Sustainable Networks of Human Interaction
by Royce Holladay

In her latest ATTRACTORS, Glenda Eoyang, Executive Director of Human Systems Dynamics Institute, talked about networks as the emerging preferred structure for the 21st century. She explained the strength of a network is that it gives both freedom and connection to participants, there is no natural boundary to its size, and it can recover quickly when disrupted. HSD recognizes that individuals naturally connect in networks of human interaction. Nodes in these networks represent individuals or groups, separated from each other by their differences, yet linked together by the exchanges between them. Nodes connect across differences for the purposes of sharing information, energy, and other resources.

In families, individual family members connect to each other to carry out the work of being a family—whether its path is one of dysfunction or one of health. Organizations and other coalitions are made up of groups of smaller entities that connect to each other for a common purpose. Communities—neighborhoods, cities, regions and nations—are made up of families and neighborhoods that connect to conduct the business of the community—socially, politically, and economically. When these networks function in ways that optimize both the parts and the whole, they are healthy and sustainable. When they don't, constraints in the network prevent adaptation and sustainability either for individual nodes, groups of nodes, or for the whole network.

What Makes a Network Sustainable?

Albert-Laszlo Barabasi, who describes the behavior of networks in his book, *Linked: How Everything Is Connected to Everything Else and What It Means*, describes sustainable networks as having three critical characteristics. Networks are healthy and sustainable when they are **sensitive, responsive,** and **robust**.

Sensitive
Healthy networks are **sensitive**. They collect data and information from their environments to detect challenges and changes at the earliest possible points.

Networked individuals or groups are sensitive if they remain in inquiry, constantly scanning their environments to see and understand patterns around them. They observe in their worlds, with open minds, to collect data and information from all segments. They seek multiple venues for listening and mutual exploration of what exists. Stepping away from partisan positions, individuals and groups in sensitive systems step into their environments with a real curiosity about the world around them and its impact on themselves and others.

Responsive
Strong networks are **responsive**. They make meaning of data they collect to understand the impact of challenges and changes in their environment to be able to formulate a response. This does not describe a reactionary system. Rather, it describes one that carefully collects information and takes time to understand its context and implications before taking action in response.

That does not mean that responsive systems are necessarily slow to act. It means that data collection, analysis, and shared action are embedded in the ongoing work of the system. It means that nodes in the social network understand their responsibilities and roles in remaining aware of and participating in the collective work of the whole. Governance and decision making

at any scale are shared responsibilities—with some being accountable for input and influence and others being accountable for the actual decisions.

In families, decisions are made with input of parents and children. Organizations engage individuals and groups in meaningful dialogue as decisions are made, and employees and members participate in the work of the larger whole. At the local, regional, national, and global levels, individuals and communities are aware and contribute to the collective knowledge and decision making when they are able to do so.

Responsive systems allow for multiple voices to influence the direction or path of the system. Different perspectives are considered, shared meaning is created, and multiple actions are explored in the search for activity that seems most likely to lead to fitness.

Robust

Sustainable networks are **robust**. They withstand environmental changes and challenges with resilience that ensures their health. Barabasi speaks of robust networks as having multiple nodes and multiple connections between the nodes. The more nodes a network has, the larger and stronger it becomes. At the same time, when each node is connected to multiple other nodes, the system is even more likely to sustain itself. More information is shared, and the information is more likely to be consistent across all nodes. Even more important to sustainability, if one or more nodes are eliminated from the network, the remaining nodes are able to carry on the work of the system, with multiple connections to ensure they have information and resources needed to do so.

Building Sustainable Networks of Human Interaction

At the heart of assuring sustainable networks lies the concept of inquiry. When people are open and ask questions of each other, they are more sensitive to others' needs and contributions. Inquiry increases a system's responsiveness because authentic listening informs decisions at a deeper and more meaningful level. Finally when people and groups are truly curious about each other, they are more likely to build multiple connections to create patterns of interaction and partnership.

People of good intentions who inquiry together to build powerful networks can use Barabasi's insights to guide their decision making. Families can strengthen their relationships; organizations can increase their capacity to build sustainable connections and interactions; communities at all scales can find powerful responses to shared opportunities and threats by taking advantage of resources across the network. The table on the next page offers some descriptors that can help to visualize and understand how to apply these concepts to build sustainable networks of human interaction.

Sustainable Networks of Human Interaction

	Sensitive	Responsive	Robust
Characteristic Descriptors	• Engage with each other openly, trusting that they will be respected and heard • Seek to understand each other across the differences that divide • Use multiple perspectives of the group to inform decision making • Seek information from the greater community, and make their own needs known	• Support each other in working toward shared goals • Use shared perspectives to inform decision making • Accommodate each others' differences as far as possible; negotiate differences beyond that • Respond to internal and external issues relative to shared goals • Use simple rules to ensure coherent responses across the system	• Connect, person to person, across their respective roles to ensure effective operations • Take on complementary roles to work toward shared goals • Establish multiple venues for sharing information • Build on each others' strengths and support each other's needs • Maintain simple rules to support self-organizing behavior and coherence • Learn from the past
Families	**Family members** • Hold frequent family meetings to discuss important issues • Seek involvement of all family members in major decisions • Allow members to express individuality in so far as it does not intrude on others' freedoms	**Family members** • Make sure individual members have what they need to participate fully • Build family "mentorships" where the young ones learn from their elders • Assign age-appropriate chores and responsibilities so everyone is contributing to the whole	**Family members** • Work out differences that would divide parts of the family from other parts • Work together to address shared challenges and opportunities • Use shared simple rules to increase independence and interdependence in decision making
Organizations of all Kinds	**Individuals and departments** • Provide public venues for employees/members to share perspectives or ask questions • Host stakeholder input meetings on a regular basis • Track developments and patterns in multiple sectors	**Individuals and departments** • Use professional development programs to build capacity • Identify and celebrate excellent customer care • Support members and employees in their work • Reward innovation that responds to the greater good	**Individuals and departments** • Engage in cross-functional groups to share information and resources • Conduct listening sessions to learn from experiences • Develop constructs that document the system and its processes
Communities at all scales	**Individuals and groups** • Share information and resources across • Identify and address differences prior to conflict • Consider events and changes in the environment that might impact their own performance • Maintain own perspectives as they partner	**Individuals and groups** • Build partnerships to address the needs of individuals and groups inside and outside the network • Ensure transparency of information • Seek innovative responses to new challenges	**Individuals and groups** • Support connections in even remote locations • Use multiple languages to ensure saturation of information • Publicize shared goals and challenges to engage people in responding