MANAGING TRANSITIONS

Groundswell

Tapping the Power of Employee Networks
to Fuel Emergent Innovation

Michael Arena*
General Motors

Jonathan Sims
Babson College

Rob Cross
Babson College

Mary Uhl-Bien
Texas Christian University

Please address correspondence to:
Michael Arena
Chief Talent Officer
General Motors
Phone: 248 318 3733
E-Mail: mjarena@bellsouth.net

* Order of authorship is alphabetical as this was a fully collaborative effort.

Abstract

Research shows that growth fueled through organic innovation is more profitable than growth driven by acquisition. Unfortunately, many innovation programs fail to deliver anticipated results, in part because they separate the innovation process from the informal networks needed to adapt and support an innovation.

How do leaders best connect employees in ways that more systematically unleash emergent innovation?

This is the question we set out to explore in a decade-long two phase research program. In phase 1 we conducted over 400 interviews and employed organizational network analysis (ONA) to analyze the network dynamics surrounding innovation. In phase 2 we interviewed 160 high pe rforming leaders (80 men and 80 women) across 20 well-known organizations to capture rich stories of how leaders had successfully introduced an innovation. While the first stage of our work showed the importance of networks in identifying *who* leaders should engage in different kinds of innovation efforts, the second phase provided the blueprint for *how* successful innovators brought an idea to fruition by simultaneously adapting the innovation and the network. In this article we address this topic by exploring employee networks and the social nature of innovation, how to identify and manage the three network roles critical for emergent innovation, and how individuals can drive emergent innovation in adaptive space.

Groundswell

Maven is a car-sharing service that emerged from within General Motors to offer customers a variety of on-demand vehicles at an hourly fee. This transportation solution is designed for true urbanites who have no desire to own a car but from time to time may need one. Using an app that allows individuals to reserve a vehicle, unlock the door, and remotely start, cool, or heat the car, users can customize their preferences through software that integrates their smartphone with the vehicle's dashboard. In the first year of operation, Maven members accumulated more than 80 million miles and the service expanded to 17 cities in the U.S. and Canada. Yet, interestingly, Maven was not planned as a product extension or the result of years of market research. Rather, it was initiated by a handful of well-connected employees who took an active interest in the sharing economy movement and considered what that could mean for GM. These employees integrated unique foresight and capabilities of technology development and design to create a new product innovation that was not on anyone's radar. As a viable solution began to take hold, they worked to connect their ideas with a few local teams to experiment and further test the concept. They iterated on the idea and engaged a rich informal network until they were able to build a groundswell of support that helped their innovation gain the formal endorsement necessary to successfully launch and scale.

Innovations like Maven fuel economic growth and organizational success. Economists estimate that approximately 50 percent of U.S. annual GDP growth is attributed to product and service innovation,[1] and more than 90 percent of executives claim that long-term organizational success depends on developing and implementing new ideas.[2] To get this innovation, research shows that growth fueled through organic innovation is more profitable than growth driven by acquisition,[3] in part because the organizational capability required is vastly different.[4] Yet organic or emergent innovation typically does not occur without heroic effort in many large organizations. While technology giants such as Google, Apple and Facebook are lionized for their innovative cultures, other industries struggle under hierarchy and organizational infrastructures that make consistent organic innovation difficult, if not impossible.

Companies try to address this by formalizing innovation processes. However, such programs, when they succeed, often produce only a portion of the growth that most large organizations require.[5] Many innovation programs fail to meet expectations, in part because they separate the innovation process from the informal networks needed to adapt and support an innovation.[6] For example, "skunk works" programs have some lauded successes but also many failures because the innovation was developed in complete isolation of the social ecosystem in the organization.* Similarly, acquisition strategies attempting to bring in new expertise and creative ideas make logical sense but far too often underperform due to integration challenges.[7] Of course, these stories of failure often don't make it to press, so many innovation approaches persist using less effective processes and practices.

Leaders need to better support emergent innovation to supplement planned new product or service development activities. Rather than leave this to serendipity, they need to create collaborative contexts where innovation is more likely to emerge from unpredictable pockets of creativity. Importantly, they need to stimulate these kinds of environments in a thoughtful way that does not simply overload employees with new collaborative demands from formal matrix structures, multiple "part-time" team assignments or collaborative technologies that over-tax people and too often kill creativity and innovation.[8]

In this article we address this topic by exploring employee networks and the social nature of innovation, how to identify and manage the three network roles critical for emergent innovation, and how individuals can drive emergent innovation in adaptive space. Along the way we provide examples, guidelines and tools based on our research to help you create a groundswell of emergent innovation in your organization.

---

*Our research focused on tracing commercially successful innovations back to their origin, as well as locating the origin of unsuccessful ones. While successful innovations spanned the organization and had many originators, unsuccessful ideas were typically isolated to one part of the organization, and we almost always found the originator in the first or second interview.

Tapping Employee Networks

How do we best connect employees in ways that more systematically unleash emergent innovation? This is the question we set out to explore in a decade-long partnership between researchers and organizational leaders. The first phase of this work focused on conducting over 400 interviews and employing organizational network analysis (ONA) to analyze the network dynamics of scores of institutions. This phase of work revealed that part of the answer lies in the power of network structures and the ability of organizations to create what we have termed *adaptive space.*[9] *Adaptive space is the network and organizational context that allow people, ideas, information and resources to flow across the organization and spur successful emergent innovation.* It facilitates movement of innovative ideas and information across a system. As shown in Figure 1, adaptive space works by enabling ideas generated in the entrepreneurial system of an organization to flow into the operational system to generate new innovations that lead to enhanced fitness and growth. Network analysis provides the analytic tools to optimize these interactions from an innovation and collaborative efficiency standpoint.

The second phase of work entailed interviewing 160 high performing leaders (80 men and 80 women) across 20 well-known organizations in financial services, software, consumer products, retail, professional services, manufacturing and life sciences organizations. These interviews captured rich stories of how leaders had successfully introduced an innovation and, importantly, how they managed both the innovation

and the network to yield success. By engaging with experts, influencers, decision-makers and energizers through different phases of an innovation's journey, these leaders managed to dramatically expand the impact of their innovation and streamline its acceptance as it moved from concept to implementation. While the first stage of our work showed the importance of adaptive space and networks in identifying **who** leaders should engage in different kinds of work, the second phase provided the blueprint for **how** successful innovators brought an idea to fruition.

Taken together, our research points to the importance of tapping into the power of employee networks to fuel emergent innovation. Emergent innovation occurs when entrepreneurial individuals within an organization incubate and advance new ideas for addressing customer needs and dynamically changing market conditions.[10] For these ideas to take hold and scale, entrepreneurial employees need to be able to connect with others who can help them garner attention and support. This is where adaptive space comes in. Adaptive space helps overcome obstacles or "brick walls" that work against innovation in many large organizations. It recognizes that innovation is a social phenomenon that relies on the connections of individuals to successfully advance new ideas. It uses the power of employee networks to enable information flows that build the groundswell of support needed for innovation to gain momentum and scale into the operational system.

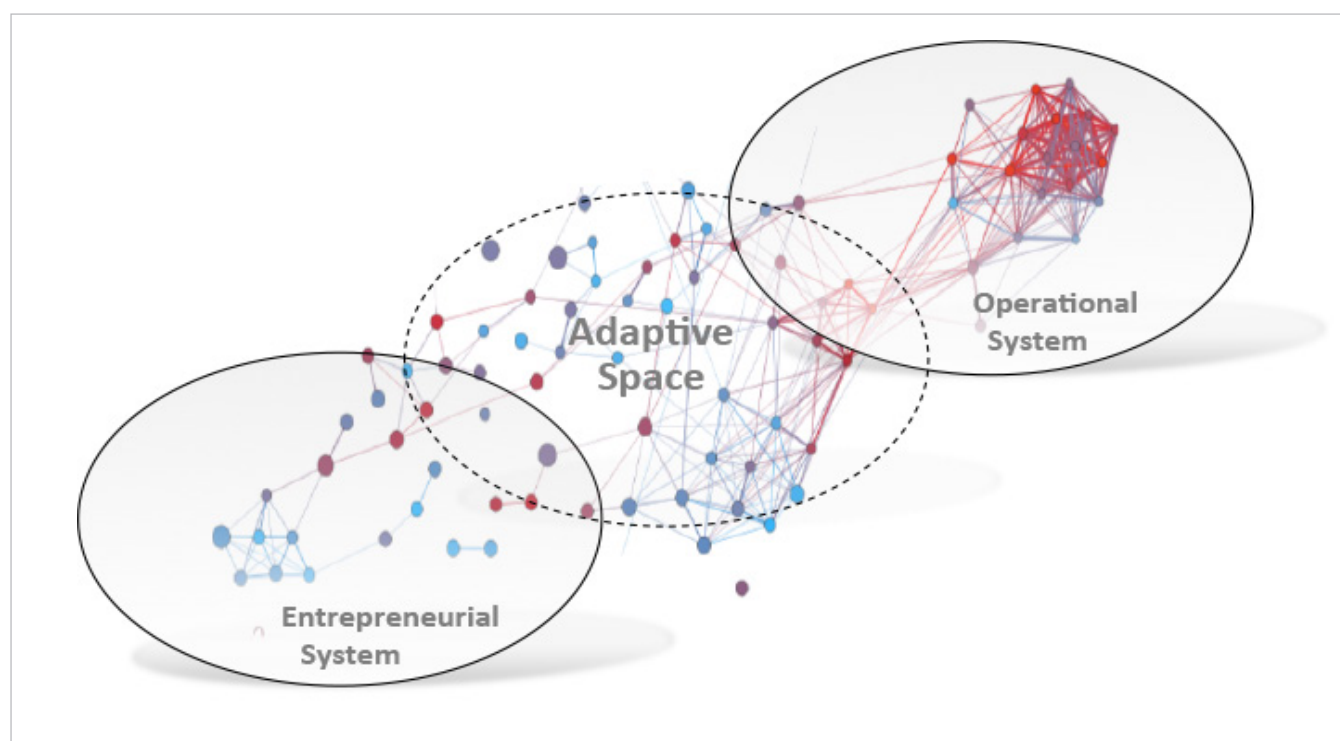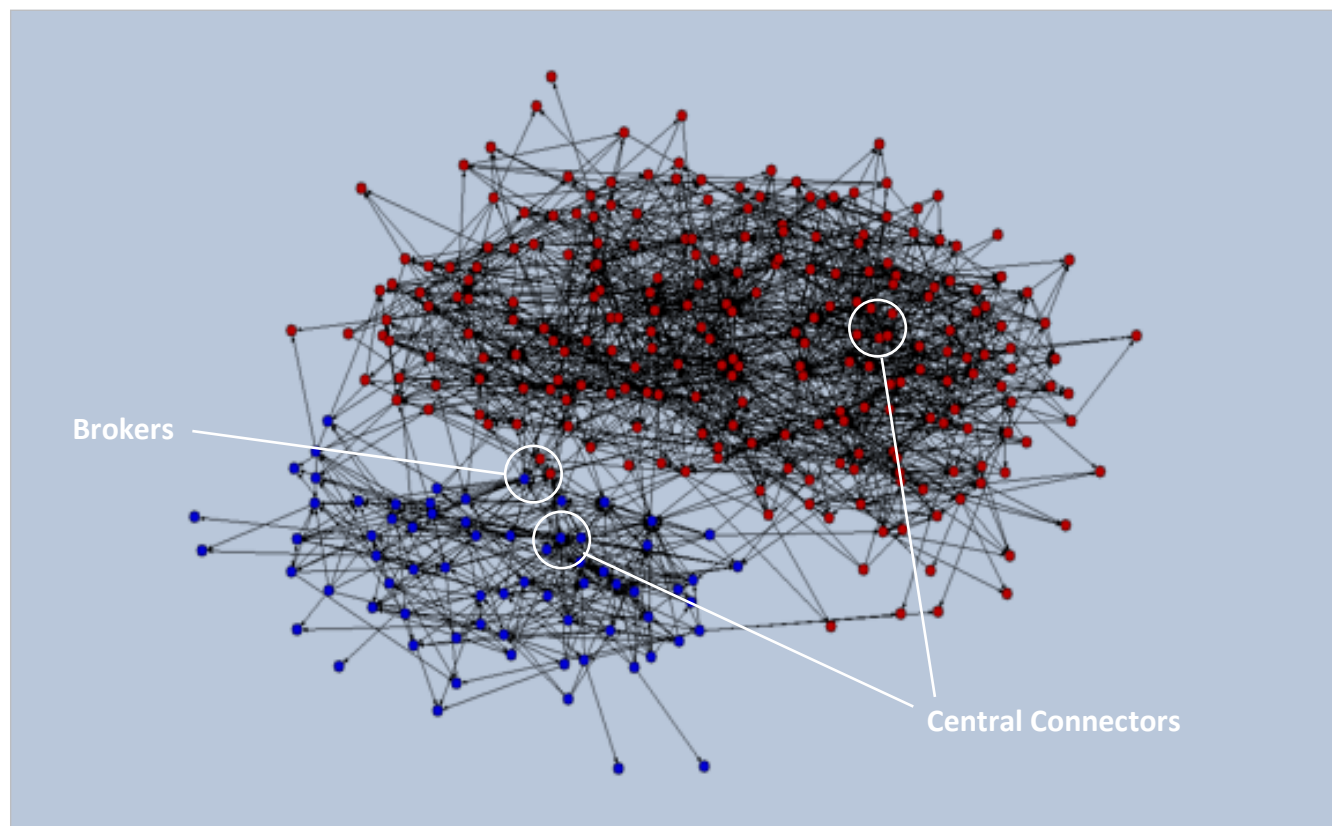**Figure 1:** Adaptive Space In Organizations

Figure 2: Network Analysis and Roles

The Social Nature of Innovation

Despite the seductive nature of stories like Galileo discovering gravity or Edison inventing the light bulb, the reality is that these portraits of a lone inventor with a blinding insight are a myth when it comes to corporate innovation.[11] Successful service, product or process innovation within large, complex organizations is in reality very much a social phenomenon. Most innovations are the result of networks of people whose ideas come together in ways that combine to form something larger than what they could have produced individually. This is why organizations that are routinely innovative are intentional about enabling individuals to engage and connect in ways that trigger and expand ideas.[12] They know they must tap into the latent potential of entrepreneurial ideas and leverage the organizational network to enable innovation to emerge and be incorporated into the organization's formal operational system.[13]

Recent advances in computing power, coupled with the proliferation of collaborative technologies, have made assessing these networks easier than ever before. Consider a portion of a network diagram of information flow within a roughly 10,000 person R&D unit of a consumer products organization (see Figure 2). In this diagram the dots reflect scientists, the lines reflect who is turning to whom for information to get work done, and the colors reflect two different scientific disciplines that should have been working together closely based on strategic objectives set by leaders. Clearly, collaboration was not occurring the way leaders expected at this juncture as well as at 42 other points in the overall network; mapping it allows us to see this.

What the organization found was that working through key network roles was essential to success. Despite another myth, innovation rarely emerges from the fringe of the network. To be sure, there are great ideas at the edge. However, as almost any leader will tell you, while good ideas abound in organizations, many never come to fruition because people do not have the formal or informal influence to get them into play. In the consumer products organization, leaders had sponsored ideation sessions with key experts selected from the two technical domains, believing that interesting innovations would emerge by bringing smart people together in a creative dialogue. What actually happened was quite different. Without the network analysis information in hand, the leaders selected people based on reputation. These leaders always ended up engaging the well-connected people *within* each area (see Central Connectors in Figure 2) – those commonly thought of as "essential." The "essential" individuals were also often the ones most wedded to their scientific paradigms and (sometimes) reputation. As a result, they were less effective at visualizing possibilities across groups. It was only when the leaders began to include lower-

level employees with connections across the silos (see Brokers in Figure 2) that they began to get integrative ideas and see emergent innovation flourish.

Network mapping provides a valuable tool in that it enables much more targeted innovation efforts. But what our research revealed was that these efforts can only take hold if adaptive space exists to cultivate the innovation *and* the network that generates it. Because large, bureaucratic organizations are designed for efficiency through division of labor, they limit the potential for innovation. Adaptive space is needed to open up these divided channels and allow ideas to advance from the entrepreneurial (informal) to the operational (formal) system. It allows for networked interactions to foster the creation of ideas, innovation and learning.

Adaptive space is not a physical building or lab such as an incubator or accelerator, although both offer great potential for sharing, creating and developing ideas. Adaptive space is also not necessarily permanent in nature; it can come and go as needed. It is called "adaptive" because it is fluid and can shift based on need. *Adaptive space is primarily about creating an environment to open up information flows and enrich idea discovery, development and amplification.*

Adaptive space capitalizes on three network roles: brokers, connectors and energizers. Novel ideas emerge from brokers, are applied and iterated on through connectors, and are spread throughout the broader organization by energizers. Let's explore these roles further.

MANAGING ADAPTIVE SPACE THROUGH CROWDSOURCING AT NOBLIS

Headquartered in the Washington, D.C. suburbs, Noblis provides government consulting on science and technology issues including data analytics, cyber security and networking. To do so, the company must hire the brightest people and effectively leverage their creativity to develop new ideas amidst the breakneck pace of today's technology landscape. Historically, Noblis relied on independent science and research programs to explore new ideas and develop new capabilities for the entire firm. To make this work, a few well-connected principal investigators (PIs) would submit proposals for top management endorsement. However, as Noblis grew they recognized that they had to become more collaborative to remain competitive. "We have smart people everywhere," stated CEO Amr ElSawy, "but we don't always know what their interests are."

In 2015 the leadership team changed the discovery process. Using a crowdsourcing platform, employees generated ideas for innovative research and client-driven projects. The firm created methods to solicit *ideas*, not fully developed proposals. In response, everyone became a *connector* and ideas came from everywhere. To facilitate the new process, Noblis assigned two senior respected leaders to steward the process as *brokers*, charged with enabling engagement and building connections. Colleagues at any level and any location across all areas

of expertise could comment on any idea, leading to natural fine-tuning and energy around some projects more than others. Since individuals were asked to submit ideas of interest, they became more *energized* to engage in the process of sharing.

As ideas were shared, they were clustered into communities of practice and feedback was provided. Those with the most knowledge were the ones advising contributors on the quality of their ideas. For the first time, those contributing ideas became an essential part of the vetting process. After getting feedback, some decided to adjust their idea, some withdrew their idea, and others combined similar ideas. Those that teamed up were able to identify synergies and make more realistic budgeting projections.

The first year, the process generated hundreds of project ideas and all received numerous comments; more than half of employees gave feedback. From the initial suggestions, about 100 ideas were selected for further development and full proposals. Of those, more than two dozen research projects were approved and resourced.

The new approach led to several powerful innovation, network and talent outcomes, including:

• *A shift in culture from adversarial (idea generator vs. senior leader, or project vs. project) to collaborative.* The

crowdsourcing approach began to build a culture of conversation, which carried over to ongoing project reviews and funding meetings.

• *More expansive idea generation and development.* By replacing the top-down and "inner circle" approach to the research agenda with a range of divergent perspectives early on, the company has been able to harness the collective intelligence of the organization more effectively – and profitably.

• *Increased engagement and alignment from transparency.* People voluntarily "killed" their projects and supported others. By involving the leadership team, reviewers and project teams in discussion and ideation early and throughout proposal development, there was clarity and strong support for the work that was resourced. A shared sense of purpose around the overall research agenda fostered trust and risk-taking. Decisions were made that supported the whole rather than protected turf.

• A wider lens on talent across the business. Many ideas and insights were brought forth by employees who were below the radar or working in remote offices. Two-thirds of the funded projects were led by newcomers to the process.

Managing Roles in Networks to Yield Emergent Innovation

A key for emergent innovation is identifying and positioning innovators within an organization. Doing so requires an understanding of individual roles within organizational networks, and how individuals are connected by social capital – that is, the value that is created based on the ways an individual is collaborating with others. The social capital necessary for evoking emergent innovation is best represented by the three network roles: brokers, connectors and energizers.

Brokers bridge connections from one group to another within an organizations (see Figure 2). Brokers also routinely connect to others outside of the organization. As a result, they act as a critical conduit of information and ideas. Specifically, brokers offer three competitive advantages to an organization: they provide broader access to diverse information, early access to new information and control over the diffusion of the information. This all takes place because the discovery of new insights usually arises at the intersection of existing networks. That is, as two heterogeneous groups connect, the potential for novelty increases. Brokers facilitate this discovery process through their social connections and then determine how and when these insights can be introduced to other parts of the organization. The creation of adaptive space enables brokers to more actively connect and navigate beyond their local subgroups to explore new possibilities. For example, in one pharmaceutical company the innovation process could be traced to a few key scientists who were brokers to outside academics. When two of these brokers left the organization, critical relationships were lost; the result was a significant decline in the innovation rate for the company. Organizations that focus on creating adaptive space can limit such effects by enabling more brokerage.

Popular examples of adaptive space and brokerage are frequently studied between organizations (rather than within). Perhaps one of the best known examples is Proctor & Gamble's Connect and Develop program, which relies on external sources of innovation coupled with internal screening to allow P&G executives to identify new customer needs or possible product extensions, and then execute. The Connect & Develop program works on the premise that in an increasingly connected world, inspiration and innovation are the result of deliberate brokerage relationships between the firm and external partners that generate value creation. Connect and Develop has led to novel products including the Mr. Clean Magic Eraser[14] and even large-scale social initiatives such as the Live Well collaborative, which designs products and services for consumers over the age of 50.

While brokers are outstanding at finding ideas, they are not always best positioned to drive implementation. For ideas to be useful to an organization, they need to be socialized, applied and refined. This is where group cohesion and central **connectors** play a critical role (see Figure 2). Group cohesion represents how connected individuals are to one another

within a group. A group is considered cohesive when many redundant connections exist. That is, the likelihood of any individual within the group being connected to any other individuals within the group is high. As a result, cohesive groups are able to quickly share information and generally operate with high levels of trust.[15]

Connectors, especially those more central to cohesive groups, are essential to the development and implementation process. They are well positioned to socialize ideas and garner support from within a given group. Once introduced, these ideas are easily diffused across a more tightly connected sub-group.[16] Furthermore, the level of trust within these groups facilitates engagement with the ideas, learning and risk taking—all crucial components of creativity and development.[17] As a result, connectors are able to quickly drive local application and future iterations of improvement.

Pixar's "dailies" are a great example of such trust in action. Every day creators present the projects they are working on to get critical feedback and input. In most organizations, individuals finish their work before submitting it for critique. However, at Pixar individuals trust that their colleagues have their best interest in mind, and thus the in-progress reviews enable more creativity. The teams at Pixar believe dailies are a critical contributor to producing high-quality, innovative films.

Innovation in a social context requires a thorough understanding of the interplay between brokers and connectors. This is why adaptive space is so critical: it helps position individuals within the network structures to drive progress. Consider Hewlett-Packard, an organization whose name was once synonymous with innovation. In the glory days HP created a work environment that encouraged flexibility and innovation. The organization knew that in a technical business, with a rapid rate of progress, employees had to adapt.

In those days, a typical practice was to hire an employee into a major project and then dismiss him or her upon completion of the project. However, at HP the policy was to move engineers between projects rather than dismiss them. The result was the brokerage of key learnings and technologies into new projects, which were reconfigured into new combinations. As a senior engineer once described it, *"I had to work in a single field for only two or three years and then, like magic, it was a whole new field – a paradise for creativity."*[18] HP intuitively knew that if they moved people around, information would flow more readily. In essence, HP provided the space that enabled an active interplay between brokers and connectors.

Brokers introduce ideas and connectors develop them, but energizers spread them.[19] While connectors play a critical role, they are often limited to insulated sub-groups and therefore are more likely to have their ideas dismissed by the larger organization.[20] Furthermore, cohesive groups are good at developing incremental innovations but rarely promote

GM 2020: POSITIVELY DISRUPTIVE!

Adaptive space is essential for facilitating the interplay necessary between brokers, connectors and energizers to enable emergent innovation. A great example comes from General Motors.

In 2014 General Motors launched a grassroots initiative called GM 2020 to open up adaptive space so individual employees could connect and create across teams. The auto giant knew it had to positively disrupt the way individuals interacted to more boldly unleash its own creative potential. Leaders needed to:

- create the space to promote brokerage across teams to enhance discovery
- leverage the trust of connectors to implement ideas within teams
- tap into the passion of energizers to spread ideas

The result has been many emergent innovations. For example, one group created a new process to improve buyer/supplier relationships, another developed a millennial-friendly interviewing process, and another created monthly cross-departmental sessions designed to share problems and proactively identify organizational roadblocks.

A GM 2020 event could take the form of a Co-Lab, a Summit, a Tipping Forward event or any number of employee-developed constructs. A Co-Lab, for example, is a 24-hour intensive challenge that is part "shark tank" and part hackathon. As many as 60 individuals from across different groups compete as small teams and pitch ideas to executive leaders. A Co-Lab operates on the premise that sometimes the best solutions emerge when you have less time. Challenges include everything from customer service opportunities to product design ideas to employee engagement issues. Challenges center on the user and employ design-thinking principles to bring customers into the process.

A GM 2020 activity might also be a large-scale event, like a 2020 Summit or a Tipping Forward session. A Summit is a catalyst event that includes as many as 300 individuals acting as brokers and connectors from across functions, using design-thinking methods to share, create and build solutions. A Tipping Forward event, which typically involves 100-200 individuals, provides the adaptive space necessary to openly share the many successes that have already been applied locally, and then tap into the passion of energizers to amplify these successes across the broader enterprise.

In the spirit of emergent innovation, GM 2020 also encourages individuals to leverage their own networks to create their own solutions. For example, a small group of engineers and researchers launched an internal Maker Space to encourage cross-group tinkering. An internal learning community held a Learn Con event to unleash more creativity across functions. Another group launched internal TEC Talks (technology, engineering and creativity) featuring monthly presentations from internal experts.

GM 2020, in all its forms, creates adaptive space to spark the movement of ideas and information across the organization.

---

disruptive concepts.[21] Individuals within a cohesive group are less likely to take a major risk that could jeopardize their local group status. While the level of trust within these groups promotes risk-taking, social acceptance limits the extent of these risks. The result: more, safer bets.

This is where **energizers** come in. Energizers trigger the interest and engagement of others and unleash the passion necessary for bold innovations to advance. Network energy, or enthusiasm, drives diffusion, co-creation and active engagement across the larger organization. It challenges people to think more boldly than they would within their own sub-groups, creating a contagious mindset as the innovation progresses.

Energizers play an essential role in unleashing such potential. They have a distinctive ability to attract others to an initiative and motivate them to take action. Energizers are able to fully engage in interactions, inspiring others to devote more time and energy to an initiative.[22] The reputation of an energizer spreads quickly across the network, attracting others to aggregate multiple ideas into bolder, integrated concepts that are more likely to succeed.[23]

Energizers also create the potential for new possibilities to emerge by engaging individuals with different expertise or backgrounds in an initiative. Energizers catalyze these exchanges by focusing the natural conflict or tension from these interactions towards positive business outcomes. In this context, differences can be embraced as essential elements to the creation of bolder innovation. The result is the potential for new, more robust possibilities to emerge.

WL Gore is a great illustration of an organization that embraces these possibilities. Associates are given much freedom to both dabble with new ideas and then act as energizers, socializing these ideas throughout the broader network. However, at the post-dabble juncture a cross-functional review called "Real, Win, Worth" is facilitated to scrutinize the concept.[24] The intent of these peer reviews is to bring together people from varying backgrounds to challenge the fitness of a concept and ensure that it can win in the marketplace and make money for the company. In response to the scrutiny, the associate is challenged to experiment and learn with low-risk solutions. The result for WL Gore has been a multitude of innovative products and solutions that have been stretched beyond their original concept. Like WL Gore, organizations that create adaptive space to enable the ongoing interaction of brokers, connectors and energizers can unleash emergent innovation.

FINDING AND ENGAGING YOUR BROKERS, CONNECTORS AND ENERGIZERS

General Motors has developed simple tools to help identify brokers, connectors and energizers so they can be better positioned for success. While the company frequently runs comprehensive organizational network studies, they recognized that it is not always practical to run a fully commissioned survey. As a result, GM has focused on simple individual assessments, personal network analysis and observation-based approaches to find and engage brokers, connectors and energizers.

The company has developed a preference-based self assessment (see Tool 1) that can be leveraged to enable people to self-identify by role. These assessments are complemented with a simple personal network analysis. The combination of a self-assessment and a personal network analysis provides leaders with an understanding of who occupies which role in the network most naturally (see Tool 2). In instances where a self-assessment isn't possible, the company teaches leaders to diagnose a person's network position through some simple observation-based approaches (see Tool 3).

These simple tools enable leaders to best position people to drive innovation, while also empowering individuals to better navigate the network for their own success. For example, development guides help connectors understand that they have many relationships within a community, are best positioned to get ideas adopted locally and are typically trusted within their communities. However, they are also

Tool 1: Sample Self-Assessment

Your Response	How your behavior affects energy
When I know more than others, I seek to… Educate them ——————— Involve them	Enthusiasm increases when we believe our efforts can have a meaningful impact. Too often, people who are nervous about proving themselves destroy enthusiasm in their haste to show their knowledge.
During meetings, I am good at… Multitasking ——————— Being completely engaged	Energizers are as likely to be highly charismatic as low key – but regardless of how they take a room, they all differentiate themselves through a greater tendency to be fully present in a conversation.
I make a point of… Contributing whenever I see an opportunity to add value ——————— Always doing what I say I am going to do	People's reservations fall away only if they trust others will follow through on commitments. De-energizers –no matter how charismatic– often falter because they don't do what they say they will do.

Your Response	Broker vs Central Connector
Others are more likely to seek me out to… Find out what's new ——————— Clarify complex issues	Connectors and brokers enjoy distinct information advantages. Brokers are best positioned to find out new things first. Connectors have deep trust within communities making them go to people.
The people I spend the most time with tend to… Represent a diverse set of perspectives ——————— Travel in similar circles	Brokers spread their time across groups of people that don't frequently interact. Connectors spend most of their time with people who travel in similar circles.
I find it more satisfying to… Seize new opportunities ——————— Bring a group together	Brokers act as the point of connection between people who wouldn't otherwise come together, a position that helps them recognize and seize new opportunities. Connectors like bringing groups of people together.

coached to avoid the common de-railers of this role such as insularity in thinking and/or becoming a bottleneck to innovation. Brokers, on the other hand, are taught that they have relationships across many groups, are able to bridge silos and can act as gateways for new ideas. However, they are coached to avoid being marginalized if they present too many ideas or become overwhelmed with the diversity of

collaborative demands these roles absorb. Finally, energizers learn that they tend to get the most out of people and are more likely to get uptake on ideas, but are also coached to avoid biased network traps and overload.

Overall, by using these simple tools to identify network position, GM has elevated both the leaders' and individuals' understanding of how to get things done across the network.

Tool 2: Preference / Structural Network Matrix
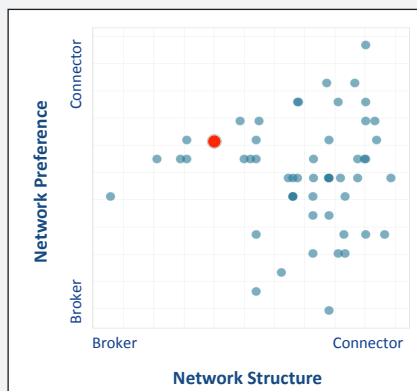
Tool 3: How to find Brokers, Connectors and Energizers

Brokers…	Connectors…	Energizers…
Bridge Silos	Get stuff done	Provide Support
Explore for new idea	Organize others	Inspire others to act
Have diverse perspective	Act as experts	Fully engage in moment
Focus on many things	Quickly solve problems	Strive toward vision

How Individuals Drive Emergent Innovation in Adaptive Space

So far we have focused on the leadership implications of managing networks to drive emergent innovation. But our research also yielded poignant insights for individuals by revealing how their collaborative activities played a critical role in all phases of a successful innovation. For example, every successful innovation involved a non-insular network early in the problem-solving stage that helped the individual re-frame the problem space and generate a more substantive solution and impact. Similarly, each success also benefitted from surprise offers from other people bringing ideas, and/or serendipitous encounters that dramatically shaped the course of the innovation. Overall, what was perhaps most striking to us in this work was the degree to which innovation had to occur in both the service/product and the network for success to unfold.

The network was important not only in the generation of the idea but also in acceptance of the innovation. Successful innovators were innovating on both levels – the innovation and the network – via five principles:

① Tap into adjacent expertise and a broad network early in problem solving.

② Create pull (vs push) early in interactions.

③ Identify, organize and engage a solution development team.

④ Develop a solution prototype early and mobilize the network.

⑤ Communicate the early stage solution and iterate with the network in rollout.

These principles are outlined below.

❶ **Tap into Adjacent Expertise and a Broad Network Early in Problem Solving.** Almost universally, more successful people do not immediately solve the problem they are given. Whether asked by their board, boss, client or a demanding co-worker, they were much more likely to ask questions and engage their network early to help them think about the problem differently and to find people with tangentially relevant expertise who might give them different perspective on the solution. In contrast, less successful people were more likely to jump into the work as stated without engaging adjacent expertise to re-conceptualize the problem space. Interestingly, a good number of these people did solve problems and generate solutions. However, in contrast to the more successful people, this group solved smaller problems or produced less innovative outcomes over time. Comparatively, this group fell behind and yet never really knew why. Even at this nascent stage there is an interplay between the network activated, the nature of the innovation, and its likely success. Focus on two activities.

First, structure time to initiate boundary spanning ties; don't let the organization dictate your network. Our quantitative models and interviews always reveal these ties as critical to success over time. Consider a project of importance to you in the coming six months and then set out to seed and build a network rich with four types of ties:

- *Emergence/creativity ties* — Identify silos or boundaries where value could be created by bridging across two thought worlds — typically across expertise domains, functions, clients and cultures.
- *Capability development ties* — Connect with people who you normally seek out or who voluntarily offer you feedback – whether on work, interaction or decision-making topics.
- *Depth/best practice transfer ties* — Identify others with similar expertise – across geography, company or functional lines – where connections could help promote depth, currency or efficiency in your work.
- *Sense-making/political awareness ties* — Seek out people or practices that help you get an accurate picture of the network and so how to position ideas.

Second, as odd as it might sound, build activities in your routine to promote serendipity. Every single success story we heard had at least one and usually multiple serendipitous encounters that were critical to the innovation's success. Consider ways to:

1. Structure time to make one or two new exploratory contacts a week.
2. Attend a professional meeting or educational experience only tangentially related to current work.
3. Walk to your office, lunch or coffee break in a different way as often as possible to create random encounters and steal five minutes of a colleague's time.
4. Make exploration a practice, capitalizing on "doorway" moments, running meetings with space for discovery, etc.
5. Employ networking tools on two fronts: to explore recommendations and to search for old contacts who can be rejuvenated for new purposes.

❷ **Create Pull (vs Push) Early in Interactions.** One leader captured the spirit of many by saying: *"People don't care how smart you are until you show that you care about them."* The more successful people sought to pull others to their ideas, rather than push their needs and seek help by mandate or with a narcissistic focus on just their problem. Establishing mutual benefit was much more likely to create vibrant exchanges and vest other people in the outcome of what more successful innovators sought to accomplish. This mattered in a significant but surprising way. Universally, every successful innovation benefitted at some point in the trajectory of the solution by a *surprise insight, resource or idea coming to the seeker.* Invariably these all had a material impact on the success of the project, but the seeker would

never have been able to predict or foresee this. In contrast, less successful people were more likely to jump directly into their mandate and what they needed, without establishing either a personal connection or some kind of visibility into why helping would be of benefit. As a result, they were far less likely to benefit from surprises from an extended network in this way.

The lesson is this: Go into every interaction with a clear goal so you are respectful of others' time. But engage in a way that creates pull in the relationship. Build people's trust, energy and interest in your cause by connecting off task, asking questions and shaping what you know to an individual's needs, giving recognition and status, looking for ways you can benefit the person you have sought out, and creating energy in the interactions. Creating energy doesn't mean celebrating all ideas. But it does mean creating a context where someone else might get enthused. Consider ways to:

1. Maintain a good balance between what you ask for and what you contribute. Ask questions and look for ways to create mutual benefit.

2. Be fully present in meetings and one-on-one conversations and show interest in others and their ideas through body language, voice inflection, etc.

3. Engage in realistic possibilities that other people care about and create room for them to be a meaningful part of designing the solution or evolving the plan.

4. Use humor – often at your own expense – to lighten moments and remove any perceived status or politics from interactions.

5. Maintain an effective balance between pushing toward a goal and welcoming new ideas that improve the project or the process for reaching a goal.

❸ Identify, Organize and Engage the Solution Development Team. Hub and spoke models of innovation – where individuals put themselves at the center of the network of interactions and coordinate all efforts and ideas through them – were rare and worked only in transactional settings. In fact, trying to develop an idea in isolation until it was bulletproof was a sure recipe for failure. As with each step in this journey, the more successful people made decisions on who to include and how to run initial meetings in ways that shaped both the innovation and the network. To be sure, they were quick to get the right expertise into the room and use open, divergent brainstorming processes to mold the innovation. But they were equally likely to diffuse ownership early, invite naysayers and test ideas externally with key opinion leaders to help seed the network's acceptance of the innovation. Rather than shield an idea until it was bulletproof, they created conditions of engagement.

Two things are very important in this phase as you begin to form a nexus around the innovation. First, carefully consider who should be on the team. This should include:

- a candid evaluation of skill gaps and locating the right expertise
- identification of positive and negative influencers, with a heavy focus on engaging the negative influencers early
- a candid assessment of team members' ability to commit the effort needed

Second, when you run the interactions, use facilitation techniques that create openness early, focus on the *why* of the work to help engender a sense of purpose and commitment, and require teammates to reach out to source ideas with clients, stakeholders, experts and network opinion leaders. Consider ways to:

1. Leverage leaders and formal talent review processes to identify experts and network influencers who should be part of your effort.

2. Minimize isolation. Engage key opinion leaders and naysayers early. They bring needed information and insight to the project and later, as ambassadors, provide legitimacy and boost adoption.

3. Create a safe context for the team to freely explore the problem space and suggest alternatives. Have the courage to put yourself and your ideas out there first.

4. Foster team member ownership early to engage best efforts. Innovation is more successful when ideation and development are diffused and contributors have pride of ownership.

5. Build teams with purpose; always focus on the why of the work first. Great collaborative outcomes are generated when people share values around the work.

❹ Develop a Solution Prototype Early and Mobilize the Network. Be open in process but dogmatic in pushing to a prototype as early as possible. Throughout our interviews, prototypes were essential and took a wide range of forms. They could be working code, small-scale models, a mock-up or full solutions. There is an obvious proof-of-concept benefit that comes from an early prototype. But even more important is that the working prototype dramatically changes the nature of the conversation and engagement with the network. With a prototype established, the exchanges become more targeted in terms of enhancements needed. More subtly, the prototypes establish trust that something can be done and thus moves the innovation and network forward to a solution. As one leader suggested, *"If we have a proof-of-concept or pilot, that is the right time to engage the negative people … A model speaks louder and does not*

require them to just trust me … they can identify things that are useful to solve."

In early meetings, ensure that you are open in defining the problem and solution space but move aggressively to a working prototype. Use the prototype in subsequent meetings to fine tune the concept and establish viability of the innovation. Ensure that you and team members seek feedback from different audiences—leadership groups, stakeholders and end users—at multiple points in development and that you respond, refine and communicate accordingly. Consider ways to:

1. Employ facilitation techniques to ensure divergent thinking in meetings. But also ensure convergent processes help focus the team on concrete steps to produce and refine a prototype early.

2. Set up team processes to maximize co-creation with stakeholders. Have team members iterate to refine content and boost commitment to evolving solutions. With stakeholder and more distributed change agents, you know you have won when they are telling your story for you.

3. Bring your prototype to constituents early to demonstrate viability and obtain feedback. Proactively engaging others builds *"benevolence-based trust"* (trust that you have others' interests in mind), while showcasing the prototype builds *"competence-based trust"* (trust that you can do what you say).

4. Leverage network influencers to help communicate your prototype to decision-makers. Innovations will stand partially on their own merits but acceptance is also significantly affected by the legitimacy of network influencers.

5. Employ a story-based narrative that focuses on possibility rather than threat to secure stakeholder commitment. The data and business case need to support the plan. But rich stories of users' experience and a focus on possibility are almost always the inflection point in decision-making meetings.

❺ **Communicate the Early Stage Solution and Iterate with the Network in Rollout.** In moving from prototype to solution rollout, two core activities matter. First, have a broad, inclusive and collaborative communication process. In terms of communicating out, a surprising degree of emphasis needs to be on rich stories of experience that engage the audience on an emotional and lived experience level. For example, one leader made

the case for change, giving context that the world was changing and it was imperative that the business change too: *"The story was not to get people afraid, but to show we have a massive opportunity."* Framing the narrative in terms of possibility instead of threat was key. "After a few meetings of vision and opportunity, they were bought in … Success for me was when a couple big stakeholders started telling the story for me … They would bring this up and make it their own."

Second, it is critical to create forums and secure time and resources in the rollout to adapt the innovation based on feedback. The biggest point of surprise for most of our leaders was how much work they had to do, and the amount of adaptation they needed to plan for, right at a point in the project when they thought their work was largely done. As more stakeholders and end users give input, ensure your team is prepared and resourced to make incremental changes, test and adapt quickly. As one leader indicated, *"We needed to evolve significantly from our early thinking … 75 percent of the functionality changed based on a those stakeholder meetings."* Don't assume immediate and broad uptake but rather build a context to react and communicate rapidly:

1. Employ appropriate channels of communication to ensure richness of dialogue and support. Continue to engage the network, communicate successes and adjust the innovation based on feedback as needed.

2. Establish expertise awareness and norms for reaching out to others through regular team meetings, communities of practice, speaker series, team communication apps and idea-generation platforms. But without leadership support for learning and sharing, these opportunities can easily fall flat.

3. Tap external partners to become an essential part of the extended network. Look to consultants or outside organizations that have gone through something similar to help you pivot in the face of unavoidable obstacles.

4. Manage stakeholders through structured and systematic meetings. Regular conversation creates alignment around expectations and paves the way for implementation. Don't wait until deployment to hear concerns and perspectives.

5. Get influencers telling stories that echo across the network. As these stories spread, others are attracted to engage and the network begins to close around critical stakeholders, therefore enhancing the likelihood of support.

The Adaptive Space Imperative

For the large modern organization, innovation is both essential and increasingly difficult. Innovating requires managers to grapple with a paradox: How does one empower those with innovative ideas (in the entrepreneurial system) and ensure that their best ideas are effectively implemented (using the operational system)? Our research suggests that by understanding social networks and developing an adaptive space, even seemingly bureaucratic organizations can facilitate emergent innovations.

References

1. U.S. Chamber of Commerce Foundation, "States Innovate," Enterprising States (2015).

2. D. Smith and C. Mindrum, "How to Capture the Essence of Innovation," Accenture Outlook Journal–The Journal of High-Performance Business 1 (2008): 1-10.

3. T. Davila, M. Epstein and R. Shelton, "Making Innovation Work: How to Manage It, Measure It, and Profit from It," (FT press, 2012).

4. A. G. Lafley and R. Charan, "The Game-Changer: How You Can Drive Revenue and Profit Growth with Innovation," (Crown Business, 2008).

5. J. Hagedoorn, and N. Wang, "Is there complementarity or substitutability between internal and external R&D strategies?" Research Policy no. 41.6 (2012): 1072-1083. Kandybin, Alexander. "Which innovation efforts will pay?." MIT Sloan Management Review 51 (2009): 53.

6. R. Cross, P. Gray, S. Cunningham, and M. Showers, "The Collaborative Organization: How To Make Employee Networks Really Work," Sloan Management Review 52 (2010): 83-90. M. Johnson-Cramer S. Parise and R. Cross, "Managing Change Through Networks and Values: How a Relational View of Culture Can Facilitate Large Scale Change." California Management Review 49, no. 3 (2010). 85-109. R. Cross, C. Ernst, D. Assimakopoulos and D. Ranta, D., "Investing in Boundary-Spanning Collaboration to Drive Efficiency and Innovation." Organizational Dynamics 44, no. 3 (2015): 204-216.

7. Bekier, Matthias M., Anna J. Bogardus, and Tim Oldham. "Why Mergers Fail." The McKinsey Quarterly (2001): 6-6. M. Graebner, K. Eisenhardt and P. Roundy, "Success and Failure in Technology Acquisitions: Lessons for Buyers and Sellers," The Academy of Management Perspectives 24, no. 3 (2010): 73-92. D. King, D. Dalton, C. Daily and J. Covin, "Meta-Analyses of Post-Acquisition Performance: Indications of Unidentified Moderators," Strategic Management Journal 25, no. 2 (2004): 187-200.

8. Cross, R., Rebels, R. and Grant A.. "Collaborative Overload: How Leaders Can Anticipate and Manage Skyrocketing Demands." Harvard Business Review. (2016). Cross, R. & Gray, P. "Where Has The Time Gone? Addressing Collaboration Overload In a Networked Economy." California Management Review 56, no. 1 (2013): 50-66.

9. M. Uhl-Bien and M. Arena, "Complexity Leadership: Enabling People and Organizations for Adaptability," Organization Dynamics, 2017, http://dx.doi.org/10.1016/j.orgdyn.2016.12.001.

10. G. Oster, "Characteristics of Emergent Innovation," Journal of Management Development 29, no 6, (2010): 565-574.

11. A. Hargadon, "How Breakthroughs Happen: The Surprising Truth About How Companies Innovate," (Harvard Business Press, 2003). A. Hargadon and R. Sutton, "Technology Brokering and Innovation in a Product Development Firm," Administrative Science Quarterly 42, no. 4 (1997): 716-749. J Singh and L. Fleming, "Lone Inventors as Sources of Breakthroughs: Myth or Reality?," Management Science 56, no. 1 (2010): 41-56.

12. M. de Jong, N. Marston and E. Roth, "The Eight Essentials of Innovation," McKinsey Quarterly (2015).

13. M. Uhl-Bien and M. Arena, "Complexity Leadership: Enabling People and Organizations for Adaptability," Organization Dynamics, 2017, http://dx.doi.org/10.1016/j.orgdyn.2016.12.001. M. Uhl-Bien and R. Marion, "Complexity Leadership in Bureaucratic Forms of Organizing: A Meso Model," The Leadership Quarterly 20, no. 4 (2009): 631-650.

14. L. Huston and N. Sakkab, "Connect and Develop," Harvard Business Review 84, no. 3 (2006): 58-66.

15. L. Fleming, S. Mingo and D. Chen, "Collaborative Brokerage, Generative Creativity, and Creative Success," Administrative Science Quarterly 52, no. 3 (2007): 443-475.

16. R. Reagans and B. McEvily, "Network Structure and Knowledge Transfer: The Effects of Cohesion and Range," Administrative Science Quarterly 48, no. 2 (2003): 240-267.

17. T. Amabile, S. Barsade, J. S. Mueller and B.Staw, "Affect and Creativity at Work," Administrative Science Quarterly 50, no. 3 (2005): 367-403.

18. L. Fleming, "Finding the Organizational Sources of Technological Breakthroughs: The Story of Hewlett-Packard's Thermal Ink-Jet," Industrial and Corporate Change 11, no. 5 (2002): 1059-1084.

19. Cross, R., Baker, W. & Parker, A."What Creates Energy in Organizations?" Sloan Management Review 44, no. 4 (2003): 51-57

20. R. Burt, "Structural Holes and Good Ideas," American Journal of Sociology 110, no. 2 (2004): 349-399.

21. J. Battilana and T. Casciaro, "Overcoming Resistance to Organizational Change: Strong Ties and Affective Cooptation," Management Science 59, no. 4 (2013): 819-836.

22. R. Cross, J. Linder and A. Parker, "Charged Up: Managing the Energy That Drives Innovation," Management Quarterly 48, no. 2 (2007): 14-29.

23. R. Cross, J. Linder and A. Parker, "Charged Up: Managing the Energy That Drives Innovation," Management Quarterly 48, no. 2 (2007): 14-29.

24. J. Rao, "Wl Gore: Culture of Innovation," Babson College case no. BAB698, Babson Park, Massachusetts: Babson College (2012).