Networks: How Collective Leadership Really Works

By: Kristin Cullen, Phil Willburn, Donna Chrobot-Mason, and Charles Palus
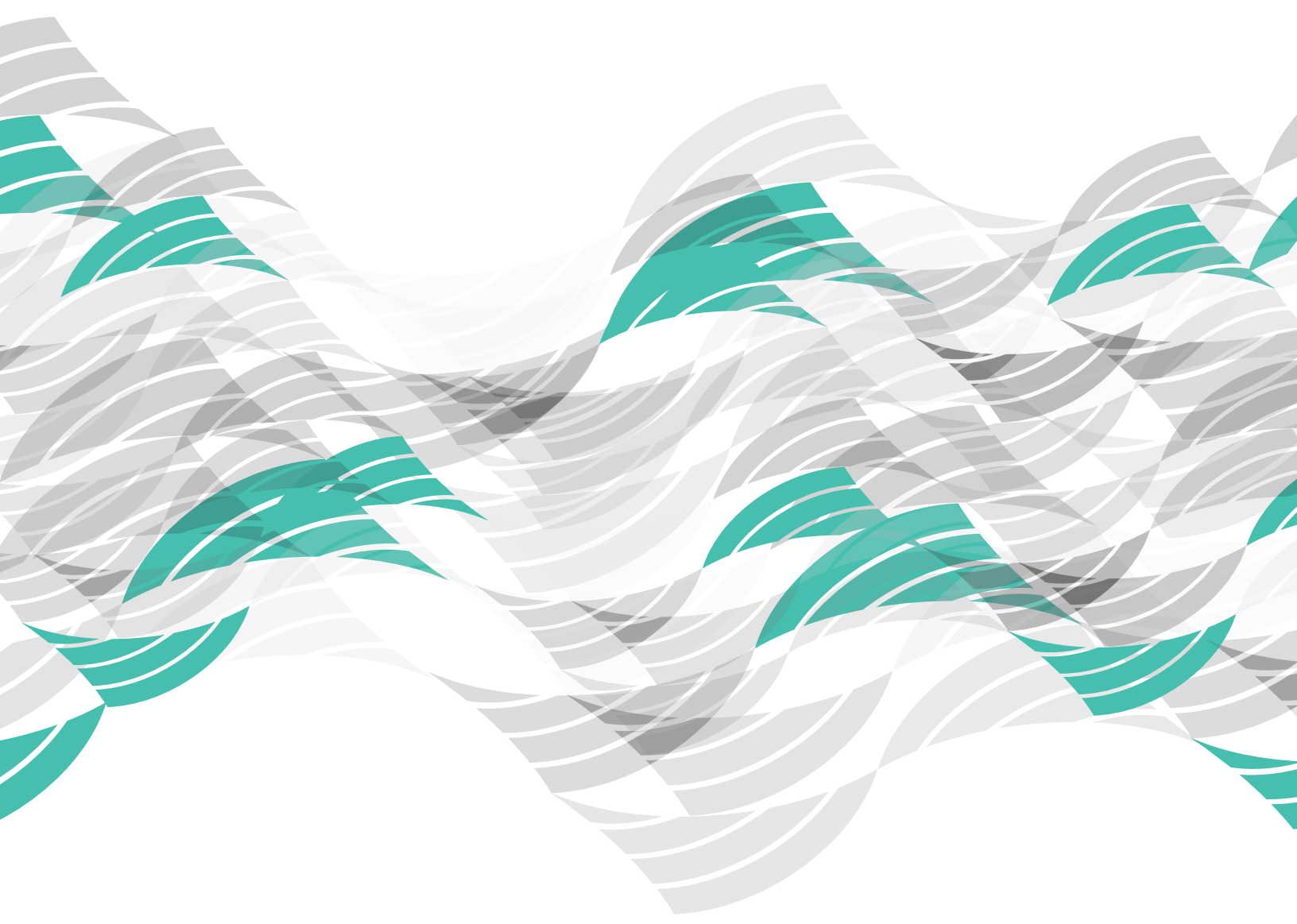
Center for
Creative
Leadership

CCL in collaboration with the University of Cincinnati hosted the 2014 Thought Forum on Network Leadership and Leadership Networks, a two-day event with 30 leading scholars working at the intersection of collective leadership and network science. This conference is part of CCL's ongoing commitment to advancing the understanding of leadership for the benefit of society worldwide and delivering both proven and cutting-edge solutions to our clients.

The authors would like to thank the participants of the Thought Forum. Their contributions during that event inspired the insights reported in this paper.

Front Row: Prasad Balkundi (University of Buffalo), Curtis Hampton (Leidos), Susan Lieff (University of Toronto), June Holley (Network Weaver Institute), Donna Chrobot-Mason (University of Cincinnati), Leann Caudill (University of North Carolina at Charlotte), Phil Willburn (Center for Creative Leadership)
Middle Row: Francis Yammarino (Binghamton University), Cindy McCauley (Center for Creative Leadership), Tamara Friedrich (Warwick Business School), Kristie McHugh (Binghamton University), Mary Uhl-Bien (University of Nebraska), Sonia Ospina (New York University), Kristin Cullen (Center for Creative Leadership), Natalia Castaneda (Leadership Learning Community), Michael Mumford (University of Oklahoma)
Back Row: Andra Serban (University of Warwick), Shelley Dionne (Binghamton University), Marissa Shuffler (Clemson University), Craig Pearce (MEF University), Hannes Leroy (Cornell University), Jay Carson (Southern Methodist University), Nathan Hiller (Florida International University), Dorothy Carter (Georgia Institute of Technology), Stephen Zaccaro (George Mason University), Charles Palus (Center for Creative Leadership)
Not Pictured: Bill Pasmore (Center for Creative Leadership)

To see interviews with thought leaders about their experience at the thought forum, click **here** or enter the following https://vimeo.com/album/3012696 in your web browser and use the password "networks" to access the videos.

Contents

We live in a networked world. People are becoming more interdependent. Issues and problems ripple through webs of connections causing volatility, uncertainty, complexity, and ambiguity—a "VUCA" world. To address these problems, we need a better understanding of the networks that form naturally within organizations and the networks that are formed strategically within and between organizations and communities.

Today's organizational and societal challenges are too big to be addressed by heroic leaders alone. A more contemporary understanding of leadership as a shared process is needed. Collective leadership occurs when mobilized masses achieve exponential results through their connections. If leaders, organizations, partnerships, cross-sector alliances, NGOs, community-based organizations, and grassroots movements are going to leverage the potential they have for impact, then they must understand the power of informal networks. **Networks are the fundamental way in which we can see and measure how collectives are engaging in leadership.**

The Power of Embracing Leadership as a Shared Process

- Increase the collective capacity for leadership in your organization or community.

- Enable others to step up, adjust, and make decisions about the future of your project, team, organization, or community.

- Transform the leadership culture from reliance on command-and-control hierarchies to adaptation within agile, interdependent networks.

"We have a critical mass of thought leaders who are thinking that we need to move from the concept of leadership being just a hierarchical role to being a social process. The reality is that we are in an age of knowledge work and we should not be looking just to position. We should be looking for knowledge. Knowledge trumps position when it comes to leadership if we are going to make breakthroughs . . . and enable many more people globally to be engaged in leadership."
– Craig Pearce, MEF University

The Center for Creative Leadership (CCL®) has seen a significant increase in demand for incorporating a network perspective into our leadership solutions for individual leaders, executive teams, and larger collectives (e.g., departments, organizations, and communities). This trend is also displayed in academic, professional, and popular content.

- The Conference Board dubbed 2014 the year of the Network Leader and published a special report that outlines how leaders and organizations can embrace networks for better competitiveness.

- John Kotter's new book *Accelerate* is bringing substantial attention to the role networks play in organizations.

- The Network Leadership Training Academy at the University of Colorado Denver is in its second year of training community, state, and federal government leaders on the skills needed for building, managing, and evaluating effective networks to help tackle difficult societal challenges.

- The Leadership Learning Community is surveying the field of network and leadership development practitioners to understand whether and how networks are being used in the development of leadership needed to achieve collective impact.

- *The Leadership Quarterly* will publish a special issue on *Collective and Network Approaches to Leadership* in April 2016 (submissions due February 1, 2015).

The 2014 Thought Forum on Network Leadership and Leadership Networks

Many researchers and practitioners are working hard to understand how collectives—groups of people, teams, organizations, communities—may enhance their network perspective and build, manage, and leverage their network connections. However, researchers often work in isolation. Their geographically dispersed, university-based labs act as barriers, reducing outward communication with other researchers and practitioners. We believe that a greater sharing of research ideas and challenges holds the key to advancing a common understanding of solutions that are useful in practice.

To this end, CCL in collaboration with the University of Cincinnati hosted the 2014 *Thought Forum on Network Leadership and Leadership Networks*, a two-day event with 30 leading scholars working at the intersection of collective leadership and network science. This conference is part of CCL's ongoing commitment to advancing the understanding of leadership for the benefit of society worldwide and delivering both proven and cutting-edge solutions to our clients. Scholars traveled from around the globe to Greensboro, North Carolina, bringing diverse perspectives and knowledge from a variety of contexts and settings including corporate, government, military, intelligence, large and small community-based organizations, and social movements.

What is a Network Perspective?

People with network perspective understand the dynamic web of connections that have an impact on their work, their leadership, and the leadership culture of their organization. They can identify patterns of relationships and people in their personal network and the broader organizational network that will foster strategic success—and those that will inhibit or undermine it.

Cullen, K. L., Palus, C. J., & Appaneal, C. (2013).
Developing Network Perspective. Center for Creative Leadership.

Big Ideas in a Bold Conference

The thought forum focused on two broad topics: *The Big Challenges for the Science of Leadership and Networks* and *Applications of a Network Perspective in Leadership Development*. Participants shared their latest research and the challenges that were stalling their progress. They also spent time discussing practical application in a variety of contexts, including collegiate teaching, executive and C-suite education, government, military and intelligence, and communities and nonprofits.

In addition to the wide variety of expertise, participants came from across the globe, representing different universities and institutions as well as past, current, and future interests. One of the first things the group did was to assess our own network. The connections among participants at the beginning of the forum are mapped below. Academics are depicted by blue circles and practitioners by green circles. The lines represent previous collaboration on one or more projects. As seen in the diagram, at the beginning of the forum there were established collaborative clusters, an academic/practitioner divide, and some relatively disconnected individuals who offered novel perspectives.
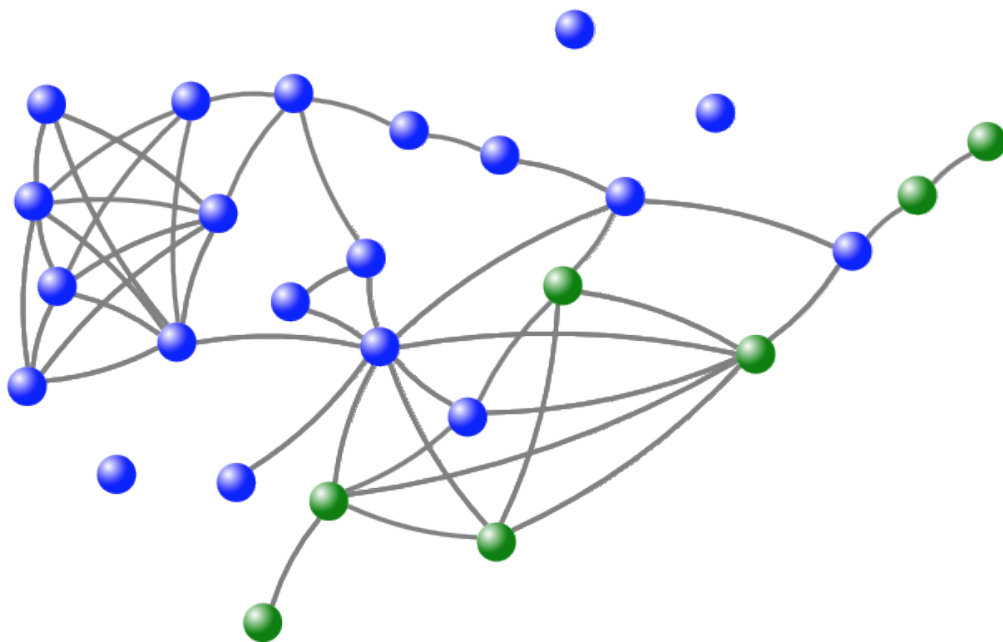
We knew this meeting of the minds had great potential to spark new ideas and collaborations, and we were not disappointed. Contributors presented and persuaded, argued and agreed, all for the shared goal of defining what a network perspective on leadership would look like and how we would determine success in implementing it. We also made the commitment to capture our learnings from the conference and share our ideas with others. In the sections that follow, we share themes and future directions that emerged during the two-day forum at CCL.

"Despite the challenges that may exist, networks have robust predictive power. Suddenly using this approach, I am able to look at what I could not using a traditional leadership scale. I am able to find highly robust and turbocharged results compared to what I was getting otherwise. Networks reflect the reality. When I work with MBAs, executives, and others in organizations, they intuitively get that the network patterns going on in their organization make a difference in their organizational success."
– Jay Carson, Southern Methodist University

The One Big Idea
and Five Supporting Questions

Thought forum contributors agree, networks are how collective leadership happens.

This one, simple insight led us to even deeper and more profound questions and observations that are inhibiting scientific discovery and the use of key insights in practice.

As we answered one question, another, just as complex and contentious, would appear. Each question led us to a deeper level in our exploration of the connection between networks and leadership. If networks are a key to understanding collective leadership, then:

1. How do we *define* "networks" as more than just a buzzword?

2. How do we avoid creating another *subfield* of leadership, and instead, use a network perspective to improve our *fundamental* understanding of leadership?

3. How do we integrate the approaches of *mapping* networks and *building* networks?

4. How do we ensure that leaders are trained and fluent in a network perspective?

5. How do we advance the field if there are more questions than answers?

1. How do we define "networks" as more than just a buzzword?

We started at the beginning: What are networks? Many contributors rolled their eyes at this question, not because it is irrelevant, but because of the popularization and distortion of the idea of networks. Networks have a common-sense appeal, but this appeal can result in superficial understanding and insights, similar to seeing a country on a map and therefore thinking one understands the people who live there. This is a common problem plaguing the understanding of networks.

Networks in organizations crisscross teams and departments to spur innovation and change. But, notions of networking from business do not seem to capture the power of social mobilization that can occur through networks as seen in the Obama presidential campaign, where millions of dollars were raised via Facebook and Twitter; the Arab Spring, where disenfranchised civilians overthrew multiple dictators; or the use of crisis mapping where the Ushaihidi network emerged after the Haiti earthquake, quickly crowdsourcing aid delivery and funding to those most affected.

How can we tap the power of networks, if we can't even agree on how to define them?

One of the main challenges we face in creating a network perspective is creating a common lexicon. Even the most seasoned scholars, who know the analytics, definitions, and hard science behind what constitutes a network, talk past each other when they are focusing on networks in different contexts and with different outcomes in mind. For example, the simple term "network" could mean an internal organizational network, an inter-organizational network, a network built up from the ground to support a social effort, and the list could go on. Further, there is a conceptual distinction within the field as to how people see networks. Some see networks as an interconnected set of nodes—meaning that by definition they cannot be disconnected. This view focuses on networks as a form of social group (e.g., a grassroots movement or network organization). Others define networks by the relationship studied among a set of nodes. This view examines multiple networks (e.g., advice, friendship, influence) that may connect (or not) a certain set of nodes. This lack of a common frame of reference surprised many at the conference.

How can we, the leaders in the field, have vastly different notions of what a network is and what it really means in practice?

A few participants shared their thoughts about the definitional issues facing this field:

"I think there are two big things we have to wrestle with in order to capitalize on network approaches to leadership. The first thing is that we need a shared language and shared cognitions regarding the potential intersection between networks and leadership. We discovered in the thought forum today that there are many ways that members of our community are using the word 'network.' This lack of shared understanding could stifle progress. Second, our discussions revealed that there are many different methodologies and theories related to networks that could be brought into the leadership space. In order to capitalize on these, we need a conceptual framework that clarifies how network approaches can be applied to leadership research. Then, we can build from there by translating networks research on leadership into leadership development."
– Dorothy Carter, Georgia Institute of Technology

"I love the process of people using different language. I have so enjoyed it because their language helps them see the phenomenon I am also interested in in a different way than I am seeing it because my language has some limits on it. I think it's very valuable that we are not using all the same language. It's like when you speak French—the world is different when you speak French; it really is a different world, and so it's like people who use other language are seeing networks in really fresh ways."
– June Holley, The Network Weaver Institute

"Some people are using the same terms to talk about different things and others are using different terms to talk about the same thing. The question is—'How can we continue to promote diverse thinking and perspectives in this emerging field without talking past each other?' We need to inclusively develop a shared lexicon in the presence of diverse thinkers and stakeholders—because the very act of creating this forces us to explicitly acknowledge the different ways that networks and collectives and leadership intersect. But additionally, and perhaps more importantly, it promotes an avenue for future dialogue, research, and clarity."
– Nathan Hiller, Florida International University

2. How do we avoid creating another subfield of leadership, and instead, use a network perspective to improve our fundamental understanding of leadership?

During the conference, we often debated whether "network leadership" is a new type of leadership, and if it is, how do we define its boundaries? The conversations went round and round trying to define network leadership, which was only compounded by the need to define networks. The very title of the conference included network leadership and leadership networks. These two items are so seemingly similar, but far apart in practice. The leadership field has seen a proliferation of constructs. We already have collective leadership, shared leadership, authentic leadership, ethical leadership, transformational leadership, transactional leadership, leader-member-exchange, and more.

The majority of attendees, but not all, agreed that our field of interest is leadership, but network leadership doesn't need to be another subset of leadership studies. Instead, we should apply the lens and science of networks to the topic of leadership.

"We came to the conclusion that network leadership wasn't its own theory, but a lens to evaluate existing theories. You can plug existing theories into that network lens to evaluate leadership as a role or leadership as a person, including leader cognition or their interpretation of networks. I think that no matter what your perspective on leadership, you can use network approaches to study your particular area."
– Tamara Friedrich, Warwick Business School

A networks lens enhances our understanding of leadership in at least two ways.

1. At CCL, we understand leadership to be the social process that creates direction, alignment, and commitment. If the presence of leadership is understood as these outcomes, then the way in which individuals interact to create them may be identified by examining the structure of relationships that produce these leadership outcomes. Further, both formally designated leaders and leaders that emerge to informal positions of influence play important roles in these leadership networks.

2. Other types of networks are also important for the success of formal and informal organizational and community leaders. Leaders need to understand how both their network role and the overall structure of different networks affect their ability to be successful, as well as the success of their team, department, organization, partnership, and community.

For these reasons, leadership development programs must incorporate a network perspective to develop successful leaders and the collective leadership needed in a VUCA world.

"What I found quite interesting was the notion of networks as a lens that you can use to explore the collective dimensions of leadership. It turns out when you take a network approach to leadership, in fact what you are doing is emphasizing those collective dimensions of leadership. What you are saying is leadership is not just about an individual taking action by him or herself, but it is about the dynamic that gets created when that person is engaged in very interdependent relationships with lots of others. Ultimately what you are doing is taking the idea of leadership to the next level up and making it a property of a system."
– Sonia Ospina, New York University

3. How do we integrate the approaches of mapping networks and building networks?

As the conference progressed, we defined the ambiguity in network definition and identified the need for a network perspective on leadership, but we were once again asking a critical question: What approach—mapping or building—should be used to integrate networks and leadership? At this point, the approach used appeared to depend on whether leadership is organizational or community-based.

Organizational scholars use the mapping paradigm to understand and measure the networks that exist within organizations based on natural work-related and social interactions (e.g., information exchange or friendship). This likely happens because organizational scholars start with a formal structure, which then shapes informal networks. When individuals start at an organization, they are placed in groups which are usually defined for efficiency and execution, thereby putting like people together. Then, social networks develop largely within these groups due to proximity, homophily, and other natural human tendencies; however, some of the most important ties cut across groups.

Community scholars, on the other hand, build networks. Again, this makes sense due to the nature of a community. In most communities, there isn't a formal organizational structure in place. Instead, the objective is to seed more connectedness among people with a common focus, such as addressing health needs in a rural community, advancing the adoption of preventative medical treatment, changing government policies, or spurring other social movements. In an organizational setting, this would be similar to developing communities of practice.

These differences appear to be reinforced, at least among attendees of the thought forum, along research and practice divides. This led us to question whether the approaches were separate because the subject was unique—community vs. organization, or did our experience—academic vs. practice— color our understanding of the best approach: mapping vs. building.

Integrating Mapping and Building Approaches

Historically, work at CCL has also followed this divide. For example, we have helped our clients build more robust connections between community leaders (e.g., Ladder to Leadership). We have also mapped organizational networks to identify silos and key individuals (e.g., central connectors, boundary spanners) to inform organizational decision-making.

Current work at CCL is actively merging these approaches. For example, we are working with rural North Carolina communities to advance local health initiatives. This work, supported by the Kate B. Reynolds Charitable Trust, combines network building/weaving techniques with analysis of the network at three points over the course of 10 months. Information from the analysis is incorporated into leadership development engagements so community members can track their progress toward building a smart network.

We also are working with companies like Merrimack Pharmaceuticals to not only identify structural aspects of networks that need to be changed to spur innovation, but also developing the mindset and behaviors to lead within a network and work across boundaries effectively.

Whatever the situation, we agreed that we must be better at researching and practicing the confluence of mapping and building. An integrated perspective is needed to advance development and also for emerging contexts for application like cross-sector work. Much can be learned by bridging this community/organization divide, especially as interorganizational networks, open-innovation communities, etc., become increasingly important for organizational success and addressing societal problems. Both are important for building and creating networks around strategic initiatives. A large gap still exists between the two paradigms, but the good news is that some overlap is beginning to occur.

"Here we have a very interesting mix of both scholars as well as practitioners, and scholar/practitioners, and that is when the fun stuff starts. It's bridging that gap because as we both know, there is a lot of knowledge being developed in academia that's not being applied in practice, yet the reality of today is that leadership practice, I believe, is ahead of scholarship. We can use that knowledge to inform scholarship and to inform the practice and it can be a virtuous cycle. Here is a genesis of a group that has the possibility of doing such a thing."
– Craig Pearce, MEF University

4. How do we ensure that leaders are trained and fluent in a network perspective?

As we discussed much of the theoretical, methodological, and empirical aspects of networks, the contributors also discussed the practical aspects. As a whole, the attendees recognize the need to help both practitioners and researchers take a "now what" perspective: Once a network analysis of any kind is completed, what does an organization, community, or leader do next? Leadership development using a network perspective must include strategically building, reshaping, and leveraging networks. We must empower a sense of intentionality when incorporating network thinking, analysis, and development into practice.

We agreed that a key aspect of leadership development is a network perspective. Increased perspective provides a starting point for building a network that will help an individual achieve personal and organizational goals. Individuals need to know where they are in the network, the overall structure of the network, and how their position in the overall structure impacts their leadership ability and the success of their team/organization. Becoming more intentional about their network requires understanding their network, their role, and the associated outcomes. Therefore, leadership development must provide assessments and reflections to increase network perspective and help individuals consider the opportunities and constraints that their network position provides. This ability also helps leaders be aware of, understand, work within, and manage complex organizational systems.

Leadership development must also help groups of individuals, teams, organizations, and communities understand the structure of the network as a whole. This means incorporating network analysis and mapping activities with shared learning opportunities to identify the opportunities and constraints the network as a whole has for the collective's success.

Benefits of incorporating networks into leadership development

1. Leaders capitalize on their personal and professional networks.

2. Leaders shape the networks in their communities and organizations.

3. Collectives build networks to unleash the potential of their community or organization.

5. How do we advance the field if there are more questions than answers?

During the conference, we tried to challenge everything we knew about networks, leadership, and how the two are interrelated. Every time we seemed to come to one conclusion, another question was there, waiting to be answered. There were heated debates and disagreements, but there were also sidebars and new ideas. The process was messy, but this is how the field grows. This conference brought together intelligent, passionate people from different domains with the goal of understanding the field and one another better. The outcome was impressive. Many participants left reporting that their viewpoint had been fundamentally and respectfully challenged, and they felt renewed energy to engage in this work.

If a sign of a good intellectual gathering is the development of more questions, then our gathering was nothing less than superb. Each question generated a deeper discussion and an agenda for future research. **The basic question—can networks help individuals, organizations, and societies be more effective—has already been answered. Yes. They can and do.** We are living and working in the networked age. However, while we may agree on the importance of networks, the participants made it clear that more questions are waiting to be answered through a network view of leadership.

Future Questions

- Under what conditions is it effective (or not) for the leadership role to be distributed in a network?

- How do we make networks operate more effectively?

- What kind of leadership is needed in a network organization (i.e. in this unique structure)?

- What can a team do to effectively change/build their network in order to be maximally effective?

- How do network approaches uniquely help us understand the leadership phenomenon?

- How do formal and informal leaders mutually support network development and organizational effectiveness?

- How can networks be leveraged best to spur change and transformation?

- How will we handle new forms of organizing?

- Does a network-based approach accelerate leadership development?

"Through our dialogue and discussions I think we are beginning to ask better questions. The question I am leaving with today is 'How will the network approach to leadership answer, address, investigate, or explore the leadership phenomenon in ways that other approaches don't?' It's too early for answers. I thought I had some answers coming in but they have been pushed aside. I need to be thinking about this from different perspectives. So I have lots of paths to explore, and answers will come eventually. The biggest take away for me is that taking a network approach to leadership may help us understand in a better and deeper way how leadership systems emerge to match the complexity of organizational systems."

– Steve Zaccaro, George Mason University

"One of the things that struck us, and struck me, was that we are just beginning to scratch the surface on this so there are really hundreds of questions. Some of them are really fundamental leadership questions that if we are able to take a network approach, we may be able to get a better handle on some fundamental leadership phenomenon."

– Nathan Hiller, Florida International University

The Way Forward

The thought forum was designed to encourage peer sharing and dialogue with the goal of expanding the field. In the course of this sharing, we realized that we ourselves are a network. Some expressed skepticism that our group can persist as an intentional network. We understand that skepticism, having been there ourselves, and we take that as an energizing challenge to demonstrate that we can do it. The only way to evolve this field is to continually ask the big questions, to challenge accepted beliefs, and to keep the scientific mind active and the application practical.

"I've realized that I am with a group of people who feel my pain with the challenges that I am facing. We're all banging our heads against the same walls and there is the opportunity that if one of us can't figure it out alone, the collective within a better-built network can."
– Jay Carson, Southern Methodist University

To strengthen this community, we have made and are making the following investments:

- We created this paper to share insights from the thought forum.

- We held a gathering at the 2014 Academy of Management annual meeting in Philadelphia for those interested in this work. We are developing sessions at upcoming conferences (e.g., Society for Industrial-Organizational Psychology). We invite ideas for opportunities to connect this community at other events.

- We are in the process of developing a webinar series in partnership with the Leadership Learning Community and New York University to share developing insights on collective leadership and networks.

- We invite researchers to submit to the special issue of *The Leadership Quarterly* on Collective and Network Approaches to Leadership guest-edited by Kristin Cullen and Francis Yammarino.

- We invite scholars and practicing leaders interested in applied research opportunities in the area of leadership and networks to contact Kristin Cullen (cullenk@ccl.org) for more information. There are also a number of opportunities for students and professors to connect with CCL, ranging from internships to sabbaticals.

- We invite individuals interested in addressing society's biggest problems using this approach to contact Chuck Palus (palusc@ccl.org) about community and cross-sector network solutions.

- We invite individuals interested in helping leaders in their organization understand how to create strategic advantage through activating their organizational networks to contact Phil Willburn (willburnp@ccl.org) about organizational network solutions.

These are some of the efforts we commit to in order to build a community of researchers and practitioners actively examining leadership through a network lens. This is not an agenda or a mission we will pursue alone. Please join us in this effort.

Advice from Thought Forum Attendees

We asked attendees, "What would you share with others who couldn't attend the conference?"

"Nowadays leadership is about how people make meaning together to mobilize themselves to accomplish what they want to accomplish. An approach that highlights interdependences and looks at how connections with others develop or transmit influence can be very insightful. In very practical terms, I have heard people here talk about a shift in mindset—from thinking of leadership as an individual quality to finding answers to questions like how do you make connections between people, how do you establish bridges between people who are very different or who come from very different perspectives, how will you broker the relationships among others to create the conditions for people to make meaning together?"

– Sonia Ospina, New York University

"We need to think about our own networks. It made me realize, that one reason why I came to this conference is because I feel like I have gotten distanced from the academic world. Academics look at things very differently than practitioners, and it's been wonderful to come here and reconnect with people who are doing fabulous work who I think I'm going to have some long-term relationships with. It is important to have diversity in our own learning networks that is going to really push the edges of our own learning and practice"

– June Holley, Network Weaver Institute

About the Authors

Kristin L. Cullen, PhD, is a senior faculty member in Research, Innovation, and Product Development at the Center for Creative Leadership. Kristin's work focuses on improving leaders' understanding of organizational networks and the ability of organizations to facilitate collective leadership, complex collaboration, and change across organizational boundaries. She was awarded an Alfred J. Marrow New Directions in Leadership research grant to examine the impact of agile work practices on the development of team networks and a grant from the Academy of Management Organizational Change and Development division to develop a new measure of cumulative workplace change. Krisin earned her PhD in industrial/ organizational psychology from Auburn University.

Phil Willburn is a Center for Creative Leadership faculty member and a social network analysis expert. He has mapped and analyzed organizational and social networks for government and private-sector clients since 2005. Based in Colorado Springs, CO, Phil also teaches in the Leadership Development Program (LDP)® and various custom programs. Most recently, he taught social network analysis to intelligence community members looking to better understand terrorist networks.

Donna Chrobot-Mason, PhD, is an associate professor at the University of Cincinnati and also serves as the director for the university's Center for Organizational Leadership. She is an organizational psychologist with expertise in leadership across differences and organizational initiatives designed to promote diversity and inclusion. Donna earned her PhD in Applied Psychology from the University of Georgia. She coauthored the book *Boundary spanning leadership: Six practices for solving problems, driving innovation, and transforming organizations* in 2011. Donna also serves as an adjunct scholar and leadership consultant with the Center for Creative Leadership.

Charles J. (Chuck) Palus, PhD, is a senior faculty member in Research, Innovation, and Product Development and director of CCL Labs at the Center for Creative Leadership. He conducts research on interdependent leadership and creates new knowledge for the Center's organization leadership development practice. Widely published on leadership, Chuck is coauthor of the book *The Leader's Edge: Six Creative Competencies for Navigating Complex Challenges*. He also is coinventor of the Visual Explorer™, Boundary Explorer™, and Leadership Metaphor Explorer™ tools for facilitating creative dialogue. He holds a PhD in developmental psychology from Boston College.

The Center for Creative Leadership (CCL®) is a top-ranked, global provider of leadership development. By leveraging the power of leadership to drive results that matter most to clients, CCL transforms individual leaders, teams, organizations and society. Our array of cutting-edge solutions is steeped in extensive research and experience gained from working with hundreds of thousands of leaders at all levels. Ranked among the world's Top 5 providers of executive education by the *Financial Times* and in the Top 10 by *Bloomberg BusinessWeek*, CCL has offices in Greensboro, NC; Colorado Springs, CO; San Diego, CA; Brussels, Belgium; Moscow, Russia; Addis Ababa, Ethiopia; Johannesburg, South Africa; Singapore; Gurgaon, India; and Shanghai, China.

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