seeing possibilities and not critically analyzing every idea is important to help people feel engaged in their work. "I think it is human nature to say 'no,' to point out why something is not going to work," she explains. "We're wired to overstate risk. As a caveman, you stayed in the cave. The one who said, 'I'll go look outside and see what's going on out there,' who took the risk—his or her genes didn't usually pass on!" Tia often tries to support risk taking and driving change, not just giving lip service to fail fast or innovate. "I want my team to feel comfortable to communicate an idea or jump on an educated risk, because they feel supported," she says. "People are not scared to take a risk—they are scared to be blamed."

In sum, we can draw the following lessons from Tia's approach to motivating action through networks:

- **Demonstrate authentic interest and concern for others and hold leaders accountable for the same.** Recognize that people don't care how smart you are until they know you care about them, so be genuine in your interactions and remove barriers for people.
- **Keep the "why" of the work front and center at all times.** Remember that focusing on outcomes and efficiency is important but should not come at the cost of people losing sight of "why" they are investing the level of effort required.
- **Co-create early in problem solving and look for possibility rather than risk to spur engagement.** Don't forget that the fundamental needs of most people are twofold: 1) to feel

a part of a group and 2) to be seen as a unique contributor. Don't rob that motivational pull by establishing and then communicating vision in isolation.
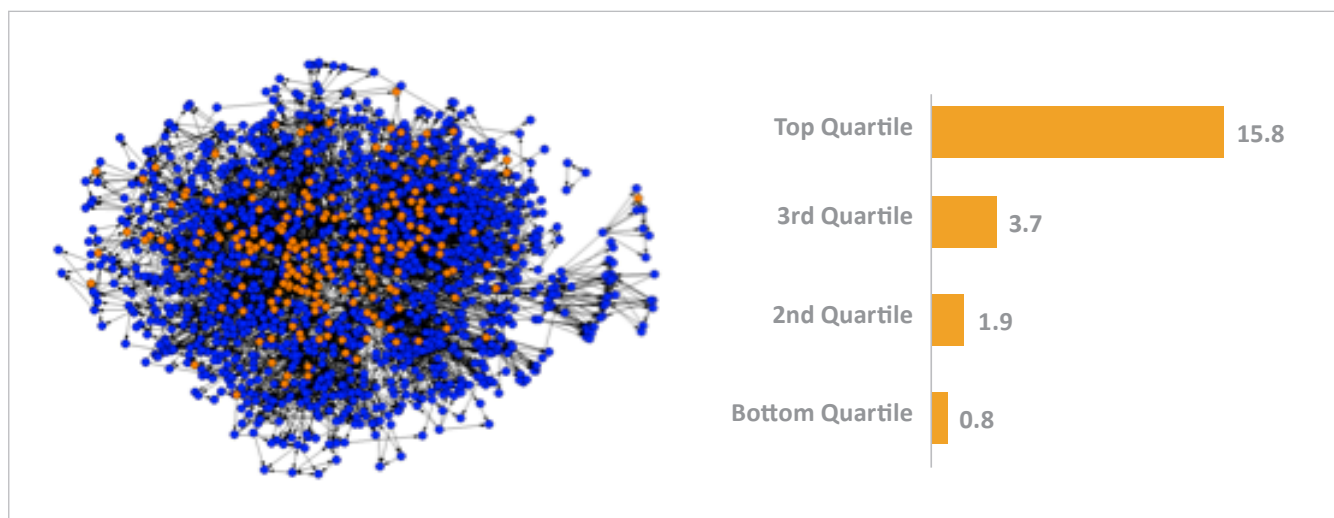
Building Purpose Through Network Interactions

Again, network analysis enables us to assess the degree to which purpose is built though interactions more broadly. Consider the challenge faced by one of the world's leading consultancies. This organization provides deep technical and subject-matter expertise to a wide range of clients. Over the years, brand recognition and highly evolved talent processes have enabled the organization to attract top experts in their fields. Engagement scores, early in an employee's tenure, were also high because the firm staffed these experts to some of the most interesting and challenging work in the market. But the demanding nature of those projects (short timelines, significant client pressures, frequent travel, and so on), along with the intense collaborative demands of the consultancy's "one firm" culture, had resulted in a higher attrition rate than the organization desired. To stem that, the firm invested in a range of programs to promote well-being in the workplace, with one specific stream of work focused on understanding how networks promoted engagement and retention.

Specifically, the consultancy conducted network analyses that assessed interactions that created purpose and energy. For example, the question that focused on purpose asked people to indicate those they engage with in their day-to-day work that gave them a sense of purpose and belief that their work mattered and had impact. We mapped this network dimension through the organization and drew two important conclusions.

First, interactions that created purpose mattered a great deal. Employees who derived a sense of purpose from others were more likely to be high performers, scored higher on measures of engagement, and were less likely to quit. Second, though, leaders varied widely in the degree to which they created purpose in interactions with their employees. Figure 4A shows the network of interactions that generated purpose within one practice. A line going from one person to another indicates that the originating person derives a sense of purpose in his or her work from interactions with the other person. As can be seen in the diagram, leaders—denoted by the orange nodes—varied widely in their ability to generate a sense of purpose in this network. Some, to be blunt, were abysmal at it and expected people to show up and give effort for their paycheck alone. Others were exemplars—the top quartile of leaders had close to 16 people on average who indicated that that leader created a sense of purpose for them (whereas the bottom quartile recorded only 0.8). Overall, the exemplar leaders accounted for 71% of the interactions that created purpose throughout the group.

Not surprisingly, the exemplars enjoyed lower voluntary attrition and higher performance scores in their groups. In addition, they recounted stories of client wins and add-on

client work that other leaders craved under the idea of agility. Given the performance implications, the organization took steps to try and replicate the success of the exemplar leaders. First, they interviewed the exemplars and the people who saw them as a source of purpose to see what these leaders were doing that others could learn from. Through those interviews, a fairly small set of consistent best practices emerged:

- **Establish the *why* of the work and nurture a shared sense of purpose.** Use team meetings to share stories of impact on customers (internal or external).
- **Maintain constant focus on others' personal and professional development.** Employ periodic one-on-one meetings to ensure you are matching work and aspirations to the extent possible.
- **Build interactions with people who care about similar processes or outcomes.** Focus work activities around shared values (e.g., the desire to make an impact).
- **Co-create and explore problem and solution spaces with an open mind.** Engage others early to make them feel included in defining problems and solutions.
- **Encourage energizing behaviors.** Encourage possibilities, make good on commitments, stay fully present, etc.
- **Stand for something larger than one's own self-interest by looking to help others.** Use workshops, events, or volunteer activities (such as Habitat for Humanity, 5K fundraisers, etc.) so people feel part of something bigger.

With the above consistent behaviors identified, the firm set out to cascade them through a cultural change program and blended learning initiative, employing both virtual and face-to-face forums. These venues spurred a common understanding of the importance of these behaviors and explicitly encouraged the ideas of purpose and energy to become commonly discussed in the day-to-day work of the

firm. To ensure uptake, the firm also began to conduct pulse surveys and immediate feedback to hold all employees—leaders and non-leaders—accountable for select behaviors and to increase a sense of engagement. Although this initiative is still in mid-process, the anecdotal evidence thus far is that the behaviors are taking hold and having an impact on the organizational culture. As a follow up, a network analysis is planned two years out to assess the quantitative improvement in performance and engagement.

Avoiding Cultures of Fear and Risk Aversion

In some companies involved in our research, the problem was more challenging. Specifically, we often found that engineering, software, and scientific organizations were more likely to evolve into cultures where fear or risk aversion tended to keep people from exploring early-stage ideas with their colleagues. In several instances, these organizations were considered the top of their industry, able to secure word-class talent. But, somehow, their networks had evolved in a way that encouraged people to become risk averse—to keep ideas close to the vest until they were seemingly bullet proof. In short, negative dimensions of social capital were trumping the innovation potential that should have emerged from human-capital investments.

For example, one large research and development function (with more than 5,000 people) that we analyzed was considered to have the top commercial scientists across a number of bodies of science. In this case, in addition to mapping the information flow and purpose, we were allowed to assess relationships that created risk aversion—interactions in which people held back early-stage or exploratory ideas for fear of being ridiculed or labelled. In these diagrams, a line going from one person to another indicated that the person tended to feel like he or she could not explore emerging
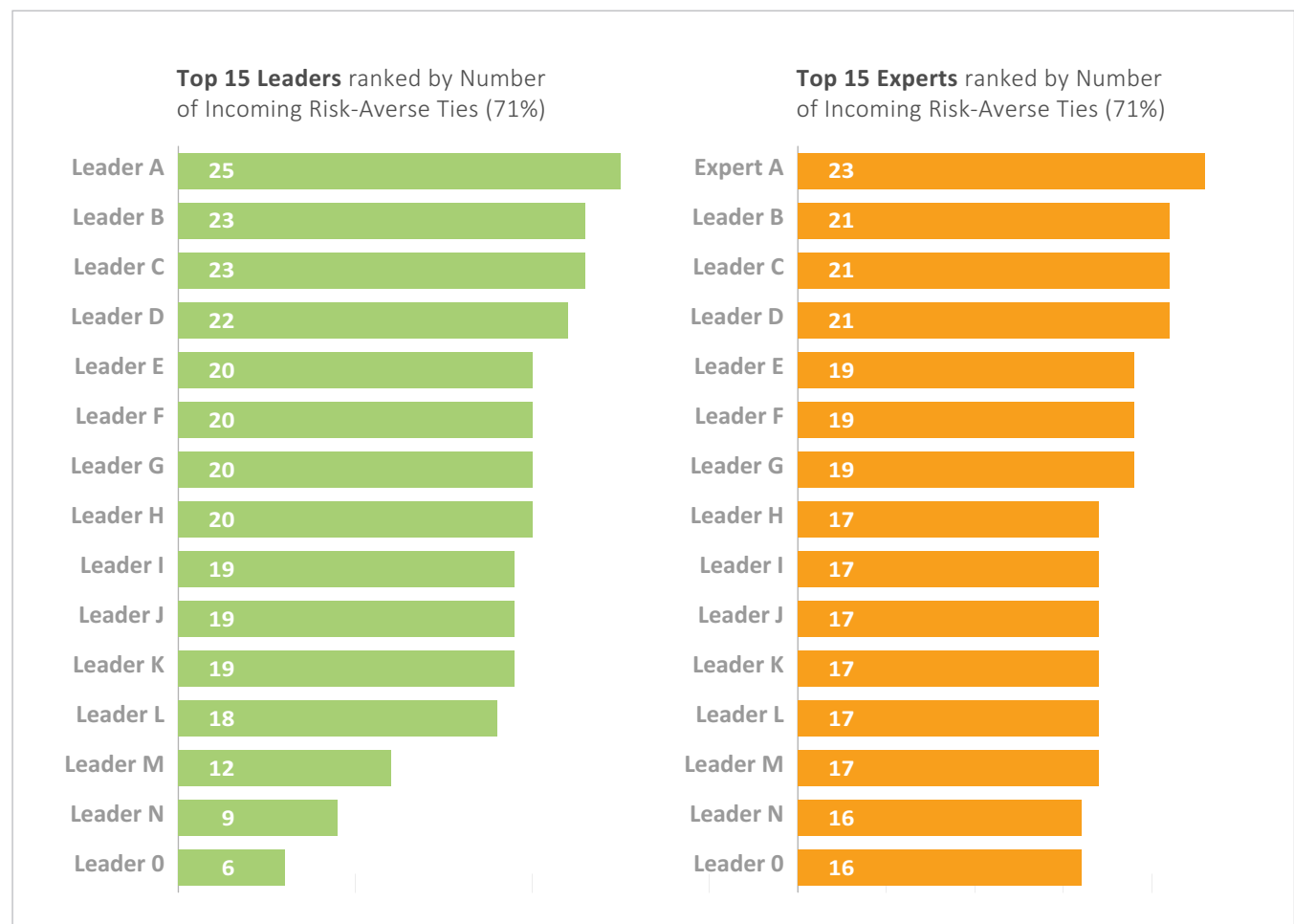
thoughts or possibilities with the other person. Unfortunately, the number of risk-averse connections was much higher than anticipated, and we heard an audible gasp from the leaders of this group when we showed the degree to which networks of fear had taken over this once cutting-edge research unit.

This group was sufficiently large that the network diagrams became too dense to interpret in the aggregate. As a result, we analyzed the data in other ways to understand how leaders and subject matter experts might be inadvertently perpetuating a culture of risk aversion. Figure 4B shows how a small set of individuals—mainly leaders and high-end subject matter experts—had a disproportionately negative effect on the culture. Specifically, the top 15 leaders alone accounted for 81% of all risk-averse ties touching leaders in this 5,000-plus group. And the top 15 "experts" accounted for 21% of all risk-averse ties directed to non-leaders. The remainder of the risk-averse connections was less solidified around individuals and more a product of one-off scenarios in which one person was not comfortable in another person's presence.

It should be noted that the strength of network analysis is that it helps illuminate inflection points and key opinion leaders in networks to drive change far more efficiently than broad cultural programs. The intent is never to isolate a given individual but rather to see where categories of people can make slight changes to what they are doing that will then have a significant impact on the broad population. In this case, it came down to coaching and a cultural intervention program that focused on adapting positive behaviors in the network, including those that were discussed earlier that generate purpose in interactions. But equally important was a focus on some principles that helped shift away from some of the negative behaviors. These included the following: 1) driving influence with a "pull" versus "push" philosophy, 2) valuing the ability to obtain answers versus being the smartest in the room, and 3) deploying tactics like separating critique from person and revealing one's own thinking (to establish vulnerability).

In most cases, we have found that people are typically quite surprised to learn that they might be propagating

FIGURE 4B. Mapping the Affective Dimension of Agility—
Intervening Through A Small Number of People Who Create a Culture of Risk Aversion

negative dimensions in networks, and they generally are very interested in changing those behaviors. As such, coaching and follow-up efforts can have a very significant impact organizationally because the network analysis enables an organization to work through the small set of people who have a disproportionately large effect. Perhaps just as interestingly, the results often reveal a smaller number of individuals who are intimidated by a large number of others.

Unfortunately, this group can also create contexts of fear as people see risk where it doesn't exist. In our experience, this is actually a harder problem to solve than abrasive leaders or experts who do not share their knowledge well. But several participants in our study did indicate success from a combination of instruments creating awareness and coaching on points like mindfulness.

③ Behavioral Network Dimension:

Create capacity to act via formal/informal collaborative mechanisms and by reducing collaborative overload

Finally, relationships enable the capacity to act. This is partially a product of generating sponsorship with formal and informal opinion leaders, but it's also about creating an organizational context that values and continually streamlines collaborative work. Consider Dan, who directs a significant software development function in a global software organization, an operation of 150 people serving customers in Western Europe and the U.K.

Based on his experience, Dan has come to see a culture of collaboration as core to innovation and growth through an open, limited-hierarchy organization, with a drive to keep processes simple and remain nimble. "Our processes need to be light. They need to allow for rapid change, so if somebody sees something that needs to be different, we can change it," he contends. "We shouldn't rely on process for everything. I don't want people to feel like they are in a cage, that it's not part of the process, don't do it that way." In his job, Dan brings all levels and expertise together to make specific coding decisions, as well as to talk through priorities and processes. "I never use my title or pull rank," he says. "I expect new hires, straight out of college, to challenge my ideas." He insists that a good idea can come from anywhere, often from a voice he doesn't expect—and as the company has grown, it is this energy and ownership that has kept the organization adapting.

The first step to having a collaborative culture is hiring the right people. Initial screenings and resume reviews simply weed out poor candidates. Interviews help identify people who are good at problem solving, are creative, can explain things clearly, and don't foster an "us versus them" mindset. Dan personally meets the top candidates, wanting to hear their stories and read their body language, and he'll ask them to walk him through their day-to-day work. "That's the best deep-dive interview question," he contends. "It gets to what they are doing and why they do it that way…. That tells me a lot about how they would collaborate and contribute here." Another favorite question is around a scenario: The product is late. The option to run overtime for three months is on the table. What do you do? "Usually, they lean back because they are going to say something negative and they don't want to," Dan says. "One guy I hired right away leaned forward, looked me in the eye, and said, 'You just can't do that to people.'
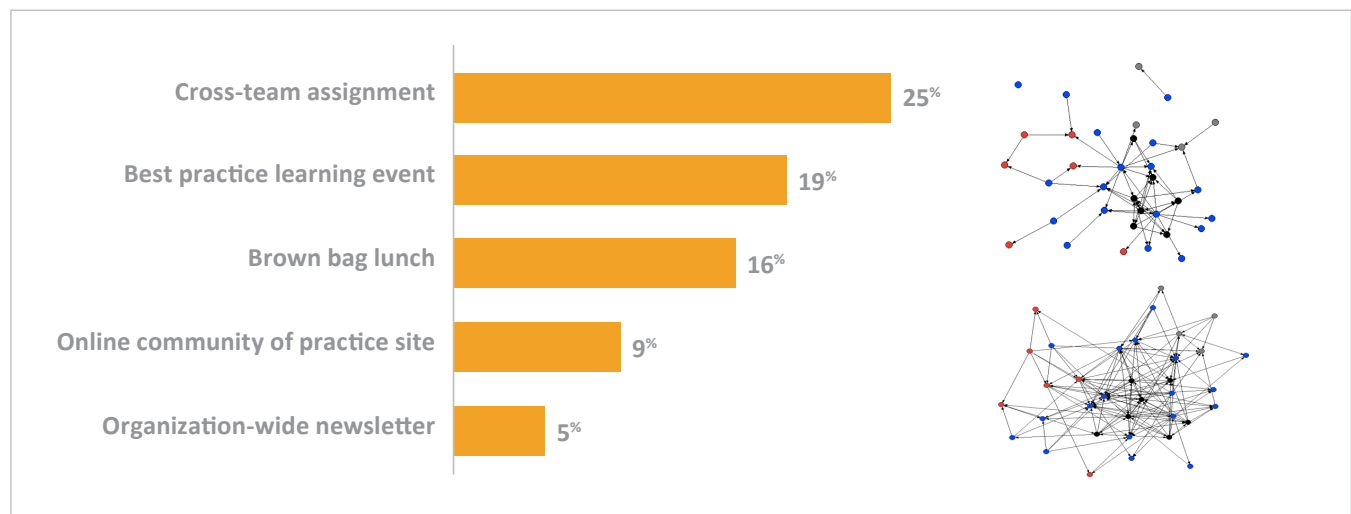
Things like that are powerful clues to how they collaborate and enable others."

Hiring the right people is one thing; enabling them to do their best work is another. As such, removing inefficient ways of accomplishing collaborative work to help free peoples' time is a top priority for Dan. Regularly scheduled meetings of 10- or 12-person teams are designed to call out what's working as well as what doesn't make sense. "Every two weeks, we ask, 'How can we collaborate more effectively? What can we change?'" says Dan. "Again, from the newest employee to the most-tenured or senior leader, everyone is involved. Each quarter, all the teams get together to decide what changes to scale across the company."

Another tack for fueling collaboration and innovation is to focus on Objectives and Key Results (OKR), rather than on narrow metrics or throughput. According to Dan, "OKR is a bigger approach. A team sets it every quarter and it's something not attainable, a stretch goal, but it pushes the limits and bonds the team." OKRs could be technical, operational, or cultural. For one team, creating fun was an OKR, leading to activities like tossing a ball at meetings to add levity and to force everyone to pay attention, a business-book club with people taking turns to give a chapter synopsis using themes or characters from a favorite movie, and pizza lunches during which people presented on a project they weren't working on. Dan believes that all of these efforts help keep people vibrant and collaborating in new ways to get work done. In his mind, the networks that people fall into can become an obstacle that impedes their effectiveness at work if those networks aren't continually challenged and refreshed.

At the same time, with all the collaboration and deep involvement, Dan is aware that people can become overloaded or struggle to find their focus. He has found it to be a particular challenge for employees four to six years into their career. They are seen as valuable, so they are pulled into many projects and meetings, but they haven't yet learned how to step back or say "no." As Dan explains, "You have the heroes who want to be included and the project leaders who want their favorites in the room…. I tell them both, 'There is more than one person who will know the answer to the question….' I tell managers, 'No, you can't take everyone for

FIGURE 5A. Mapping the Behavioral Dimension of Agility—Creating a Context for Action

Cross-team assignment	25%
Best practice learning event	19%
Brown bag lunch	16%
Online community of practice site	9%
Organization-wide newsletter	5%

three hours,' and I tell employees, 'You have to manage your calendar.' It's important that they understand every minute that they have is critical. You have to ask, 'What is the highest value I can offer the business for my time?'"

In sum, we can take a set of lessons from Dan's approach to motivating action through networks:

- **Build recruiting and evaluation processes based on a collaborative culture.** Look for new hires who are collaborative, curious, proactive and passionate. "I can teach them how to code," says Dan, "but I can't teach them how to think."

- **Embed practices to question the status quo on collaboration and teams.** Bring teams together every two weeks for a stop, start, and continue conversation. Experiment with new ways of working and share successes with a larger group.

- **Take systematic action to reduce collaborative overload.** Apply agile methodology to how people are working together. Test and iterate on new solutions to reduce unnecessary collaborative work that burns people out.

Creating a Context for Agile Collaboration

Financial and professional services organizations are constantly in pursuit of revenue through cross-selling and broadening of the range of services and solutions that they provide to top clients. In both contexts, though, the incentive schemes often run counter to these desired behaviors. In the banking world, for example, people get greater returns from marketing things under their control and where there is a direct line of sight to the value they have generated. Unfortunately, dramatic changes to incentive schemes are not realistic because employees would simply move to another firm. Consequently, many organizations have turned to network analysis to promote cross-selling through networks and more flexible incentive mechanisms.

In one leading investment bank, we assessed collaboration in networks via measures of information flow and revenue production. Specifically, we measured where people had collaborated and the volume of revenue produced to see where value was generated in the network. The resulting network maps enabled us to see where rifts between areas (fixed income and equities, as an example) were undermining the institution's ability to bring its global capabilities to clients in a fashion that would differentiate the firm from competition and elevate its ability to compete on value created rather than purely on price. In this case, management promoted increased cross-unit collaborations by setting cross-sales goals at specific junctures and by revising client coverage charts and the CRM system to encourage employees to work across different units.

In addition, a heavy emphasis was placed on a detailed review of leadership practices, cultural values, and formal design mechanisms. The focus here was to ensure that the organizational context in its entirety was enabling the desired collaborations and, where this was not happening, to make the appropriate investments in mechanisms that would support collaboration. The top portion of Figure 5A contains a simplified example, which shows where some investments were not having the desired payoff (e.g., electronic forums and various communication efforts), while others were yielding more significant results than anticipated (e.g., cross-coverage assignments and staffing).

Making specific changes to context in terms of technology, role design, and reward mechanisms (both formal and informal) had a very significant impact on performance. An assessment three years later showed marked improvement in collaboration across units that was directly tied to greater revenue production. More importantly, by tying changes to organizational context directly to the network analysis, leaders were able to make investments with much greater assurance of payoffs in collaboration. The diagnostic broadly assessed work and performance management processes,

human resource practices, technical infrastructure, leadership behaviors, cultural values, and formal design mechanisms.[34]

An alternative focus on organizational context is to identify where collaborative barriers might be precluding effective integration. Across this work, we measured a set of items (see below) to assess different organizational impediments to employee collaboration. These more implicit barriers could require different forms of actions to address cultural or more local behavioral issues that pure context diagnostics might miss. The following types of questions can help surface the often-hidden obstacles that can cause employees to lose significant amounts of time that they would otherwise be spending on work that delivers value:
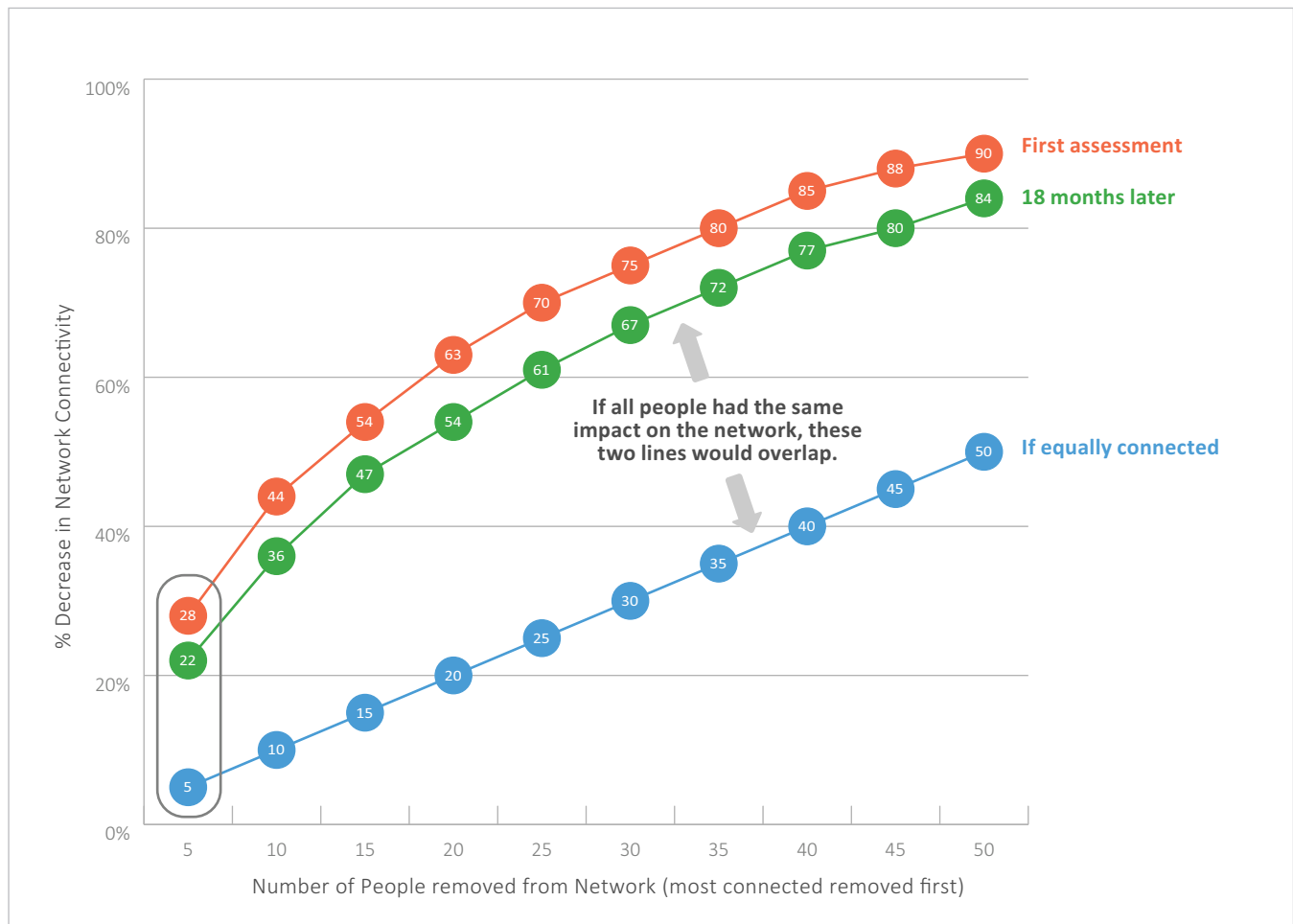
- Do you find it difficult to locate colleagues with specific expertise, determine who is doing what, or to work effectively across sites, cultures, or time zones?
- Are your colleagues often reluctant to share information?
- Do your colleagues fail to acknowledge the contribution of others?
- Have your project groups had difficulty making timely decisions?

- Have you experienced a lack of the appropriate data or process standards?
- Do your colleagues emphasize constraints over opportunities?

Proactively Addressing Collaborative Overload to Create Capacity to Act

The explosion in the collaborative intensity of work over the past decade—resulting from matrix-based designs, social media uptake, email usage, globalization, and the increased interdependence of work—has resulted in collaborative obligations that are crowding out the time most employees have available for the remainder of their jobs.[35] Such increases in collaborative demands can have a very destructive effect on organizational agility. Not surprisingly, individuals who face a high cognitive load are less capable of agile sense-making about their environments because they lack the time and space required to explore options and think flexibly and creatively.[36] When people are under time constraints, they tend to seek out fewer diverse perspectives, evaluate fewer alternatives, process inputs automatically and uncritically,

FIGURE 5B. Mapping the Behavioral Dimension of Agility—Creating Capacity to Act by Reducing Collaborative Overload

rush towards closure, and show a marked intolerance for ambiguity.[37] In essence, collaborative overload reduces the ability to think in ways that are necessary for generating and supporting organizational agility. Network analysis can help to rebalance collaboration obligations and identify opportunities for new practices to enhance collaborative efficiency.[38]

Consider a global financial services organization that had grown over a decade in a decentralized manner. As a result, different globally distributed units had evolved distinct strategies and approaches to value creation, and company leaders had raised concerns about consistency in the actual financial practices that were being used in serving clients. Indeed, a subsequent internal practice audit revealed a surprising degree of variation in the use of established best practices, such that the local adoption of many best practices was limited and inconsistent.

The solution? Drawing on the idea of brokers who span otherwise-disconnected groups, the organization focused on bolstering a centrally managed group at corporate headquarters to create more bridging ties out to each local unit. In essence, corporate headquarters would serve as a knowledge broker, moving ideas and best practices between units. Although the new setup served its purpose well at first, its initial success ended up creating new problems over time, leading to stifled opportunities for direct interaction between local units. In fact, our research found that almost 80% of employees voiced a strong need for greater collaboration between local units, not with the central unit. With three quarters of all connections going through the central unit, over time it had become a new choke point for collaboration and best-practice transfer.

This realization set in motion a wide variety of changes that ultimately proved to be more than twice as effective in enhancing local collaboration versus the initial approach of using corporate headquarters as a broker. One key intervention was the creation of a new local-broker role to connect directly across distributed units. When we evaluated the success of this new approach more than a year after it was implemented, we found that these local brokers had become indispensable in managing the flow of best practices across local units. On average, these local brokers could reach fully half of the entire organization either directly or through a mutual colleague. But rather than simply layer new collaboration obligations on top of an already bursting network, these interventions actually freed up resources, with 60% of distributed units showing moderate to significant reductions in ties back through the corporate headquarters.

Figure 5b depicts just how heavily loaded the center of a network can be. In the figure, which shows how the loss of the center of a network can drastically reduce overall connectivity, the diagonal line depicts a hypothetical situation in which each person in the network is equally connected. Thus, on that diagonal line, the loss of 5% of people would result in a loss of 5% of network ties. We took measurements at the financial services organization at two points in time and plotted them to show the effect of the firm's interventions. As can be seen in Figure 5b, the result of those interventions was a markedly decreased reliance on the heavily loaded individuals at the center of the network. In fact, the proportion of ties that linked to the most heavily loaded 5% of the network dropped significantly, from 28% to 22%.

Although network analysis can be a powerful tool for improving collaboration, care must be taken to avoid creating new structures that over time worsen the problem they were intended to solve, and in doing so undermine organizational adaptability.[39] The lesson here is that interventions that create new formal structures to solve network problems can inadvertently create new overload problems by concentrating connectivity in ways that may initially be effective but over time become counterproductive. Successful network interventions are built to scale with demand, and in doing so they rarely become choke points for organizational change initiatives.

CONCLUSION

Many firms have tried to become more nimble through technical solutions or formal re-organizations, but these efforts often miss the mark when they fail to focus on agility where it actually occurs—in the informal networks of an organization. Applying a cognitive, affective, and behavioral lens to these networks will enable leaders to assess whether conditions exist for employees to recognize an opportunity, be motivated to do something about it, and have the capacity to take action. Further, creating these conditions throughout networks increases the odds that agility moves beyond the realm of individual heroic action and toward a true distinguishing capability for the firm. The result is an organization that is nimble and adaptive, able to think and move quickly and innovatively to accomplish rapidly changing objectives.

References

1. Miranda, G. M. L., and Thiel, K., "Improving Organizational Speed and Agility," *McKinsey Quarterly*, 1, (2007): 14-15; Sull, D., "Competing Through Organizational Agility," *McKinsey Quarterly*, 1, (2010): 48-56.

2. Aupperle, K. E., "Crossroads-Spontaneous Organizational Reconfiguration: A Historical Example Based on Xenophon's Anabasis," *Organization Science*, 7/4, (1996): 445-460; Eisenhardt, K. M., "Making Fast Strategic Decisions in High-Velocity Environments" *Academy of Management Journal*, 32/3, (1989): 543-576.

3. Ebben, J. J., and Johnson, A. C., "Efficiency, Flexibility, or Both? Evidence Linking Strategy to Performance in Small Firms," *Strategic Management Journal*, 26/13, (2005): 1249-1259.

4. Galunic, D. C., and Eisenhardt, K. M., "The Evolution of Intracorporate Domains: Divisional Charter Losses in High-technology, Multidivisional Corporations," *Organization Science*, 7/3, (1996): 255-282; Galunic, D. C., and Eisenhardt, K. M., "Architectural Innovation and Modular Corporate Forms," *Academy of Management Journal*, 44/6, (2001): 1229-1249; Tushman, M., Smith, W. K., Wood, R. C., Westerman, G., and O'Reilly, C., "Organizational Designs and Innovation Streams," *Industrial and Corporate Change*, 19/5, (2010): 1331-1366.

5. Bazigos, M., and Harter, J., "Revisiting the Matrix Organization," McKinsey Quarterly, January 2016.

6. Aronowitz, S., De Smet, A., and McGinty, D., "Getting Organizational Redesign Right," *McKinsey Quarterly*, June 2015.

7. Nadkarni, S., and Barr, P. S., "Environmental Context, Managerial Cognition, and Strategic Action: An Integrated View," *Strategic Management Journal*, 29/13, (2008): 1395-1427; Teece, D., Peteraf, M., and Leih, S., "Dynamic Capabilities and Organizational Agility," *California Management Review*, 58/4, (2016): 13-35.

8. Balogun, J., "The Practice of Organizational Restructuring: From Design to Reality," European Management Journal, 25/2, (2007): 81-91.

9. Barkema, H. G., and Schijven, M, "Toward Unlocking the Full Potential of Acquisitions: The Role of Organizational Restructuring," *Academy of Management Journal*, 51/4, (2008): 696-722; Hirsch, P. M., and De Soucey, M., "Organizational Restructuring and Its Consequences: Rhetorical and Structural," *Annual Review of Sociology*, 32 (2006): 171-189.

10. Several consulting firms, such as Accenture, Bain, BCG, and Deloitte offer delayering solutions. For example, Accenture discusses how optimizing spans and layers can provide agility (https://www.accenture.com/t20160907T062814__w__/us-en/_acnmedia/PDF-30/Accenture-Organization-DeLayering-Do-You-Have-The-Agility-To-Compete.pdf) while BCG touts the delayering benefits of speedier decision making and enhanced communication (https://www.bcgperspectives.com/content/articles/change_management_engagement_culture_global_delayering_for_competitive_advantage/). Bain mentions "holistic organization simplification" (http://www.bain.com/publications/articles/streamlining-spans-and-layers.aspx) and Deloitte notes that "supervisory burden" is part of an increasingly overwhelming work environment (https://www2.deloitte.com/content/dam/Deloitte/us/Documents/human-capital/us-cons-relieving-the-overwhelmed-organization.pdf) that can benefit from optimizing spans and layers.

11. Wulf, J., "The Flattened Firm," *California Management Review*, 55/1, (2012): 5-23.

12. Cross, R., and Gray, P., "Where Has the Time Gone? Addressing Collaboration Overload in a Networked Economy," *California Management Review*, 56/1, (2013): 50-66.

13. Cross, R., Borgatti, S. P., and Parker, A., "Making Invisible Work Visible: Using Social Network Analysis to Support Strategic Collaboration," *California Management Review*, 44/2, (2002): 25-46.; Ibarra, H., "Network Centrality, Power, and Innovation Involvement: Determinants of Technical and Administrative Roles," *Academy of Management Journal*, 36/3, (1993): 471-501.

14. Cross, R., Gray, P., Showers, M., Cunningham, S., and Thomas, R., "The Collaborative Organization: How to Make Employee Networks Really Work," *Sloan Management Review*, Fall (2010): 83-90; Moliterno, T. P., and Mahony, D. M., "Network Theory of Organization: A Multilevel Approach," *Journal of Management*, 37/2, (2011): 443-467.

15. Bernstein, E., Bunch, J., Canner, N., and Lee, M., "Beyond the Holacracy Hype," *Harvard Business Review*, 94/ 7/8, (2016): 38-49.

16. Silverman, R.E., "At Zappos, Banishing the Bosses Brings Confusion," *Wall Street Journal*, (May 20, 2015).

17. Bartlett, C. A., and Ghoshal, S., "Matrix Management: Not a Structure, a Frame of Mind," *Harvard Business Review*, 68/4, (1989): 138-145; Mintzberg, H., "Strategy-making in Three Modes," *California Management Review*, 16/2, (1973): 44-53; Mintzberg, H., "The Fall and Rise of Strategic Planning," *Harvard Business Review*, 72/1, (1994): 107-114.

18. Cross, R., Gray, P., Showers, M., Cunningham, S., and Thomas, R., "The Collaborative Organization: How to Make Employee Networks Really Work," *Sloan Management Review*, Fall (2010): 83-90.

19. Cegarra-Navarro, J. G., Soto-Acosta, P., and Wensley, A. K., "Structured Knowledge Processes and Firm Performance: The Role of Organizational Agility," *Journal of Business Research*, 69/5, (2016): 1544-1549.

20. Reeves, M., and Deimler, M., "Adaptability: The New Competitive Advantage," Harvard Business Review, (2011).

21. Day, G., and Shoemaker, P., "Adapting to Fast-Changing Markets and Technologies," *California Management Review*, 58/4, (2016): 59-77; Reeves, M., and Deimler, M., "Adaptability: The New Competitive Advantage," *Harvard Business Review*, (2011); Johnson-Cramer, M. E., Parise, S., and Cross, R. L., "Managing Change Through Networks and Values," *California Management Review*, 493, (2007): 85-109.

22. Lu, Y., and Ramamurthy, K., "Understanding the Link Between Information Technology Capability and Organizational Agility: An Empirical Examination," *MIS Quarterly* (2011): 931-954; Sambamurthy, V., Bharadwaj, A., and Grover, V., "Shaping Agility Through Digital Options: Reconceptualizing the Role of Information Technology in Contemporary Firms," *MIS Quarterly*, (2003): 237-263.

23. Bartlett, C. A., and Ghoshal, S., "Changing the Role of Top Management: Beyond Strategy to Purpose," *Harvard Business Review*, 72/6, (1994): 79-88; Wales, W. J., Patel, P. C., Parida, V., and Kreiser, P. M., "Nonlinear Effects of Entrepreneurial Orientation on Small Firm Performance: The Moderating Role of Resource Orchestration Capabilities," *Strategic Entrepreneurship Journal*, 7/2, (2013): 93-121.

24. Ferrier, W. J., Smith, K. G., and Grimm, C. M., "The Role of Competitive Action in Market Share Erosion and Industry Dethronement: A Study of Industry Leaders and Challengers," *Academy of Management Journal*, 42/4, (1999): 372-388.

25. Cannon-Bowers, J. A., and Salas, E., "Reflections on Shared Cognition," *Journal of Organizational Behavior*, 22/2, (2001): 195-202; Resnick, L. B., "Shared Cognition: Thinking as Social Practice," in Resnick, L. B., Levine, J. M., and Teasley, S. D. (Eds.), Perspectives on Socially Shared Cognition (Washington DC: American Psychological Association, 1991): 1-20.

26. Groysberg, B., Hill, A., and Johnson, T., "Which of These People is Your Future CEO?: The Different Ways Military Experience Prepares Managers for Leadership," *Harvard Business Review*, (2010): 80-85.

27. Popper, W., Power, B., and Stanton, S., "Make Agility Part of Your Process," *Harvard Business Review*, (2013).

28. Franken, A., and Thomsett, H., "When It Takes a Network: Creating Strategy and Agility Through Wargaming," C*alifornia Management Review*, 55/3, (2013): 107-133.

29. Organizational researchers have focused in on the importance of cognition, affect, and behavior in emergent processes within firms. Cognitive refers to the mental framing of thoughts that may include how attention is directed toward insightful knowledge or the way that solutions are mapped or envisioned. Affective refers to emotional state or mood that may include components of motivation, engagement, or incentives. Behavioral refers to the action state that includes the capacity to execute or implement. These individual-level characteristics, in the context of social interaction and exchange, are foundational in understanding firm outcomes. For further detail, see Ployhart, R. E., and Moliterno, T. P., "Emergence of the Human Capital Resource: A Multilevel Model," *Academy of Management Review*, 36/1, (2011): 127-150; Kozlowski, S. W. J., and Klein, K. J., "A Multilevel Approach to Theory and Research in Organizations: Contextual, Temporal, and Emergent Processes," (2000).

30. Ballinger, G., Craig, E., Cross, R., and Gray, P., "A Stitch in Time Saves Nine: Leveraging Networks to Reduce the Costs of Turnover," *California Management Review*, 53/4, (2011): 111-133; Cross, R., and Gray, P., "Where Has the Time Gone?" *California Management Review*, 56/1, (2013): 50-66.

31. Deutsch, C., and West, A., "A New Generation of M&A: A McKinsey Perspective on the Opportunities and Challenges," (2010).

32. We are intentionally not identifying the product to preserve anonymity.

33. Size of group and industry are disguised to ensure anonymity.

34. Cross, R., and Parker, A., *The Hidden Power of Social Networks*, (Boston: HBS Press, 2004).

35. Cross, R., and Gray, P., "Where Has the Time Gone?" California Management Review, 56/1, (2013): 50-66.

36. Kruglanski, A. W., and Webster, D. M., "Motivated Closing of the Mind: 'Seizing' and 'Freezing,'" *Psychological Review*, 103/2, (1996): 263-283.

37. Webster, D. M., and Kruglanski, A. W., "Individual Differences in the Need for Cognitive Closure, *Journal of Personality and Social Psychology*, 67, (1994): 1049-1062.

38. Oldroyd, J. B., and Morris, S. S., "Catching Falling Stars: A Human Resource Response to Social Capital's Detrimental Effect of Information Overload on Star Employees," *Academy of Management Review*, 37/3, (2012): 396-418.

39. Reeves, M., and Deimler, M., "Adaptability: The New Competitive Advantage," *Harvard Business Review*, (2011).