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By understanding how informal networks communicate and collaborate, social network analysis can facilitate more effective learning program design and promote more innovative collaboration.

Behind every official organization chart is a web of informal networks composed of individual relationships. Valuable resources and information flow through these networks in various ways, often outside any prescribed path or hierarchy. The effect of these networks on culture and learning can be significant, as they improve the speed and efficiency of information exchange. By deliberately facilitating connections, these networks can drive business goals and improve strategic decision-making.

To effectively utilize informal networks to drive learning goals, it is critical to understand how these networks are organized and how information flows. This challenge led to the development of social network analysis, which captures the relationships between individuals, often visualized through a diagram. This work was pioneered by psychiatrist and psychosociologist Jacob Moreno and essentially reveals who is talking to whom.

SNA is particularly useful to assess connectivity between groups. It can provide insight into which members are connected to each other, their level of collaboration and the overall network health in terms of information flow.

Networks Should Be Dense and Diverse

There are two significant constructs in organizational networks — density and diversity — that can be influenced by learning organizations to drive a given business outcome. Dense networks describe groups of individuals with a high level of interconnectedness. Generally, each member of a dense cluster is connected to other members of the same network with few connections outside of this structure. Imagine a business unit that has been working together for many years, has low attrition and each member collaborates with several others within the unit.

Dense networks tend to have increased levels of cooperation and faster
Social network analysis can measure the effectiveness of learning interventions focused on communication or collaboration.

that lacks access to diverse ideas or is too dependent on a single individual cannot remain competitive. Diverse networks describe structures that have connections to broader, more distant individuals and groups. These networks assure a flow of new information and are often linked to innovation. They also tend to be more efficient in terms of knowledge transfer due to a larger diffusion of information and less redundancy.

Randomly increasing diversity, however, is not always valuable. Bridging groups with vastly different roles, content areas and norms does not always result in a positive effect for the organization, as the language and context may be too distant to facilitate fluid exchange. As networks become increasingly diverse, rich information may flow at a slower pace because participants may initially lack common concepts, work practices and trust. A higher degree of network diversity resulted in greater innovation, but too much diversity can actually be restrictive in some cases, depending on the goals.

Density and diversity are both important to drive learning and performance, but too much of either can be a liability. Dense and isolated networks can be too embedded in their existing processes. They have strong norms but are also vulnerable to inertia that can inhibit learning and how people incorporate new ideas. If the network is too diverse, however, there is minimal social cohesion and trust.

Additionally, having a large number of relationships is not always efficient, as there is a constant time investment required to maintain them. Increasing the number of connections does not always increase the effectiveness of the overall network. It can do the exact opposite. However, the two are not mutually exclusive, and the primary focus should be on building and sustaining the right strategic relationship.

So what is a learning organization to do? As needs change over time, the learning organization can play a critical role in diagnosing the current development needs and catalyzing dynamic networks to adjust to the environment by designing learning interventions that promote the appropriate network model. Julie Hite, an associate professor at Brigham Young University, and William Hesterly, associate dean at the University of Utah, argue that both dense and sparse networks, and diverse connections, are conducive to performance when they are aligned with an organization's needs.

Through SNA it is possible to understand the current flow of information, key connectors and communication gaps. This facilitates learning interventions that connect the right people and resources to maximize learning and development, drive innovation and potentially influence growth in organizations.

How SNA Facilitates Learning

In 2009, the Defense Intelligence Agency implemented a merger across 10 global intelligence organizations. For years, each had worked as a cohesive unit, independently running their own intelligence operations, sharing a common language and context. While this facilitated knowledge transfer within the respective groups, it resulted in significant gaps in communication and collaboration across the intelligence organizations, deemed critical after Sept. 11, 2001.

To support the merger, the learning and development organization designed interventions to address these issues. One program in particular targeted frontline supervisors across the 10 organizations. This program focused on the new performance review process and the skills needed for effective leadership post-merger. However, the secondary goal was to increase dialogue and alliance across the 10 legacy organizations.

Prior to the course, the DIA conducted an SNA to understand the existing informal network structures. An analysis of collaboration across the organizations revealed one large, dense cluster, two small, sparse, separate clusters and several other individual nodes.

Communication flow revealed a slightly more connected network across the 10 organizations but with dense relationships across only a few of the organizations. Further, some individuals had limited connectivity, and one cluster was completely isolated. This lack of connectivity and isolation presents a barrier to learning as it inhibits members of the network introducing new ideas.

Upon course completion the DIA conducted an-
other analysis, this time focusing on intent to communicate and collaborate across the respective organizations. The results showed an 81 percent increase in intent to collaborate across the organizations and a 168 percent increase in intent to communicate outside of one’s organization.

The result reveals stronger, denser connections across organizations and bridges between individuals. Although the learning program was designed to build performance skills, it also resulted in a denser, more unified DIA structure.

The Power of Informal Networks

There is increasing evidence that using informal networks can not only add value but also can complement existing formal structures. The case study demonstrates a practical application of SNA to diagnose an organization and measure the effectiveness of a learning intervention. SNA can build collaborative networks and increase communication to fuel performance, innovation and growth. In this respect, SNA can enhance organizations to include:

**Diagnosis:** SNA can identify gaps, redundancy and isolation within or between business units and teams.

**Measurement:** SNA can measure the effectiveness of learning interventions focused on communication or collaboration.

**Learning design:** By understanding how informal networks communicate and collaborate, SNA provides valuable information for learning design.

**Student identification:** SNA can help to identify highly connected students or learners for specific learning interventions to maximize knowledge diffusion.

Social network analysis does not require large data sources or sophisticated graphing instruments. The key is to understand an organization’s business challenges and goals, and identify how to maximize the existing network or influence a new network to meet them.

Learning leaders can examine their organizations and identify where there are bridges, gaps and opportunities for connection.

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