



**ATTRACTORS
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*EVERY MONTH **ATTRACTORS** SHARES TIPS AND TOOLS FROM HUMAN SYSTEMS DYNAMICS. IN THIS MONTH'S EDITION, GLENDA EOYANG EXPLAINS THE PRACTICAL IMPLICATIONS OF DYNAMIC NETWORK THEORY.*

**POWER THROUGH LEARNING &
LEARNING THROUGH CONNECTIONS**

Some of our clients are cutting way back on conferences and classroom training experiences for staff and management. These may seem like low-risk savings, but the picture changes when you consider the high cost of lost opportunity. Dynamic network theory explains why.

In *Linked: The new science of networks* (Perseus Publishing, 2002) Barabasi gives a lively and meaningful description of how networks work. He explains how they generate patterns of transformation and stability across a system. Through his eyes, it is easy to see how information is created, stored, and disseminated among individuals and groups through a network. It is a practical and compelling way to think about learning organizations and organizational learning.

In a social network, each individual is free to explore and make meaning based on personal history and available information. Each one functions as a node in the network—holding some information, connecting to other nodes, and forming complex bridges among individuals and other coherent groups of nodes.

Some nodes function as hubs in the network because they connect with many other nodes. These individuals are usually easy to spot in an organization—they know lots of people, others depend on them for the latest news or gossip, people use them as go-betweens and to broadcast messages across the informal channels.

Hubs and nodes serve two functions. First they take in and process data as it becomes available from the environment or from others in the network. Each one generates information in processes that are unique and local. Second they feed information back into the network through connections to other nodes and hubs. The connections—

- Provide novel information to support innovation
- Perform a quality assurance and quality control process as individuals cross-check information with each other
- Stabilize patterns of the past so change in one part of the system can be absorbed in other parts

- Amplify information as it is absorbed, integrated, and reflected across multiple nodes
- Distribute information storage to improve system resiliency and stability over time
- Allow new partners to enter the system smoothly because they receive information efficiently

The individual processing that takes place inside nodes is an important aspect of individual and organizational learning, but the real power of learning comes from the connections between and among nodes and hubs. The connections give sustainability to the learning. They build the infrastructure that helps group learning to be more than merely the sum of many individual learnings. Connections establish capacity for organizational learning.

Network-based learning has its risks, however. Barabasi describes the roles of nearest and most distant network neighbors. Nearest neighbors are most like you. They have access to the same data you have. They share environmental and historical experiences. They are likely to ask the same questions and come to the same conclusions you do. These connections can be comfortable and provide stability, but they don't do much to feed innovation or discovery.

Distant neighbors, on the other hand, see different things and see things differently. They introduce novelty into the system to spark new options and opportunities. They bring the differences that make a difference to adaptive self-organizing processes.

Barabasi uses job hunting as an example. You can talk to your friends and family (nearest neighbors) and quickly exhaust a short list of possibilities. A professional head hunter, internet searches, or other distant-neighbor tactics may increase your options for action.

Network dynamics explain the power and potential for learning in classroom settings and conferences. Of course attendees receive new technical information and practice new skills, but more importantly, they connect. They build new connections to people from other parts of the organization, other political or geographical regions, other industries or professions. They connect with distant neighbors, and each connection opens an opportunity to discover new data to shake locked-in preconceptions or to generate new options for action. Each connection feeds new data into individual learning, and each learning node has the capacity to feed that learning into the whole through connections back home.

No one can predict the outcomes from distant neighbor connections, but they are worth the investment. The evidence is clear that connections with distant neighbors increase the potential for creative adaptive action.

Associates of the Human Systems Dynamics Institute will be building connections to distant neighbors in the coming months as we teach and learn at:

- Organization Development Network <http://www.odnetwork.org/>
- Global Learning Partners <http://www.globalearning.com/>
- American Evaluation Association <http://www.eval.org/>
- Search Institute <http://www.search-institute.org/>

Join us as we make connections and explore networks of effective practice. Give us a call.

Glenda H. Eoyang, Ph.D.
geoyang@hdsinstitute.org

Direct: 763-783-7206