Using Organizational Network Analysis to Improve Integration Across Organizational Boundaries

By Dan Novak, Mark Rennaker and Paulette Turner
There is an oft-told story about an architect designing a multibuilding campus but not including the usual sidewalks to connect the various buildings. When asked why, the answer was, “We will wait until we can see where pathways are needed.” In the story, when the occupants of the buildings change, or their roles and relationships change, new pathways are required while old pathways fall into neglect. Likewise, organizational design includes both formal intent and retrospective adaptation.

Modern organizations are adaptive, open systems with fluid patterns of individual communications and interlocking behaviors (Monge & Eisenberg, 1987; Weick, 1979). Work is a series of interactions that “gets done” by emerging networks of communication, knowledge and relationships; as a result, precise or rigid designs are less useful (Bolman & Deal, 2008; Eisenberg, Goodall, & Trethewey, 2007). We have all seen the orange cones, yellow barrier tape and “Do not walk on the grass” signs put out to dictate pedestrian behavior. And yet, the well-used paths in the dirt are telling us where people want and need to walk.

Organizational performance today is primarily a result of the effectiveness of cross-functional processes (Rummler & Brache, 1995). Leaders must accept the ambiguity of today’s organizations (Parkhe, Wasserman, & Ralston, 2006; Weick, 1979) and find ways to visualize, explain, shape and align organizations around the mission, values, vision and strategy. Using structure to articulate the intent of the organization creates a challenge for leaders because it creates a perception of stability, and humans have a general need for certainty, routine and predictability. However, especially in knowledge-intensive organizations, people and information need to be brought together in adaptable and flexible ways (Charan, 1999; Cross & Parker, 2004; Nohria, 2006).

Retrospective examinations of design, including ongoing snapshots of “how work really gets done,” can benefit from the use of pattern analysis tools to visualize “the pathways in the dirt” (Cross & Parker, 2004). Social Network Analysis (SNA) is an approach, process and set of tools that reveals networks and patterns of relationships between individuals or entities (Cross, Borgatti, Parker, 2002). When used to examine organizational relationships and patterns, it is often called Organizational Network Analysis (ONA).

ONA reveals the acknowledged or perceived relationships among individuals, teams, departments, divisions and organizations, as compared to the expected relationships prescribed or predicted by strategic intent, organization charts, job roles, workflow interdependencies, clients, demographics, time, place, process or functional boundaries (Galbraith, 2001; Mintzberg, 1979). ONA visualizations display patterns of relationships, and they may discover unexpected networks, explain conflicts or behaviors, diagnose opportunities for interventions, outline specific developmental needs or reveal the de facto design of the organization. De facto designs that produce desired results can be encouraged and formalized, and ineffective patterns — now visualized — can be addressed.

Organization network analysis can be used in organization design to diagnose gaps in communication and collaboration and to measure the effectiveness of organizational interventions. Five examples of ONA in practice are provided below.

1. Cross-Functional Collaboration

A large business unit in a complex, high-technology organization desired to make breakthrough changes in cross-functional collaboration among its sales and business development professionals. Leadership had initiated many previous interventions, facility redesigns, modifications in compensation and bonuses, and changes in reporting structures in attempts to encourage integration and teamwork. Interventions included short-term bonus programs, pressure from leaders and traditional relationship-building activities.

Retrospective examinations of design, including ongoing snapshots of “how work really gets done,” can benefit from the use of pattern analysis tools to visualize “the pathways in the dirt” (Cross & Parker, 2004). Social Network Analysis (SNA) is an approach, process and set of tools that reveals networks and patterns of relationships between individuals or entities (Cross, Borgatti, Parker, 2002). When used to examine organizational relationships and patterns, it is often called Organizational Network Analysis (ONA).
such as outings, after-work events, community activities and cross-team meetings. Significant effort was also extended to solve the problem with various rules-based approaches to processes and systems. As social media technology emerged, the organization offered multiple technology platforms to encourage cross-boundary communication and collaboration. In spite of these efforts, the desired levels of collaboration were not achieved. Client and product representatives were asked to work together, yet formal structure, processes and incentive systems did not adequately support integration and collaboration.

We were asked to intervene and improve teamwork and collaboration. We requested documents that would show the organization’s intended design — who was supposed to be working together. After several weeks of frustrated searching, the senior executive realized that the intended design could not be documented. We proposed an ONA as a way to discover in retrospect the true, underlying design of the organization — how work was getting done.

The snapshot of the network revealed those individuals whom the survey respondents said were “important in providing you with information to do your work or helping you meet your client’s needs.” In one example, the 36 respondents from one business unit responding to that statement nominated 536 unique individuals.

Those 536 individuals reported to 180 different business units. After viewing the complex visualizations from the ONA and discussing the root cause issues, the executives remarked, “now we understand why all of the tactics we have tried over the last two years (to encourage teamwork and collaboration) have not worked.”

This example presents an extreme case in a highly diversified, complex, high-tech business. To lead that organization effectively, the first step was visualizing the organization. The de facto design was determined in retrospect, using open-ended ONA to visualize the design and to highlight the complex interdependence. A comparison of the de facto design versus the systems, measurements and goals led us to the discovery of the root cause issues.

2. Trust and Communication

In another case, we conducted an ONA of executives who led a 900-person state agency. The purpose of the analysis was to discover the presence or lack of communication and trust relationships among the executives and to stimulate conversations that might explain the lack of collaborative behaviors at executive, managerial and employee levels. As is the case in many ONAs, conducting the analysis immediately raised awareness and generated conversation. Frequently, collaborative behaviors increase as participants reflect upon their responses and anticipate the responses of their peers. That held true in this case.

Immediately after the initial survey, an intervention was conducted with a focus on communicating across differences, open and honest feedback, having difficult conversations and understanding “why people think like they think and do what they do.” Participants gave each other permission to speak across boundaries (departments, levels and field versus HQ) with the intent of individual and organizational improvement. The senior executive continued to emphasize collaboration and cross-boundary leadership for several months. When the executive team was brought back together to review the visualizations revealed by the initial survey, their reaction was encouraging. The silence was finally broken by a voice saying, “When did we take that survey? Were we mad or something? That does not look like us!”
They had moved quickly off their initial positions in disparate silos and had created the emerging pathways that would enable collaboration across boundaries. The initial survey had created a higher level of awareness, stimulated conversation about organizational design, and established a level of peer pressure regarding relationships and collaboration. The intervention then built trust, improved communication and critical thinking, and established a deeper understanding of beliefs, values, behaviors and alignment. The senior executive established expectations of collaboration, encouraged appropriate behaviors and modeled the way. Subsequent interventions were conducted with other levels of the organization to establish a culture of collaboration across departmental, functional and geographic boundaries.

3. Teamwork at the Top

We performed an ONA in a large, multirole division of a major university as part of an initiative to develop a culture of inter- and intra-departmental teamwork. Results from the initial ONA confirmed the lack of information flow and cooperation among four major departments within the division. The hierarchical approach to departmental structures and budgets, led by four dedicated vice presidents, had resulted in conflicts, bottlenecks and the traditional silo mentality. The executive vice president desired a higher level of teamwork between the VPs and departments; however, the reality of the organization’s design is that the team was only a team once it reached the EVP level. That is, the EVP viewed the VPs and departments as a team because the formal structure and measurements came together at the EVP level. In reality, the four VPs competed for resources and recognition, and most of that competition took place in the EVP’s office or the team meetings. The organizational structure, goals, incentives and systems did not require interdependence or encourage teamwork among the four departments.

The executive vice president desired a higher level of teamwork between the VPs and departments; however, the reality of the organization’s design is that the team was only a team once it reached the EVP level. That is, the EVP viewed the VPs and departments as a team because the formal structure and measurements came together at the EVP level. In reality, the four VPs competed for resources and recognition, and most of that competition took place in the EVP’s office or the team meetings. The organizational structure, goals, incentives and systems did not require interdependence or encourage teamwork among the four departments.

The formal design of the division did not undergo an immediate restructuring, but the changes in awareness, attitudes and behaviors of individuals offered hope for more efficient use of resources and effective collaboration. At the conclusion of the intervention, a subsequent ONA revealed stronger patterns of interaction with a promising shift toward trust and collaboration. The door was opened for future changes in the organization’s design, systems and measurements.

4. Change in Culture

In a separate case, a closely held global enterprise desired to move from an internally focused and defender culture (maintain market share) to a more open and prospector culture (enter new markets) (Miles & Snow, 1978). The enterprise hired executives from outside the company and outside the local culture to jumpstart the cultural shakeup and move to new markets. The entry into new markets was successful; however, there was extremely high turnover and discontent in the departments that reported to the new executives. The cultural conflict also had a negative effect on the collaboration among functional departments, affecting morale in the entire organization. The entire executive team met face-to-face almost every day, but the individual/organizational value differences and functional issues prevented the high level of trust and collaboration that was desired.

Similar to the state agency case, an intervention was conducted with the entire executive team one week after an initial ONA. The intervention focused on communicating across differences, open and honest feedback, having difficult conversations and understanding “why people think like they think and do what they do.” Participants gave each other permission to speak across departments and levels with the intent of individual and organizational improvement. At the conclusion of the intervention, the ONA visualizations were reviewed. The survey had explored the executive’s perceived relationships in cross-silo behavior, seeking advice from others, trust and energizing behaviors. The visualizations created awareness, gener-
ated conversation about their desired and perceived relationships as an executive team and confirmed the issues as suspected by senior executives and known by peers. Within a few months, the individuals that were brought in to change the culture had departed the organization. The executive team seems to have selected trust and collaboration as their preferred values.

5. Revealing Patterns of Effectiveness

An ONA at a highly aligned and mission-focused nonprofit revealed, as expected, a high level of interaction and collaboration among employees. As part of the ONA, we also used a network-analysis approach to conduct a 360-degree review of the executive leadership team. As a relational and learning-focused organization, the team members used the ONA results to continue improving upon their success. Each department reflected upon the patterns revealed in the visualizations and then developed action plans to create the appropriate level of information sharing and collaboration with the right departments. By comparing the current level of interactions with the strategic interdependencies, they were able to fine-tune their workflow and processes.

In one example, a question emerged because most departments had a higher level of interaction with administrative support functions than with peer departments. The role of administrative support often requires a broad pattern of connections. The peer departments may not require a similar pattern of connections and should not establish more connections just to feel relevant or powerful. Initiating and maintaining connections is a costly investment that should only be expected when strategically desirable and productive.

The survey questions on willingness to seek the expertise of others revealed that recently hired employees were being coached and mentored by immediate predecessors, not by tenured or senior players. Organizations often default to having new talent trained by those who have been there just long enough to become supervisors. This organization recognized the need to establish relationships across the boundaries of tenure, integrating experienced coaches with new employees.

The 360-degree review of the leadership team revealed room for improvement in communication among the COO and two departments. The COO took action and started showing up in those departments without an agenda or list of requirements. The levels of communication and trust improved immediately.

One of the most interesting findings from this analysis is also the most obvious. Effective knowledge-based organizations are highly interactive, collaborative, interdependent, aligned and focused. Knowledge-based work is less reliant on rules-based work; it requires an ongoing series of interactions.

The visualizations from the analysis confirmed the complexity of this collaborative organization.

When sharing these visualizations with similar organizations who want to copy a successful model, the COO offers these insights:

- **Leaders** say they want a healthy organization, and they desire a neat, simple action plan or design. Leaders say, “If we can get everyone to … we will be healthy.” However, it does not always work that way.
- **Leaders** may not be aware of what their organization really looks like. Leaders may expect a neat and clean design, but complex, networked realities may appear messy.
- **Individuals** may want their role and position to be structured and clear, but it is actually a network of relationships. Individuals also have preconceived expectations about the role of others, but that is not reality. The role of others is also a series of emerging interactions.
- **There is not a set of easy steps to create an effective, collaborative and aligned organization.** Network analysis reveals how complex the relationships can be in collaborative, adaptive environments. It takes time, intentionality and trust to build the desired relationships.

**Some Learning from the Use of ONA**

From our use of organization network analysis, we have identified some common themes across organizations.

An effective network does not necessarily mean a large network. People do most of the information processing in an organization; therefore, they represent the intellectual capacity of the organization. People’s ability to view, absorb and process information is limited; therefore, it is essential to avoid information overload by designing organizations to appropriately manage (and sometimes limit) the potentially high numbers of communication messages and artifacts.

To enhance leadership in the networked context, leaders should analyze the patterns in the organization to determine what it really looks like and what it is leaders are leading. Identify networks and key players at the individual (human) level, organizational level and nonhuman level (technology, assets or resources) (Katz & Kahn, 1966). Visualize...
the strategic relationships and critical interdependencies, then analyze their economic value, their supporting structure and systems, and develop appropriate contingencies and succession plans.

Finally, we have found that leaders reproduce what they are, not what they want. Therefore, leaders must model cross-silo thinking, relationship building across boundaries, and leading across the organization. Effective organizational networks are intentional, built in advance and based on alignment, leader expectations, leader modeling and trust (Novak & Bocarnea, 2008). Leadership effectiveness in many organizations now hinges upon the leader’s ability to operate and lead within a networked context.

References


Dr. Dan Novak teaches graduate-level leadership and organizational strategy, development and behavior at South University. He also consults and coaches in the areas of leadership breakthrough, organizational strategy and organizational diagnosis. Previously, Novak spent 31 years at IBM in a broad range of executive leadership, sales, entrepreneurial and international roles.

Dr. Mark Rennaker is an ordained elder with 20 years of service in The Wesleyan Church. For the past 10 years, he has engaged in leadership development mentoring with fellow ministers. He has led NovaStaRR Consulting since 2008, providing organizational and leadership consulting to both nonprofit and for-profit firms.

Paulette Turner is a certified executive coach and the founder of Integrated Leadership Concepts Inc., where she specializes in executive coaching and equipping leaders for change. For more than 30 years, Turner was the executive responsible for leadership development and sales training for all sales personnel and executives in IBM Americas.