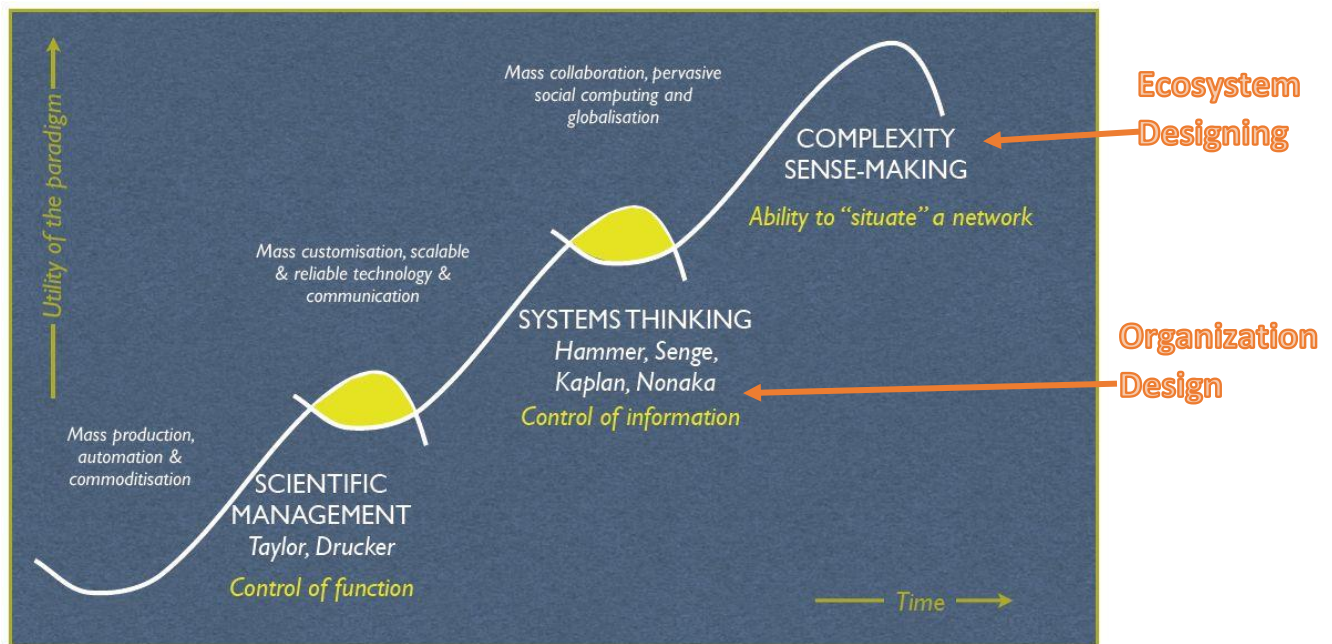


COLLECTIVE LEARNING JOURNAL STSR/GLOBAL STS DESIGN NETWORK 2017 RUTGERS, NJ

Prepared by the 2017 Design Team
on behalf of the community of learners in Rutgers

Building on STSR/Global STS Design Network 2016 San Francisco

The theme of the 2016 session, “Integrating Technology and Organization in the Digital World”, did a fantastic job of illustrating for us what a dramatic transformation our society was undergoing, and gave us keen insight into the future of work design. We collectively made a profound discovery that we had leapt to a new S-Curve in organizing – at the ecosystem level.



<http://cognitive-edge.com/blog/jumping-the-s-curve/>

We learned that our “STS/systems thinking” framework requires reinvention to deal with a *boundaryless context of value creation opportunity*, which comprises all kinds of organizational forms, including freelancers, gig workers, small and medium sized businesses, startups, and enduring global organizations and spans across sectors – private, public, not for profit, and academia – all enabled by a digital organizing paradigm with new logics and capabilities.

Our learning community was overwhelmed by this, especially what it meant for us as organization designers – helping clients change paradigms can be deeply unsettling for us and them, but the more fundamental challenge for us is changing our own *designing paradigm* as ecosystems shift our thinking

from a static outcome of design to a more active outcome of continuous designing. What are the implications of this for our practice?

Each of us left San Francisco needing to do our own sense-making of this new paradigm in our individual practices and work arenas. Thus, the 2017 Design Team decided this exploration would be the theme for our next session: ***What is the definition of a collaborative business/service ecosystem, and what are the fundamental Values, Principles and Design Elements for creating Collaborative Ecosystems from an STS perspective?***

Designing Collaborative Ecosystems 2017 Session

Over three days of learning with carefully crafted inputs – pre-conference workshops, keynotes, lightning talks and case study workshops – that we collectively deliberated to emerge our learning, we came away feeling energized, equipped with learnings, and deeper connections to our community of design practitioners. The 2017 DT has taken on the work of understanding what our collective insights are, with the goal of making your individual learnings part of our community’s knowledge base. Furthermore, we want to create a foundation for further experimentation by you, our learning community, in the year ahead to serve as a bridge to our 2018 theme “Technology@Work in the 21st Century”.

At Rutgers, we individually did “single-loop learning” about content that interested us. However, to determine what we learned collectively, the 2017 DT needed to do “double-loop learning”, i.e. look at our learning and experience outcomes, as experienced by all participants, to draw out from the overall patterns of learning the most significant insights about collaborative ecosystem designing.

From Learning Themes to Core Insights

Our observation of the experience of the 2017 RT session was that it was well received by many – old timers and newbies alike – as one of our best because all participants remained engaged throughout the three days, everyone felt part of the learning community, there was a clear thread of purpose, focus, and alignment to the theme throughout the session and lots of rich content – both theoretical and practical – to meet the needs of academics, practitioners and organizational leaders. This meant our learning process, built on deliberation design, i.e. holding the diversity of views in play, rather than fighting for one dominant solution, was successful because the community felt everyone’s ideas were absorbed and reframed through empathetic dialogue to arrive emergently at a richer understanding of the theme.

Our observation of our learning outcomes was that our success stemmed from several iterations of different kinds of learning – individual learning from Charles Heckscher’s Keynote, followed by a total group brainstorm on design elements; individual insights from two lightning talks by Sam Pless and Will Harper; small group syntheses of 11 case studies to the session theme; individual learning from Bill Pasmore’s Keynote of what these insights mean for STSD going forward; individual synthesis of all learning to identify the most relevant elements for collaborative ecosystem designing; total group Affinity Grouping to identify key learning themes about collaborative ecosystem designing, concluding with small group refinement of the meaning for each of the 5 learning themes identified:

- Ecosystem definition
- Purpose – who benefits

- Leadership / orchestration
- Relationships & Processes
- Data and ICT to support coordination & collaboration

Now, we try to transform these five themes into core insights, just as leaping an S-curve to ecosystem designing was our core insight from 2016. A core insight is not a solution, but a building block meant to convey the sense of a new perspective or possibility. The 2017 DT has started this process of shaping two core insights (there may be one or two more that the community decides), and it is our learning community who will have to determine if these resonate. A core insight allows us to frame our next learning phase with “how might we” questions, which become a launchpad for our next experimentations virtually throughout the next year, and in Leiden in 2018.

Draft of Two Core Insights

1. Ecosystem Definition: Ecosystem vs. Collaborative Ecosystem

Our first core insight is that ecosystems are not themselves intentionally designed, but rather they exist as a level of social system – individual, group/team, organization, ecosystem, society. Just as we know that all organizations exist as socio-technical entities, but not all are intentionally designed to jointly optimize the social and technical elements for a particular context and purpose so is the same true of ecosystems.

The ecosystem is where the single organization becomes part of multiple, larger sets of organizations, groups and individual economic players that engage in interdependent value creation. All are linked, some loosely and some tightly, through one or more of the following - shared interests, goals, legal or regulatory jurisdictions or geography. These relationships exist, but not all are designed and managed mindfully, strategically and humanely (McCann & Selsky, *Mastering Turbulence*, 2012).

Another of our member’s, Stu Winby, has in past discussions, made the distinction between a collaborative ecosystem and a network. He asserts that members of a network may have complicated relationships, but these are more or less aligned around a common purpose and other design elements such as rewards and information systems may be used to achieve coherence of the whole. Whereas in a collaborative ecosystem, the members pursue interests individually, collaboratively, competitively and collectively – a much more dynamic and emergent context of interaction, which is less ‘designed’ but rather enabled primarily through mutuality of benefit among entities.

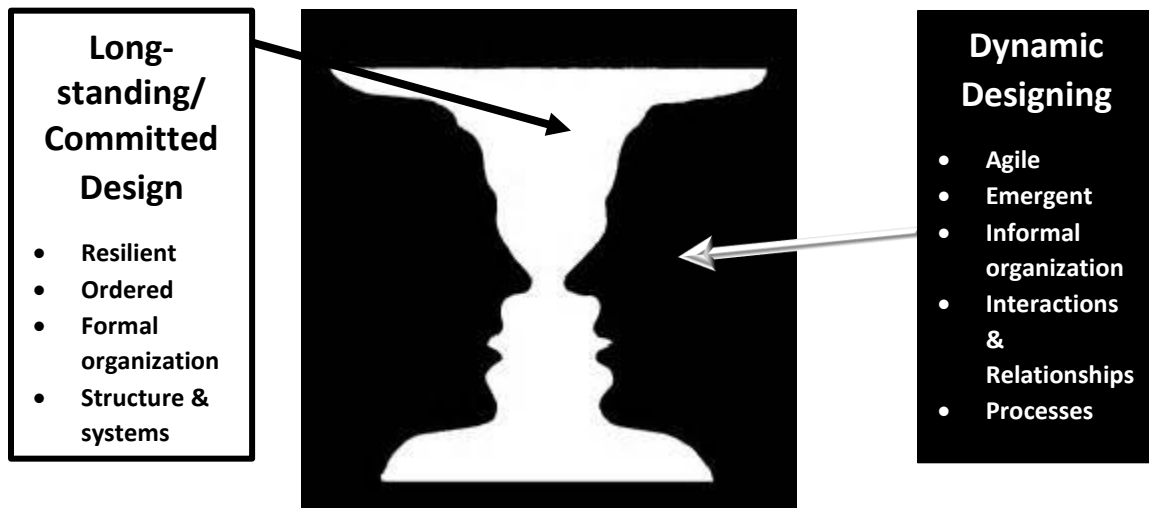
In our community’s definition, an intentionally designed ‘ecosystem’ represents a “community of systems” characterized by humanistic values and design principles - a distinct entity that needs to be differentiated from the meaning of ecosystem as a social system level. The 2017 DT had put forth the adjective ‘collaborative ecosystem’ to identify it; in Rutgers, another suggestion was social ecosystem (a post learning group is setup to explore this further under the guidance of Bernard Mohr).

How might you/we test this definition in our work?

2. Designing versus Design Framework

Our second core insight was to discern an innovative designing framework that seemed to incorporate ‘both/and perspectives’, meaning that we were acknowledging two design realities – dynamic and long-standing - exist and that both are valuable to collaborative ecosystem designing. The clue to this new framework resided in our learning themes. Although traditional design elements such as purpose and leadership were still seen as necessary, we realized they no longer served in the same way in collaborative ecosystem designing. For example, *purpose*, which has traditionally been seen as the north star and social glue that keeps people aligned, we learned had its greatest value in convening people for the startup of the ecosystem and that other more dynamic processes are important for a collaborative ecosystem to develop. We found the same for *leadership* - mobilizing people to do adaptive work is much more behind-the-scenes versus leading from the front. Whereas we found our other two themes, relationships and data/ICT, which are more dynamic in nature, to be vital to the development and successful performance of collaborative ecosystems. These two ‘design’ perspectives have always existed, but the one that came to mind first was always the formal one in the foreground and the informal one in the background. In today’s designing context, these now seemed to have reversed AND the traditional formal design elements now have different functionality when they reside in the background.

One way to understand this is to see this as the Figure-Ground Faces-or-Vase image, in which traditional design elements such as purpose and leadership co-exist with more contemporary design elements such as relationships/interactions and data/ICT. Both are necessary, but their value has reversed in an iVUCA context, which prizes authentic engagement, context appropriateness, and influence to achieve healthy and humane work systems as well as healthy and humane outcomes, while still drawing on some of the same design elements from traditional formal organization design, but using them in new ways.



<http://www.whatispsychology.biz/wp-content/uploads/2012/01/faces-or-vase.jpg>

Organizing at the ecosystem level puts us in two modes of designing – (1) long-standing and (2) dynamic – of **ordered components** plus **dynamic interactions, context and diverse interpretations** that form a complex **whole**. This both/and designing has been described by McCann & Selsky (agile and resilient) in 2012 as well as more recently by McKinsey 2017 (stable and dynamic practices)

<https://www.mckinsey.com/business-functions/organization/our-insights/how-to-create-an-agile-organization>).

The Network Organization in the Dutch Military case, maybe also suggest that there are two levels - meta-design and designing?

How do we make sense of this, given our STS perspective? How might we name this dual designing approach or recast our work from design to designing only?

So, what does this tell us about work and work system designing?

The industrial management paradigm was based on the notion that value has always been in the product and consequently in the activities that created it. Thus, it followed that the organizational structure of independent jobs to deliver these activities would come first, with appropriate systems of coordination and communication to connect people as a secondary feature. But now we know that different customers experience the value potential of a product (or service) differently so today it is the customer experience that creates value, and this means it depends on the relationships among all value contributors, including the customer. People and actions are simultaneously forming and being formed by each other at the same time, all the time, in interaction. This is complex social interaction, and it is the new definition of work (supported by Charles Heckscher, Bill Pasmore, Peter Aughton and Chris Lawer).

STS has a way to address this new conceptualization of work that was developed by Cal Pava in 1983 (*Managing New Office Technology: An Organizational Strategy*) that defined interactions as nonlinear work with deliberations (topics, participants, forums and ICT) being the unit of work analysis. However, since Cal Pava died at an early age, he never fully developed his research and its practical applications; and it needs to be brought up-to-date for today's digital world. We can reflect on how the DTs for 2016 and 2017 have used deliberation design for our learning sessions.

How might you prototype this nonlinear approach in your own work? How might we connect it with the core insights from Rutgers?

A start at this was done by Doug Austrom and Carolyn Ordowich in the Mohr & Van Amelsvoort book called Co-Creating Humane and Innovative Organizations: Evolutions in the Practice of Socio-Technical System Design, *Chapter 4, North American Design of Nonroutine Work Systems (1980s-1990s)*, pp.50-72.

Finally, a significant question that arose (stimulated by the preworkshop of Peter Aughton and Chris Lawer who emphasized adaptivity in a dynamic environment), is whether one can actually “design” an ecosystem or whether one is essentially “designing” for the improved adaptivity and performance of an already existing ecosystem? This is similar to a long-standing dialogue we have in our STS community about an organization already being a socio-technical system and that we are “designing” this system to perform better through more effective “joint optimization”. **How might we further clarify this notion?**

Designing Collaborative Ecosystems – Learning Gems

We deliberated a number of ecosystem designing topics in Rutgers and the 2017 DT has attempted to capture some of the learning gems from the array of learning interventions we experienced. We hope

others who were at Rutgers will add “their gems” as well.

How might we make sense of these “gems” with our core insights going forward?

A. What is the definition of a collaborative business/service ecosystem?

This was discussed above as core insight #1, however, definition also implies boundary or scope of the ecosystem one is designing for. Traditional STS, because it was designing at the organization level, framed the system according to its ‘organization’ boundaries, including a limited set of external relationships with its supply chain and others with a direct stake in its outputs. It also analyzed its impact on and from the broader legal, technological, economic, political and cultural forces as an open system in society.

At Rutgers, we concluded that in a dynamic environment at the ecosystem level, the boundary/scope is continuously changing; nevertheless, we need a mental construct that can help us understand this complex social interaction reality. We were offered two constructs in Rutgers, one by Peter Aughton and one by Chris Lawer, that are similar in intent to find *interdependency in value creation* around which to put boundaries, but achieve this through different approaches. Aughton’s method is derived from a participative design approach (most like STS), while Lawer’s approach is expert-driven. The Rutgers’ community compared and contrasted both approaches in a pre-workshop that added depth to our understanding of collaborative ecosystem design and how we might reinvent our STS/work systems participative toolsets.

Some STSers noted that classical STS also determined interdependency in the core work system, albeit with different approaches – NA STS through variance control interaction structures and Lowlands STS through customer order parallel processing interaction structures. One of the most important tools for mindset shifting in STS has been “system mapping” of these interaction structures (i.e. the nature of relationships, structures, processes and resources governing them) in the organization to help us to understand the way the system works and the points of leverage for transformative change – especially how feedback (and feed-forward) loops drive the bigger picture. It is not meant to be precise, but rather to bring to light opportunities for action and different points of leverage or influence. Aughton and Lawer added new more rigorous dimensions to systems mapping and new insight as to what designing interventions are appropriate for the dynamic nature of ecosystems.

Peter Aughton’s Construct ([Ecosystems & Adaptivity Dimensions](#))

Peter Aughton (who works with Merrelyn Emery) framed an ecosystem as a “community of systems” that occupies/is bounded by a particular section of the larger task environment, which he calls an **econiche** that itself dynamically engages with the larger world environment. Peter defines membership by frequency of interaction of members. The ecosystem and econiche are in dynamic fluctuation with one another; all ecosystem members must have an adaptive relationship with each other such that when one ecosystem member significantly improves its operational performance, other members must adapt to this change. Peter further distinguishes types of business/service ecosystems, in terms of “central partner” systems (like Spring’s Satellite healthcare case study – Rick Vanasse) and “network partner” systems (like the issue-based Co-Optima prototype case or Spring’s example of a network partnership ecosystem model - Strategic Regional Healthcare Organization [SRHO]. SPRING is working with TRG to build these ecosystems. Unfortunately, they were not far enough along to present).

Peter has developed an **Organizational Adaptivity Index** based on four adaptivity dimensions to diagnose collaborative ecosystem viability in order to decide where to make interventions that are transformative:

1. **Changing values and expectations** integrated into active adaptive strategic plans demonstrated by a planning methodology designed for highly unpredictable social environments such as The Search Conference or a unique participative planning design.
2. **Level of employee motivation and cooperation** based on Intrinsic Motivators and degree of design alignment with Design Principle 2 Democratic Structure (vs. Design Principle 1 Bureaucratic Structure)
3. **The interdependence of an organization with their ecosystem** based on consciousness that their organization belongs to an ecosystem and evidence of strategic work of adaptation with its econiche
4. **The shift to digital technologies** as demonstrated by the use of advanced digital technology to manage complexity

The econiche concept is very valuable for determining the diversity of relationship options available for value contribution that the collaborative ecosystem can then mindfully and strategically engage with to form itself as a human open system in context with its environments – both task and extended social field.

Chris Lawer's Construct (A Brief Walk Through UMIO's Value Design Framework

<https://www.youtube.com/watch?v=9PFNUSFuwvo>)

Chris Lawer focuses on “designing value” in the form of interventions and adaptations that identify a specific interactive ecosystem that is similar to Peter’s dynamic ecosystem/econiche concept. In Chris’ concept, this dynamism is further defined by interactions with adjacent ecosystems. For example, if one is dealing with a healthcare setting, we can see relationships with education and community ecosystems that may be nonhealthy (as highlighted in the Baltimore Population Health Ecosystem case where we saw the collaborative ecosystem formed because it was realized that health of the population could only be truly impacted if they also addressed the social determinants of health such as poverty, environmental hazards, lack of access to healthy food, etc.).

Chris’ system mapping uses an ecological metaphor to frame eight levels of ecosystem interactions:

1. Functional Clinical, 2. Personal Cognitive, 3 Social/Community, 4. Relational (1-1: Beneficiary Actor to Specialist), 5. Multi-Relational (1-Many: Beneficiary Actor to Functional Service Group), 6. Coordinative (Functional Service Group integration), 7. Organizational, 8. Governance Collaborative all in relationship to a beneficiary actor in a particular value creation context. These eight levels represent a set of primary producers of value with environmental resources in a hierarchy of interactions of co-creation. This is more rigorous than Peter’s frequency of interactions with which to determine membership. Chris’ model of interaction highlights its complexity – resource sharing, competition, co-creation and mutual symbiotic relationships – much as we described earlier how our colleague Stu Winby differentiated an ecosystem from a network with this array of relationships.

Like Peter’s Adaptivity Index, Chris has the concept of **Adaptive Capacity (AC)**, which he describes as the property of an ecosystem to adjust its characteristics and behavior, in order to expand its coping capability under existing or future conditions of variability. AC is the sum of the adaptive capabilities of all actors and resources in the ecosystem, noting that some practices are “maladaptive” - they diminish AC, e.g. standards, rigidity traps, dominant logic.

Ecosystem value (both its impact on society and its own well-being) is co-created on an ongoing basis from dynamic interactions. Chris' construct gives us deep knowledge of the dynamics and constraints for evolving adaptive capacity in a complex collaborative ecosystem. His model also identifies four types of intervention that have the potential to generate positive impact and renewal:

- Change in Beneficiary Outcomes (rigid - collapsing),
- Change in Ecosystem Resources (chaotic - generative),
- Change in Adaptive Capacity (emergent self-organization),
- Change in Ecosystem State (sustaining - stable)

The design elements (actors, resources, interactions, services, context, and values) provide for multiple opportunities for improvement at one or multiple levels that comprises the collaborative design of the ecosystem. Chris brings a powerful dimension to ecosystem design in understanding the "value" (cost, quality, speed, etc.) being generated by the ecosystem adaptation/design, particularly as it impacts the "beneficial actor" e.g. patient or population group in healthcare.

Both Peter and Chris have developed useful techniques to identify relevant actors within the "community of systems". We are left to experiment to see where each method is appropriate.

The designing approach for Peter and Chris is also quite different. In Peter's, which is highly participative, participants are given "frames" (adaptivity dimensions) such as values, motivation, interdependence and digital and an index to show how close or far they are from realizing their vision of that frame and then the contributors co-create to complete the design. Chris' construct is more diagnostic, looking for specific maladaptations to correct, but his value frame does integrate these 'solutions' into a coherent whole. Perhaps these are used at different phases of ecosystem development?

How might we put all this knowledge together in new ways for more effective designing?

B. *What are the fundamental Values for creating Collaborative Ecosystems from an STS perspective (i.e. humane and healthy)?* https://docs.google.com/document/d/17GXFecBP-19WNy4Od_-YRuWNq-zlubKMVBTSI-NctoA/edit

- Promote **human dignity**
- **Respect** for people
- **Diversity**
- **Social and economic justice**
- **Mutual benefit**
- Opportunity for **contribution** (to make for better thinking, ?, people, planet)
- **Timely learning and adaptation**
- Do no harm (know both intended and unintended consequences before acting?)

Our values underlying a collaborative ecosystem are about promoting *human flourishing*, both individual and collective. The values represent a clear focus on ecosystem contributors' ability to develop and use their competencies and creative potential to the fullest extent in co-creation with others for mutual benefit, thereby enhancing adaptive capacity (resilience and agility) for the health of the total ecosystem, while enhancing every individual's 'quality of working life'.

C. What are the fundamental Principles for creating Collaborative Ecosystems from an STS perspective?

The Rutgers session did not produce a specific list of design principles. We did a data dump of a mix of design elements and design principles (https://docs.google.com/document/d/1Bv-4yIpd_Wz5KlIXAUbbU_40PlvsqPQrWCHU0oCNY2E/edit on the first day (Wednesday) but collectively, we didn't refine these further. Ezra and Carolyn attempted a first pass at distinguishing principles and elements, which was handed out on Friday, but the community did not have time to see if this made sense. This is our interim work to deliberate.

The one thing to note is that our shared values appear to be reflected throughout this list with the word "shared" appearing frequently, reminding us of the highly participative nature of designing.

Interesting work was done on principles by a subset of the community who attended the pre-workshop on Fusion of European and North American STS Design: A Work in Progress. (CAO needs to post this on our website with a link here)

D. What are the fundamental Design Elements for creating Collaborative Ecosystems from an STS perspective?

The case studies were particularly informative about design elements. As we noted in our core insight #2, certain design elements are more stable, while others are more dynamic. And even for those that are stable, they emerge over time rather than be declared as complete before implementation. Four design elements were called out as significant to collaborative ecosystem designing:

A. Purpose

Many participants mentioned that they expected "shared purpose" would be a more defining design element of collaborative ecosystems than the case studies revealed, specifically the New Jersey Schools case, the LA County Integrated Care Case [Integrated Care for Residents of LA County](#) (both Union-Management based) as well as the Diabetic Foot Ulcer case [Diabetic Foot Ulcer \(DFU\) Case-Study](#). Some generalized statement of purpose is used at the beginning to convene people, but purpose appears to develop over time as it is tested against the contributors' values. And the value that seems to be most tested is "mutuality of benefit". The Baltimore case suggested that the timeline for mutuality of benefit (e.g. the vision) to happen can build trust or make it fragile.

The EFI case mentioned that human dignity and respect values were also tested through what topics the contributors decided to deliberate or not. Purpose here was used as a boundary mechanism so that any topics not directly related to the purpose (often these were controversial) were not allowed and thus this enabled trust (and the purpose) to develop.

Charles Heckscher's Keynote [Collaborative enterprises & ecosystems \(Heckscher\)](#) proposed that purpose is key because it deals with the dilemma inherent in community, which on the one hand, is motivating and makes people feel proud and secure, while on the other hand, is hostile to outside influence/diversity and rewards loyalty more than performance. Thus, strategic

purpose (not moral, vague slogans) is the vehicle to reconcile community with the dynamic and diverse context of collaborative ecosystems. Charles suggests that through (1) orientation to meaningful [societal] ends, (2) discussion and deliberation of these ends, and (3) consistent application through organization systems (accountabilities, authority, rewards) through *interactive process management*, strategic purpose is the 'social glue' that enables the collaborative ecosystem to be viable, but it takes time and careful effort to develop.

B. Relationships and Quality of Interactions in the Community of Systems

Many presenters (especially Charles Heckscher, Bill Pasmore and Chris Lawer) focused on the "quality of interactions" among independent actors with loose ties as being key to the ecosystem's effectiveness. They all made the point that we are in a state of transformation and so there will be a mix of conventional and adaptive ways of relating, thus nurturing these relationships through mentoring, facilitation, learning networks and other adaptive processes is essential to the building of trust in the community. Underlying these relationships appear to be value perspectives that take time and effort to identify.

Charles made the point in his Keynote that we are moving FROM value creation through organizing people in jobs TO helping people develop their relationships so as to work/contribute together in the co-creation of value, which is done through self-organizing systems (as opposed to directed hierarchy) and a network of rich ties (open and diverse communities). This new entity, a collaborative ecosystem, requires *dynamic adaptive processes*, which Charles calls "interactive process management". This entails deliberate (not adhoc) processes that are interactively managed to define roles and responsibilities, milestones, resource allocation, accountability and verify output; these processes must be developed with all contributors and have learning loops and structured redesign processes to take advantage of the collective learning as the ecosystem evolves. Charles says while these processes enable the relationships to be productive, every contributor must have the following capabilities for relationship success: a good understanding of the strategic purpose, ability to manage through influence rather than power, creative problem-solving skills, good will and flexibility, ability to juggle responsibilities and deal with ambiguity, a willingness to take and encourage risks and ability to learn. The Fresh Stop Markets Cooperative case also discussed the difficulty of quality interactions when these individual capabilities were challenging to assure in a volunteer ecosystem.

Will Harper, in his Lightning Talk [Decision Engines](#), focused on decision-making as a key adaptive process to enable quality of interactions. Will said that to get effective collaborative ecosystem results we must design for more and better decisions by investing to develop both people and relationships that enable decision power for all. Will presented a model for more and better decisions that connects values, mental models and action as follows:

- VALUES - Connecting with what is desired - *triple loop* - how do I know what is right?
- MENTAL MODEL - Hypothesizing how to get it - *double loop* - did I do the right thing?
- ACTION - Testing - *single loop* - did I do it right?

C. ICT Support Systems

We live in a digital world, so it is not surprising that digitization should be vital to the adaptivity of ecosystems. Peter Aughton's collaborative ecosystem model asserts this as a key adaptivity

dimension. Also in his work with disability care providers, Peter shows how significant the appropriate use of ICT is to support coordination among dispersed actors in a collaborative ecosystem, which was also shown in Rick Vanasse's Satellite Healthcare case.

One of the most important elements of ICT support was the importance of data to make visible the nature of inter-entity interaction effects and heighten the awareness of these effects among the actors themselves (who tend to function otherwise as if they are 'independent actors'). This was highlighted in the following cases – NJ Schools [presentation](#), EFI, and the Ecosystem for Diabetes Healthcare Service. The ability to capture data through a variety of means also helps with measurement of impact.

Another way to frame ICT support systems is as an "operating system" that provides the fundamentals necessary for a collaborative ecosystem; operating systems would be quite different for a 'central partner' versus 'network partner' collaborative ecosystem. Furthermore, the Satellite case ([Satellite Healthcare: An STS Digital Design](#)) defines an operating system as *networks with delegated decision-making rights - Performance Network, Transformation Network, Productivity Network, Incubation Network - operating within the context of an Ecosystem*. This may provide us with new frameworks for understanding digital core processes.

C. Leadership

Our two keynotes, supported by all the cases, were clear about giving up the idea of the heroic leader because as Bill Pasmore pointed out we no longer live in a world of single changes, but in one where change is complex and continuous and requires everyone be a leader, actively participating and contributing. Bill [Continuous Change 2017](#) identified four key actions leaders must take to inspire change without disabling people (if you want to be aligned with humane values):

- i. **DISCOVERING: *stepping back, scanning, visioning*** to identify viable opportunities for change;
- ii. **DECIDING: *diagnosing, focusing and prioritizing, scoping and designing*** to determine what must change in the organization/ecosystem to implement the vision.
- iii. **DOING: *communicating, engaging, piloting, and implementing*** to understand what to pay attention to and why, at any given moment.
- iv. **DISCERNING: *aligning and integrating, assessing, adjusting*** to learn from doing and adjust actions going forward so that more can be accomplished with less.

Many of our cases concur that leadership in this context means fostering conditions with all members of the collaborative ecosystem for self-facilitation and empowerment, self-organizing structures, participatory action, continuous self-evaluation, and self-designing, rather than on imposing actions from above. The Belgian Mental Healthcare Networks case was a good example of how when members hold on to a heroic leadership/bureaucratic model in designing a network, they focus first on designing a governance or power structure, which leads to immobility in actions - endless meetings and the creation of task forces without real output because they don't understand the value creation process of the whole collaborative ecosystem. This was further emphasized by Sam Pless' Lightning Talk [\(Un\)collaborative ecosystems in Belgian chronic care](#).

Leaders focus on the strategic perspective to achieve collaborative ecosystem adaptivity (Aughton model/case and Satellite Healthcare case). This high-level perspective supports mobilizing people to do adaptive work.

Charles Heckscher's keynote talked about leadership in terms of coordination of collective action and orchestration, by which he meant operating with influence/persuasion to establish processes through visioning and value discussion for: (1) self-regulation of decision-making (based on contribution), (2) discipline (enforced through reputation) and (3) information-sharing (used for learning and adaptivity).

Leaders must tap into collective intelligence to manage the complexity of everything that is happening. Leaders' own behavior involves disrupting existing patterns by embracing uncertainty, surfacing conflict and creating controversy (EFI's dynamic disruptive design approach); encouraging novelty by allowing experiments; encouraging rich interactions; and supporting collective action.

What also emerged, perhaps as more of a question than an answer, is the relative need for 'outsider' as well as 'insider' influence, specifically with respect to a dysfunctional business/service ecosystem.

Conclusion

We embraced as a learning community, an important challenge – how to design collaborative ecosystems. We come away with many more questions:

- **How might you/we test this collaborative ecosystem definition in y/our work?**
- **How do we make sense of this dual designing approach, given our STS perspective? How might we name this dual designing approach or recast our work from design to designing? How might we further clarify this notion of designing for adaptivity vs. organization design?**
- **How might you/we prototype this nonlinear approach in y/our own work? How might we connect it with the learnings and insights from Rutgers?**
- **How might we make sense of our learning “gems” with our core insights? How might we put all this knowledge together in new ways for more effective designing?**

Now we need to keep on learning to make our collective learning better and more impactful. We need to teach others about its significance and reach out to others to learn and build our design capability and bring it to our network over the course of the next year and when we meet again in Leiden.

Digital both broadens and deepens what organizations and ecosystems can do by bringing visibility and thus engendering trust. Digital is emerging a new kind of workplace, which we will explore together in Leiden in 2018 with the theme “Technology@Work in the 21st Century” and begin another learning journey.