Emerging Organization Designs in the 21st Century

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In 2007, my colleagues and I, members of the Socio-Technical Systems Roundtable, committed to a research and discovery process. Our purpose was to understand and document changing organizational forms and functioning—present day as well as emerging. After more than five years of collaborative action research, the Discovery Team (R & D function of the STS-RT) integrated its collective learning into visual images or thought models to better enable our understanding and knowledge transfer. The adage, a picture is worth a thousand words, holds even more truth when translating complex, unpredictable experiences into understandable contexts.

During the "design phase" of our discovery cycle, the STS community agreed the following three organizational models (i.e., forms) depict the contexts in which we currently find ourselves designing.

Three Design Contexts (Organizational Forms):

In 1995, Jay Galbraith, wrote "organizational design decisions are the shapers of the organization's decision process" and what shapes the organizational design is strategy. Therefore, different organizational strategies require different designs. During this same time period, knowledgeable, demanding consumers were shaping organizational form through their increased buying power, the variety and customization they were requesting, the speed at which they wanted their demands met and the rapidly changing environments and circumstances within which they lived. Creating knowledge-based organizations with effective, rapid response to meet these customer demands necessitated many more decisions to be made and many more people to be involved in the decision making process.

As witnessed over the past couple of decades, the resulting organizational designs have seen greater and greater decentralization or flatter hierarchies as depicted below.


For the most part, today's organization designers find themselves facing these same "shapers" (empowered consumers, task variety, rapid change and speed of production/service) but with additional complexities. The STS-RT discovery process further

specified these complexities as [characteristics of adaptive enterprises](#)—self-organizing, transformational, simplicity, nested, rapid prototyping and simultaneous exploration and exploitation. Even further specification emerged into the three design forms below:

1. Hierarchically-integrated, Decentralized Organizations
    *   multiple sub-units/teams within a business unit bound by shared resources
2. Value Realization Networks
    *   multiple enterprises within an environment bound by shared outcomes
3. Social Ecosystems
    *   multiple enterprises within an environment bound by shared issue resolution

Hierarchically-integrated, Decentralized Organization. This organizational form is most commonly seen in today's enterprises. The Business Unit might constitute a specific product line (desktops, laptops, mobile phones or tablets) with its support functions—research and development, hardware design, software design, marketing and sales. The Sub-units or teams could embody a specific model of that product line (4-G laptops) along with its support functions—dealers, mass retailers, direct sales and mail order.

The boundary "line" is permeable to the outer world but contains one or several business units within a decentralized, but still hierarchical structure.
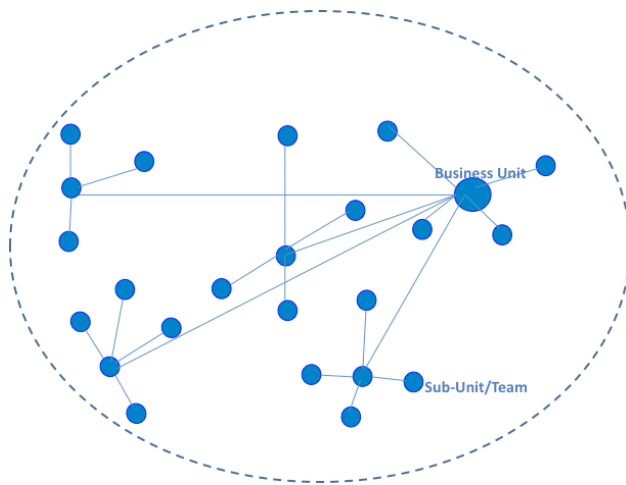
Value Realization Network. Although not as visible as the hierarchically-integrated and decentralized organization, value realization networks form within and between businesses around a shared outcome (a product or service such as a new treatment for breast cancer) and are typically facilitated by communication technologies due to a geographically dispersed membership. The circles or nodes indicate people or roles—orchestrator, customer, core members, peripheral members. The connecting lines are the interactions among these members that produce deliverables such as knowledge, financial value and other benefits. These value-creating deliverables emerge from complex, dynamic and [interdependent relationships](#) where "all participants are emotionally, economically, ecologically and/or morally self-reliant while at the same time responsible to each other".
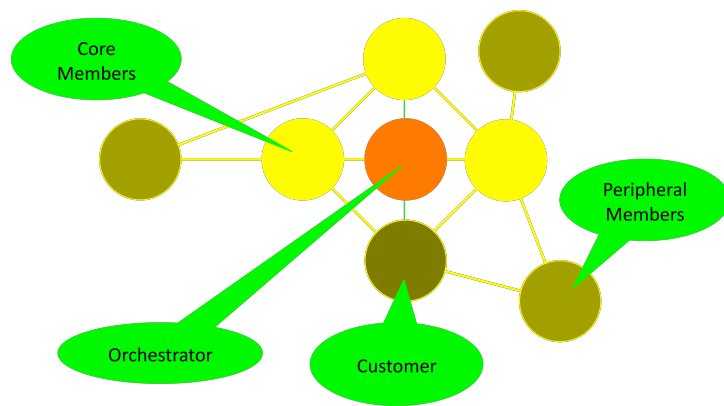
Social Ecosystem. A Social Ecosystem embodies both of the previously described organizational forms as well as an organizing Issue Coalition made up of government, non-government organizations, academia, commercial enterprises and individual champions or advocates. What they all hold in common is the shared will to resolve an issue (i.e., reduction of poverty). Their shared will is fortified by a set of shared ideals, such as humanity, community, nurturance and beauty.
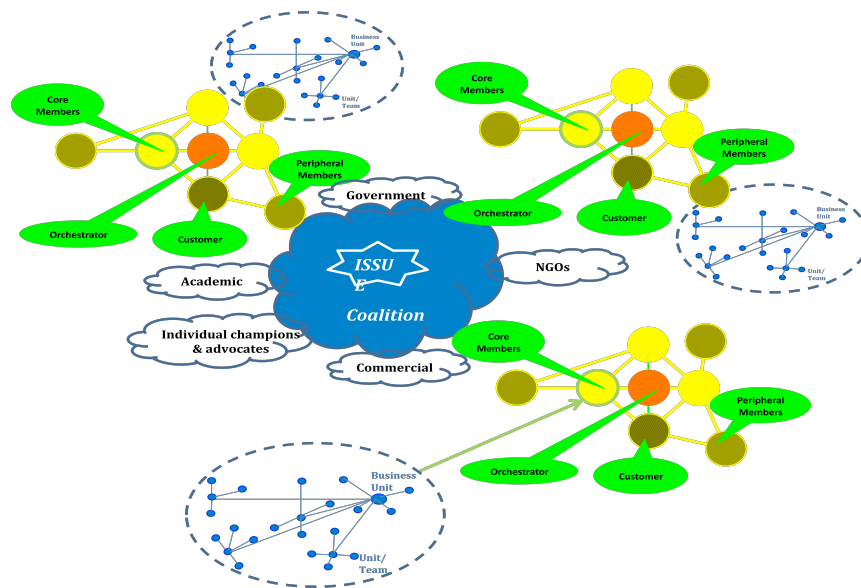
Socio-technical Systems (STS) Design Definitions:

Prior to describing the functioning of these adaptive enterprises and as a means of building shared understanding, it might be useful to briefly define some of the technical terms that form the theory and practice of STS design.

1. System – a set of things and/or people working together as parts of a mechanism or an interconnecting network (i.e., team, organization, community, nation, etc.)

2. Social system – people, culture, norms, roles as well as work-related transactions and interdependencies (i.e., setting and attaining goals, adapting to the external environment, resolving differences, developing long-term sustainability)

3. Technical system – tools, materials, technology (i.e., inputs, throughputs and outputs)

4. Principles – empirical criteria leading to good practice and desired outcomes.

5. Ideals – supersede values as universally shared beliefs of what is important.

6. Values – subjective beliefs about what is important in one's life.

7. Value proposition – a unique offer with respect to cost and benefit.

8. Model – a built, tangible representation of a system and its relationships enabling people to see and create the new.

9. Metaphor – a symbolic representation of a system and its relationships enabling people to see and create the new.

10. Structure – a container within which coordination occurs.

Transformation Processes of Adaptive Enterprises:

Each of these three organizational forms, or as we came to label them Adaptive Enterprises, are operating in today's world of work. The images portrayed below illustrate the functioning of each form. At its most basic, each process model incorporates a set of starting inputs, actions that transform those inputs, and outputs that emerge as a result of the actions.
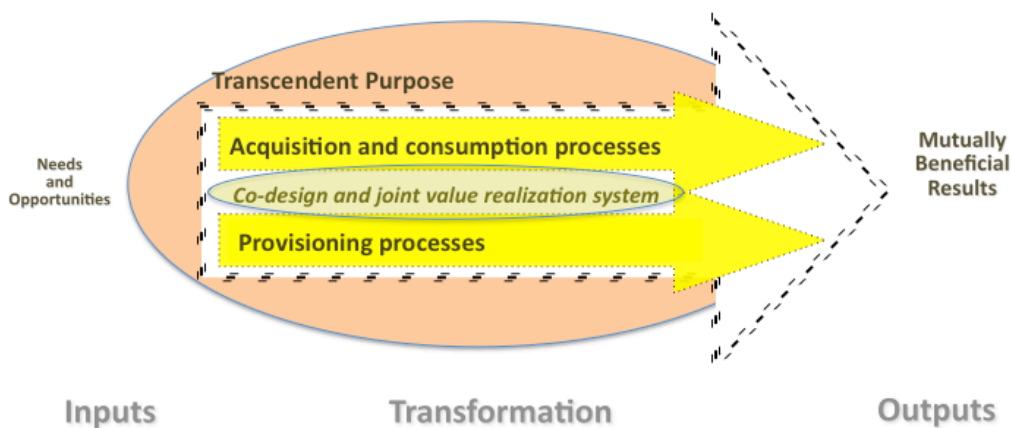
Hierarchically-integrated, Decentralized Organization. Functioning, in the case of this form of organization, begins with a set of materials and/or information which passes through a socio-technical work system (work processing flow, roles and interactions). Through jointly optimizing both social and technical subsystems, the inputs are transformed into value-added goods and/or services offered in the marketplace. A contemporary organization illustrating hierarchical integration and decentralization is Apple.

This form of organization may consist of multiple Business Units each with its own sub-units or teams. In order to optimize efficiencies, each Business Unit designs its workflow based on the same transformation process model.
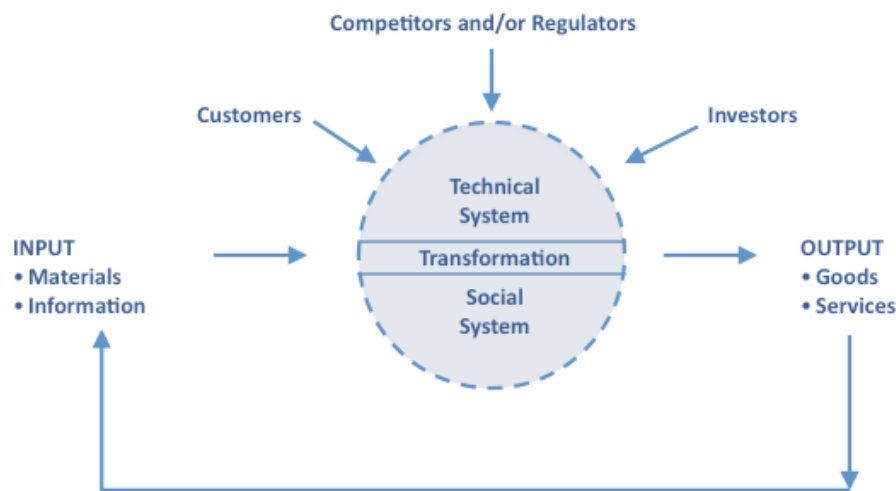
Value Realization Network. In this form of organization, multiple entities within an industry bring forward needs and opportunities (inputs) under the shared umbrella of a transcendent (higher-order) purpose. These many entities (customers, competitors, orchestrators) very likely have their own unique "at-home" transformation processes. Nonetheless, they agree to design and participate in newly-formed technical processes — acquisition, consumption and provisioning — for the sake of mutually beneficial results. A concrete example of a value realization network is the Socio-Technical Systems Roundtable.

In order to realize outputs of mutual benefit to the parties involved, new social functions are also designed — shared governance, information capital, seamless working relationships and distributed leadership. The network's co-design of a system for jointly realizing value is bound by their forming purpose.
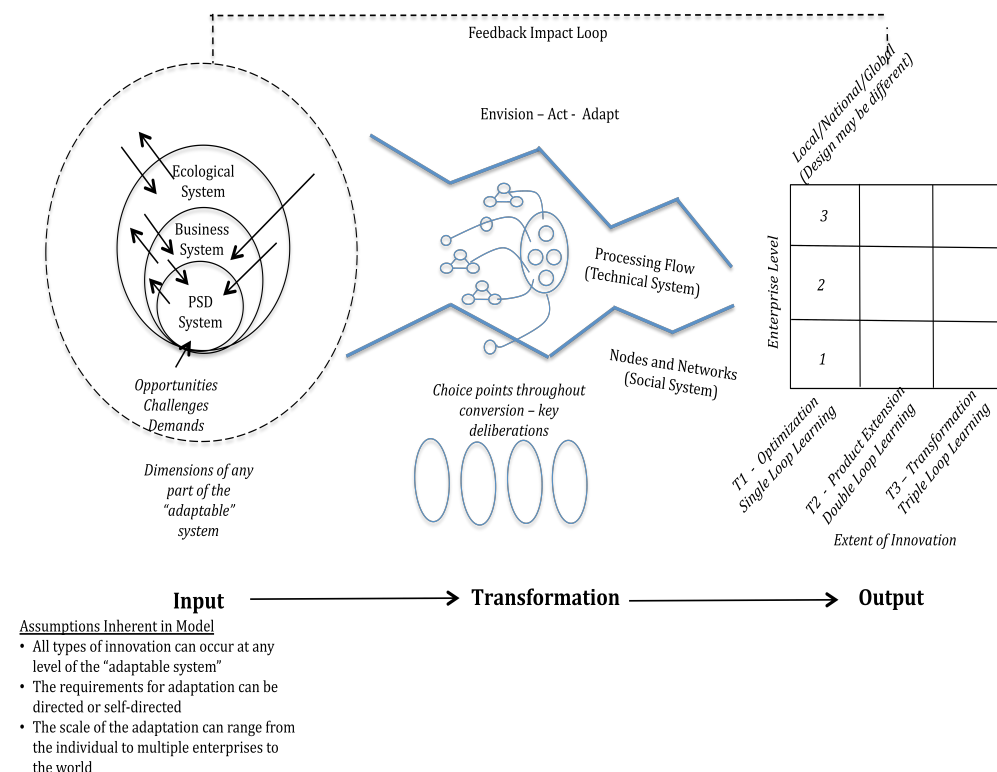

Social Ecosystem. Functioning within a social eco-system consists of coordinating its multiple entities—hierarchically-integrated, decentralized organizations as well as value

realization networks. In addition, multiple governments, nongovernment agencies, academic institutions and individual advocates are potential participants. Hence, the inputs of opportunities, challenges and demands will vary greatly across ecological, business and product service delivery (PSD) systems. What all participants do share in common is the will to resolve a societal issue affecting their shared environment. A relatively recent example of a social ecosystem is the National Commission on the British Petroleum deepwater horizon oil spill.

The transformation process designed in a social ecosystem considers the social (nodes and networks) and technical (processing flow) systems in its design of key deliberations or dialogues. These dialogues allow for ecosystem agreement while maintaining local autonomy and as such, collectively progress through the following steps — connect, explore, imagine, mobilize, act, evolve.

Local autonomy allows for the necessary customized innovation (outputs) to occur given the variety of experience and capacity available to the local entities.   In the social ecosystem, outputs are not increasing value realization but rather shared sense-making, shared appreciation, shared will, shared purpose and shared consciousness.

Adaptive Enterprise System

Feedback Impact Loop

Envision – Act - Adapt

Ecological System

Business System

PSD System

Opportunities Challenges Demands

Dimensions of any part of the "adaptable" system

Processing Flow (Technical System)

Nodes and Networks (Social System)

Choice points throughout conversion – key deliberations

Local/National/Global (Design may be different)

Enterprise Level

3		
2		
1		

T1 - Optimization Single Loop Learning

T2 - Product Extension Double Loop Learning

T3 – Transformation Triple Loop Learning

Extent of Innovation

Input ⟶ **Transformation** ⟶ **Output**

Assumptions Inherent in Model
• All types of innovation can occur at any level of the "adaptable system"
• The requirements for adaptation can be directed or self-directed
• The scale of the adaptation can range from the individual to multiple enterprises to the world

STS Design Principles of Adaptive Enterprises:

It was not until 1976, twenty-five years after the initial action research conducted by Trist and Bamforth (1951) in a coal mining study, that the characteristics of socio-technical system (STS) design were clearly stated. In a seminal paper (Albert Cherns, 1976: 738-792), identified nine key principles as being inherent to STS design.

Since then, many STS theorists and practitioners (Cherns, Emery, Berniker, Pasmore, Winby, de Guerre and other STS Roundtable members) continually revisited and added to this list of design principles.

The STS-RT Integration Team also revisited and added to the original list in its attempt to answer the question "What are relevant STS design principles for organizing in the 21st century?" At that time, the Integration Team compiled the list below for presentation to its community of practitioners.

1. *Compatibility* – the process of design must be compatible with its objectives.

2. *Minimal Critical Specifications* - only the most critical aspects of jobs and methods are specified thereby keeping options open and assuring those performing the work have the opportunity to impact its design.

3. *Variance Control at Source* - if they cannot be eliminated, variances must be controlled as near to their point of origin as possible.

4. *Boundary Location enabling Self-regulation* - boundaries are drawn to <u>not</u> interfere with the sharing of information, knowledge and learning within the system (not necessarily according to traditional criteria such as technology, territory or shift).

5. *Information Flows 1st to primary Task Holder* - needed information is shared first with those performing the task.

6. *Authority and Resources match whole task Accountability* – direct access to task-relevant knowledge, experience and resources so responsibilities can be carried out.

7. *Multifunctional Teams* – flexibility is achieved through redundancy of skills rather than redundancy of parts or people.

8. *Congruent Support Systems* - management actions and policy in areas such as selection, pay and training reinforce behaviours consistent with the design philosophy and objectives.

9. *Ongoing Redesign* – the design process is about learning to learn (conscious choice) and therefore an unending search for improvement and innovation by those doing the work.

10. *Quality of Working Life* -
    - Freedom to participate in decisions directly affecting one's work.
    - A chance to continually learn on the job.

- Optimal variety (not too much, not too little).
- Mutual support and respect from their colleagues.
- Socially meaningful work.
- Leading to some desirable future.

11. *Participative and Democratic* - people who do the work design the organization.

12. *Stakeholder & Strength Centered* – all stakeholders' needs are optimized from a strength-based perspective.

13. *Joint Optimization & Innovation* - functioning of the social and technical systems is considered simultaneously so the improvement and innovation needs of BOTH are met.

The reality is that many organizations in today's current environment are not designed with these principles in mind, which may be the reason they result in "low life expectancy and high early mortality" (De Geus, 2002). The news is no better on the IT project delivery front (Eveleens & Verhoef, 2010) with a design success rating of 32% (on time, on budget, fully functional).

Design Elements: What is Designed & Why

> *Organizational designs that facilitate variety, change and speed*
> *are sources of competitive advantage.*   **Jay Galbraith**

Organization design—the reshaping of organization structure and roles—attempts to effectively align structure, processes, rewards, employee skills (including mind sets) and customer needs with business strategy. The complexity of integrating these various demands resulted in decentralized (flatter) organization designs, in order to allow —
- more people to be involved in the decision making processes, and
- the decisions to be made directly where the work is occurring.

Without these considerations, variety, change and speed or competitive advantage is not achieved.

Those of us who aid organizations to collaboratively redesign structures, roles and coordinating systems to align with stakeholders' needs and business strategies ask these questions -- "What are the organization contexts (forms) within which we find ourselves designing?" and "What organization elements need to be designed within each context?"

Illustrated below are the design elements for each of the three contexts.

1. Design Elements of a Hierarchically-integrated Decentralized Organization:

- Core work process
- Continuous improvement processes
- Mechanisms for innovation
- Support, information and compliance systems

- Management processes and structure
- Strategy formulation processes
- Organizational renewal processes
- Customer experience processes
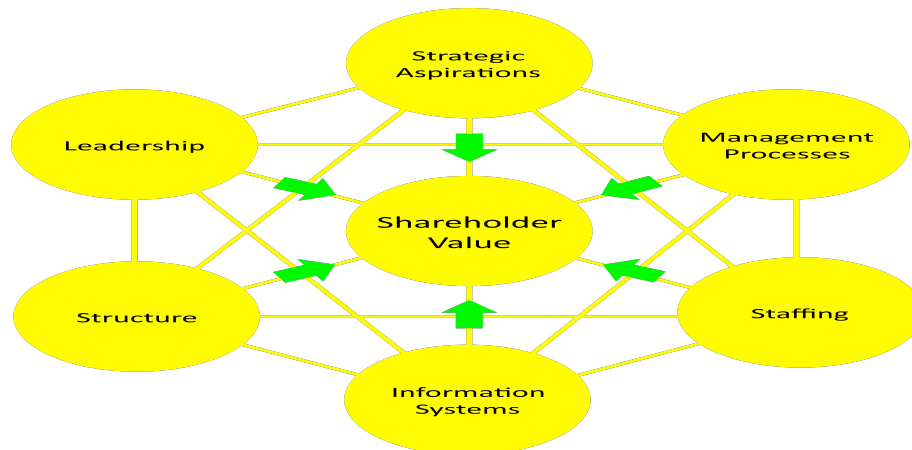
These design elements are the hands and head of design given that thoughtful consideration for effective workflow operations is the intent. One might ponder whether it is 'shareholder value' or 'consumer value' that lies at the centre of this illustration.

2. Design Elements of a Value Realization Network:

- Purpose
- Governance
- Network member capabilities
- Information capital
- Working relationships
- Leadership
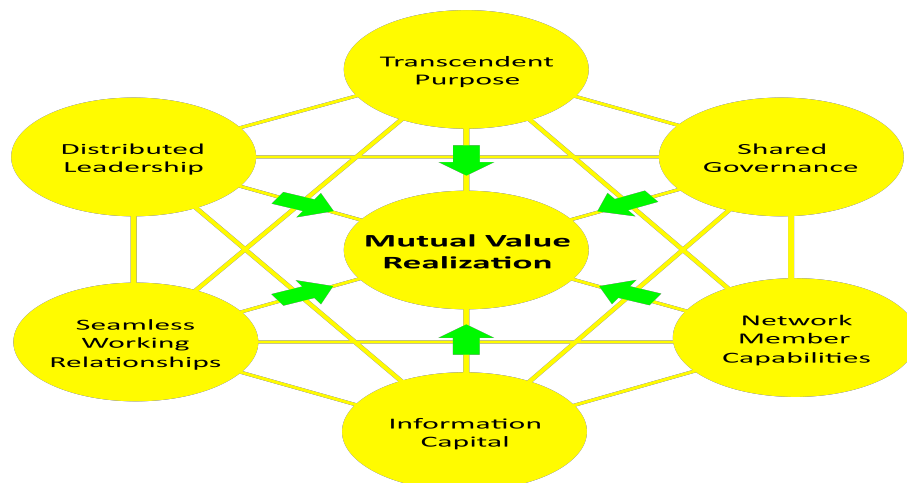
As you can see, when multiple entities within an industry come together and are bound by shared outcomes, what we design shifts to include not only hands and head but heart as well. The heart elements of design focus on building the necessary relationship agreements required for all parties to realize mutual value from the network's output.

3. Design Elements of a Social Ecosystem:

- Dialogue processes (allowing for ecosystem agreement and local autonomy)
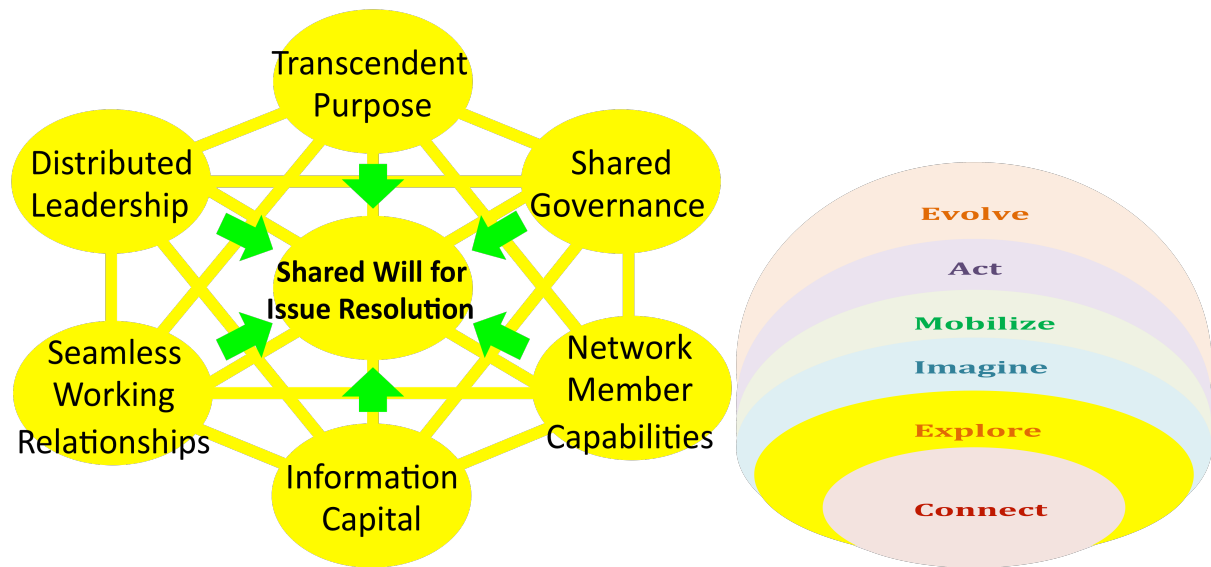
In a social ecosystem, multiple entities within an environment are bound by their shared will to resolve a particular issue. The design of dialogue processes for all parties to connect, explore, imagine, mobilize, act and evolve serves the purpose of building shared sense-making, shared appreciation, shared purpose and shared consciousness. Those individuals and entities involved in a social ecosystem are in essence opening their hearts for the purpose of the greater good rather than seeking mutual profit.

What becomes visible across the three organization contexts is the increasing complexity and number of elements to be factored into the design processes. What has also become increasingly visible is that single organizations are nested within networks, which are nested within ecosystems. The implications of such nesting add even greater complexity to the design process given that one must consider not only what exists within one's organizing boundaries but also what is occurring in the other contexts. Simply put, an organization is not an island unto itself. It exists within a network and ecosystem, both of which impact it and are impacted by it. Organization, network and ecosystem are all O.N.E.

Sources:

Cherns, A.B. 1976. "Principles of Socio-technical Design," *Human Relations*, 29, pg. 783-92.

De Geus, A. 2002. *The living company.* Boston Harvard Business Press.

Eveleens, J. L. & Verhoef, C. 2010. The rise and fall of the chaos report figures. *IEEE Software Journal, 27,* 30-36.

Galbraith, Jay R. 1995. *Designing Organizations: An Executive Briefing on Strategy, Structure and Process*, San Francisco: Jossey-Bass.

Kates, A., and Galbraith, J. R. 2007, *Designing Your Organization: Using the Star Model to Solve Five Critical Design Challenges*. San Francisco: Jossey-Bass, 2007.

Lapalme, J. and de Guerre, D.W. 2011. An Open Socio-Technical Systems Approach to Enterprise Architecture.

STS-RT Integration Team. 2011. Matrix of Emerging STS Design in 21 Century Organizing.

Trist, E.L. and Bamforth, K.W. 1951. "Some social and psychological consequences of the longwall method of coal-getting." *Human Relations*, (4:1), pg. 3-38.