Designing a STS Collaboration Platform

Non-Routine Knowledge Net/Work Systems

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Agenda

- Introductions
- Purpose of this webinar
- Emergence of non-routine, knowledge work
- Who is designing knowledge work today
- Providing a counter-balance to the pervasive techno-imperative
  - Knowledge work and deliberations
  - Net/work design
  - STS Collaboration Platform
- Q&A and discussion

Purpose of the Webinar

- This webinar explores how to design for today's workplaces -- specifically non-routine knowledge work -- using recent STS design methodologies.
- Introduce the concept of an STS Collaboration Platform which fosters the best of human interaction and achieve an optimal fit with collaborative technologies to achieve innovative and humane net/work systems and is based on …
  - STS first principles for collaboration
  - Deliberation design
  - Net/Work design

Design Challenges in an Innovation Era

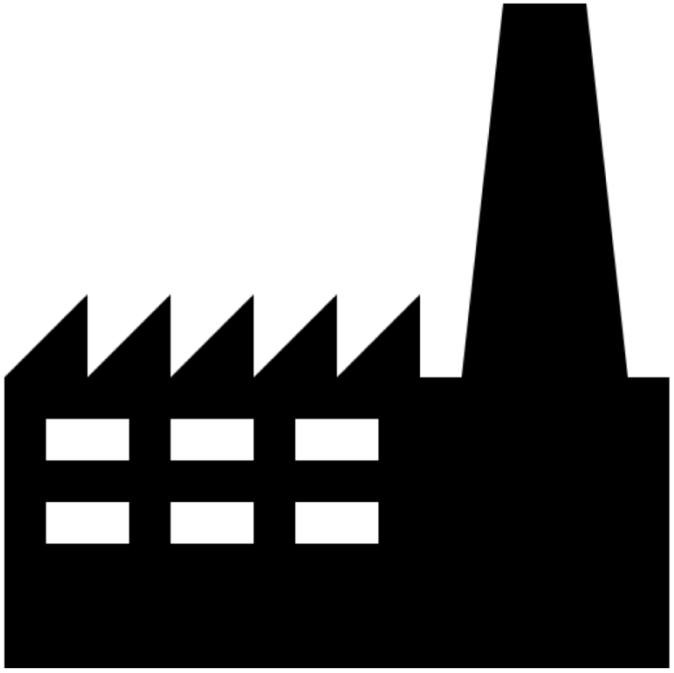
Current Context

- iVUCA – interconnected, volatile, uncertain, complex, ambiguous environment
- Hyper-competitive and global
- Customer power
- Networked, ICT-world
- New and highly permeable work system boundaries

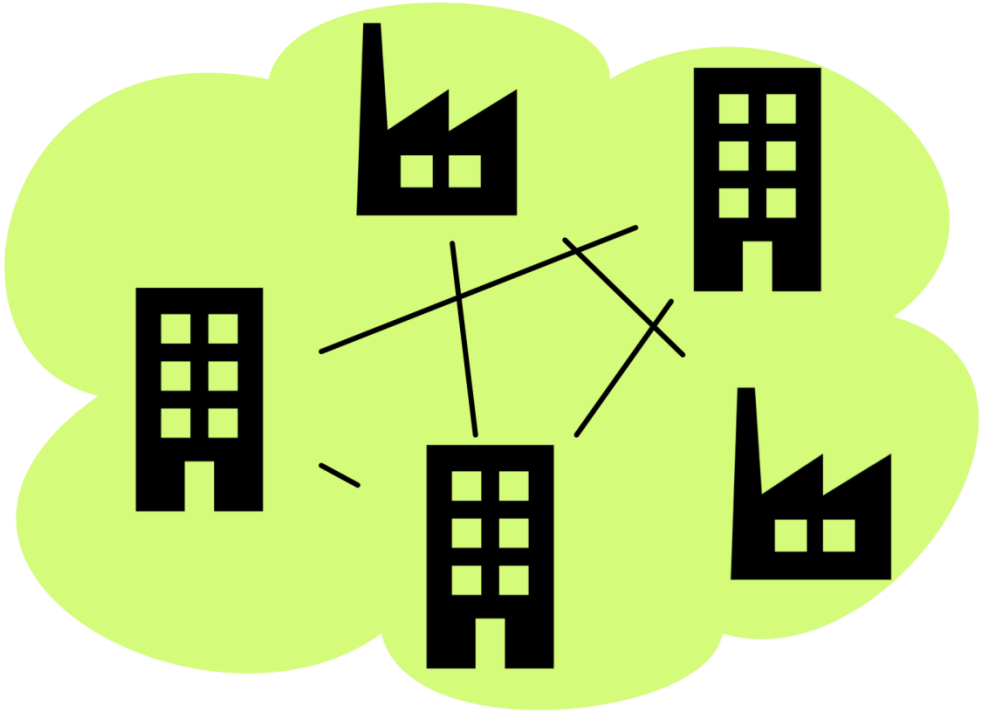
Implications For Design

- Quality, value, and speed are givens
- Continual innovation is necessitated
- Adaptive capacity - agility and resilience – is required
- Shift from competitive advantage to collaborative advantage
- Design at multiple levels – team, organization, network, ecosystem

The New World of Work and Organizations



The industrial corporation



The modern corporation

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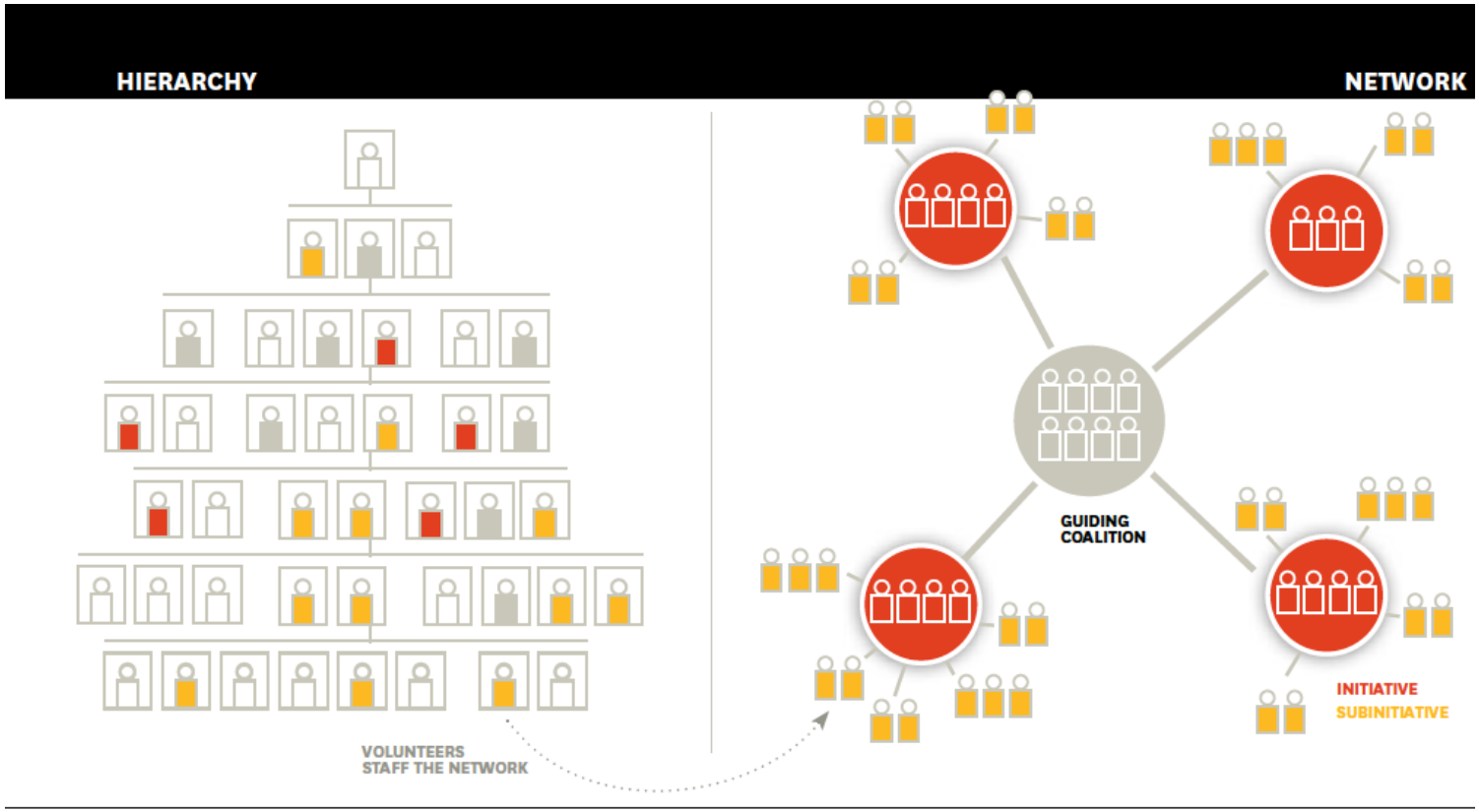
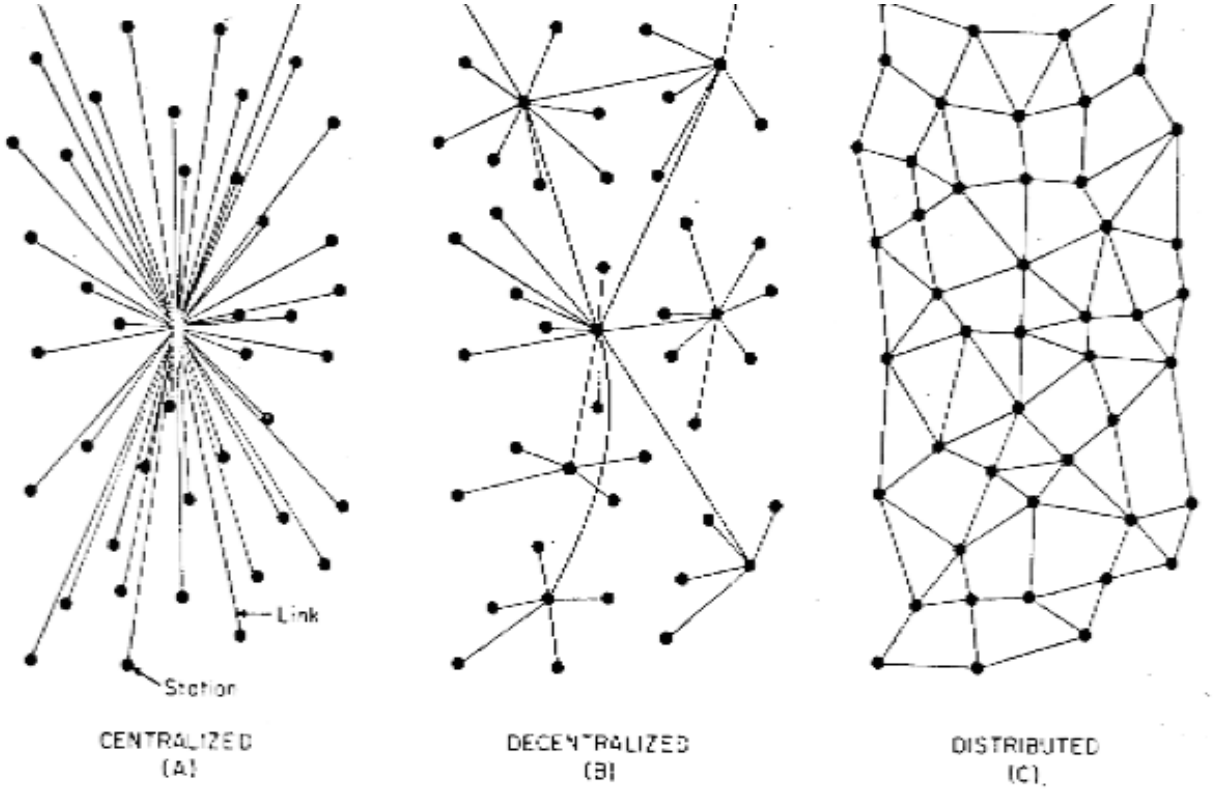
An Emerging Organizing Model

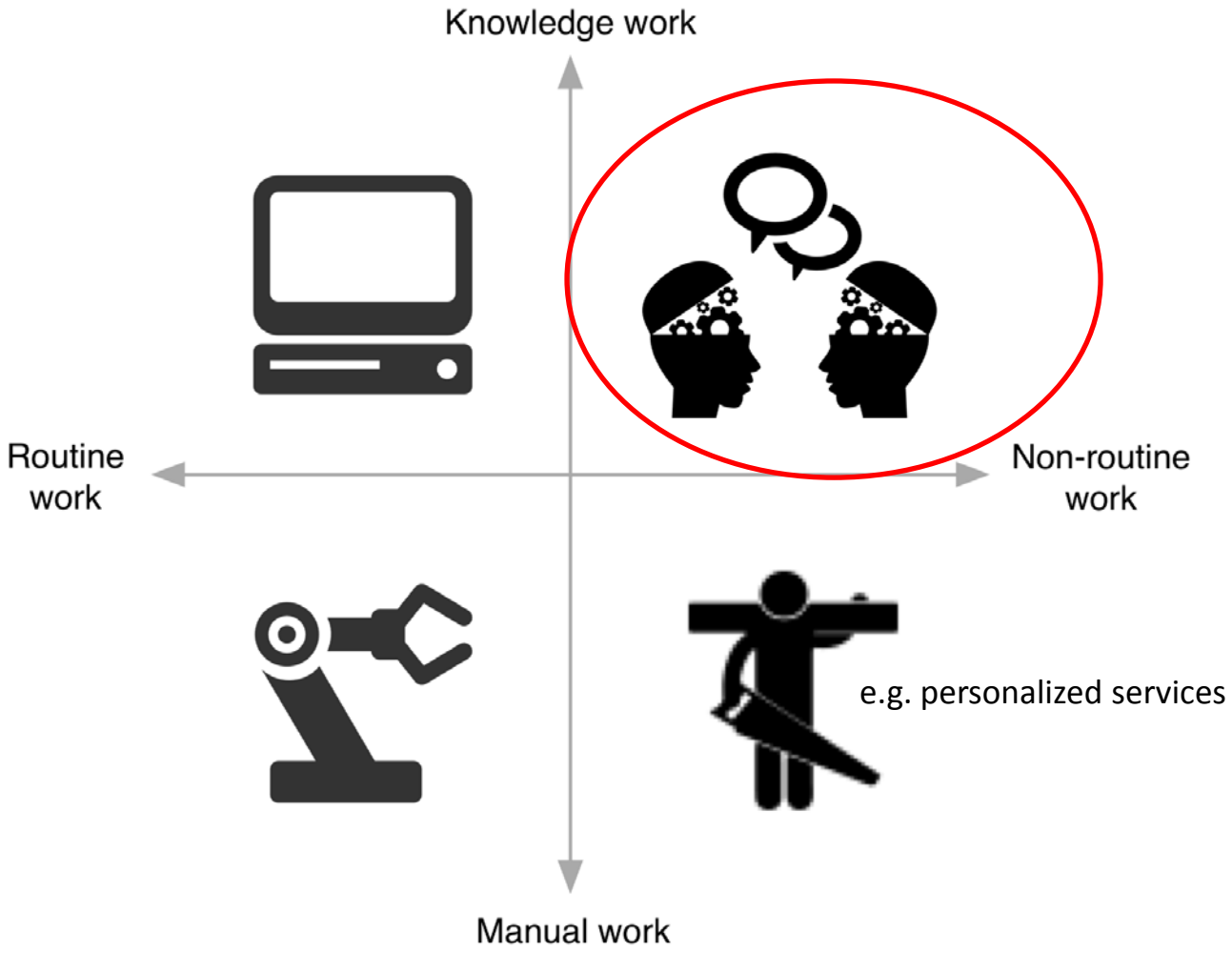


Evolving from Centralized Networks to Distributed Networks



From the original paper that became the basis of the Internet by Paul Baran, ***On Distributed Communication Networks,*** 1962, The Rand Corporation.

Two Shifts Simultaneously in Play



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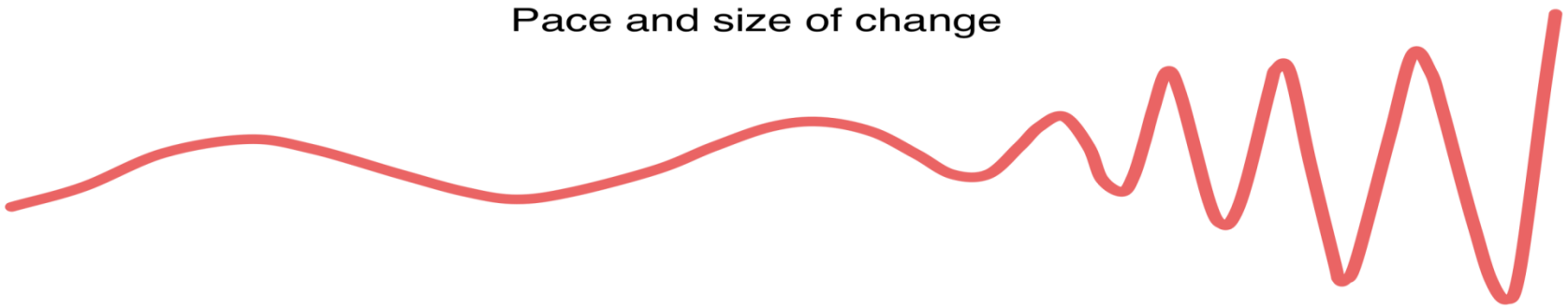
The Transformation of Work



Predictable and stable business environment

Allowed organizations to do long term planning

Unpredictable and dynamic business environment

Organizations need to be prepared for change

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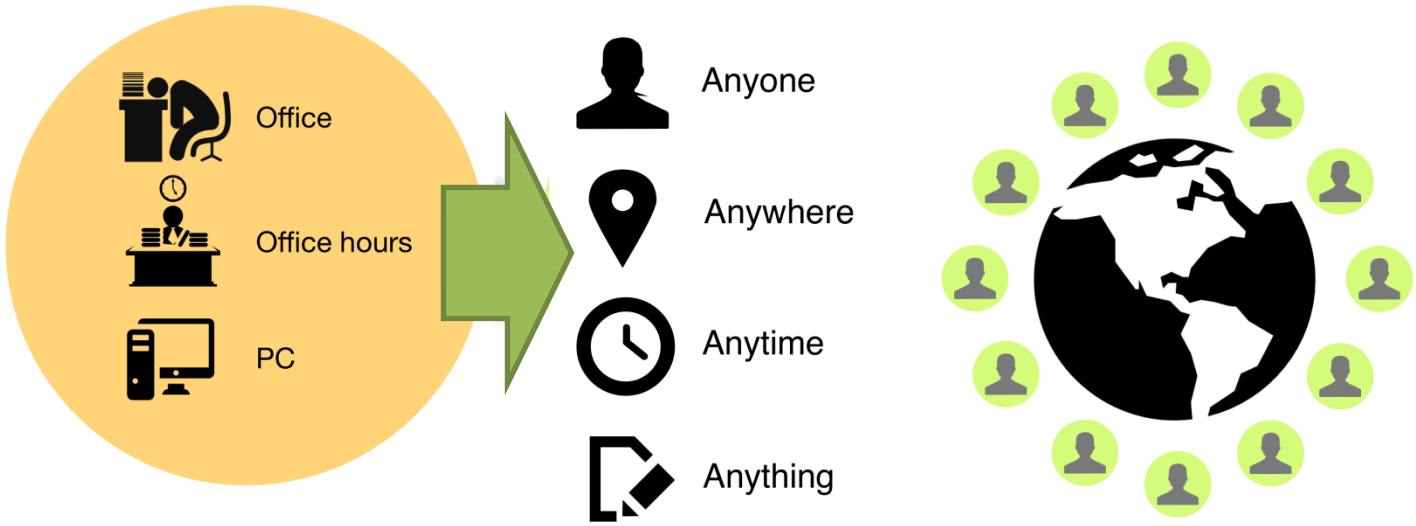
40% of the developed world workforce
Few knowledge tasks

30% of the developed world workforce
Some knowledge tasks

30% of the developed world workforce
Many knowledge tasks

Contemporary Design Considerations For Nonroutine Knowledge Work



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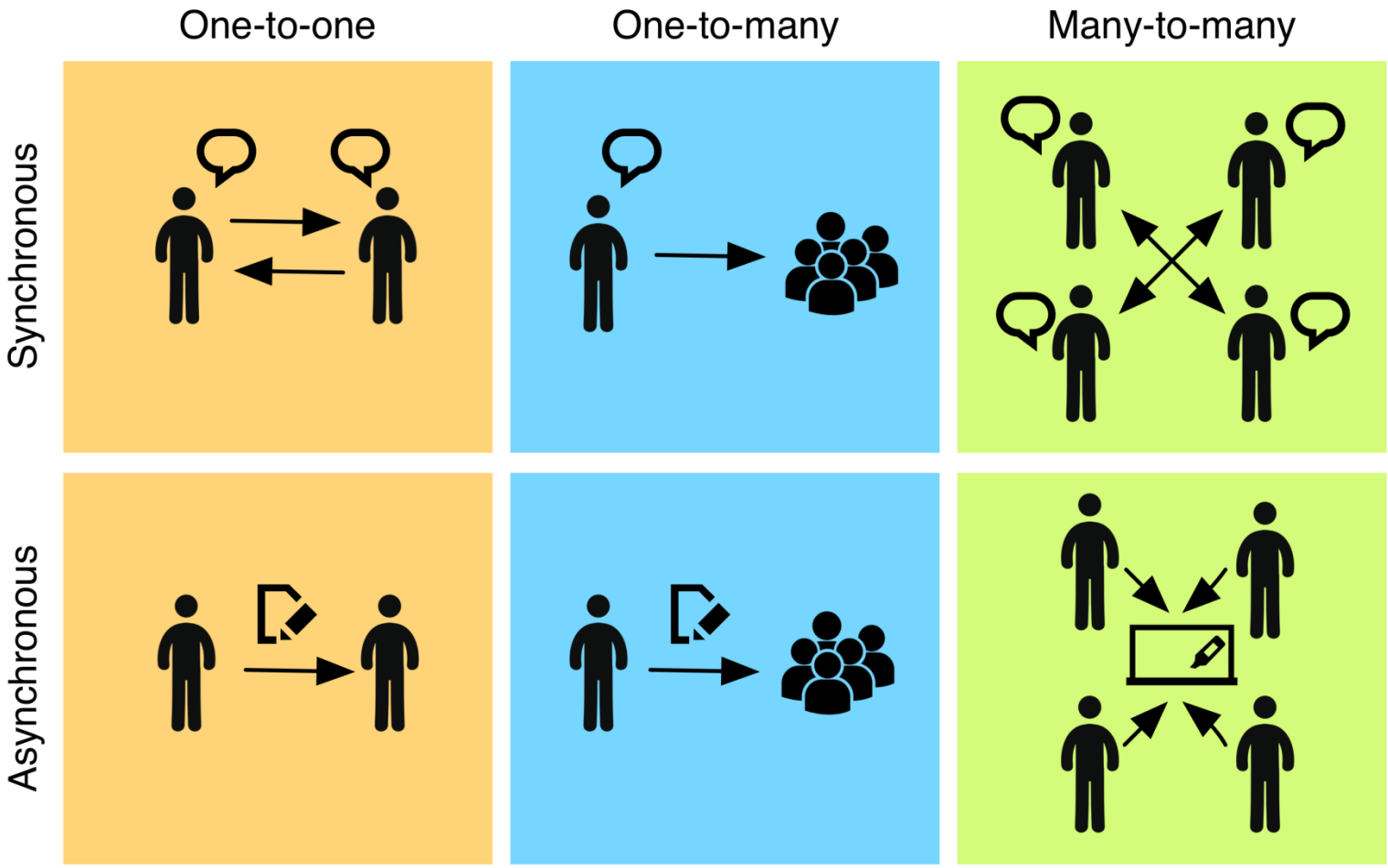
Contemporary Design Considerations



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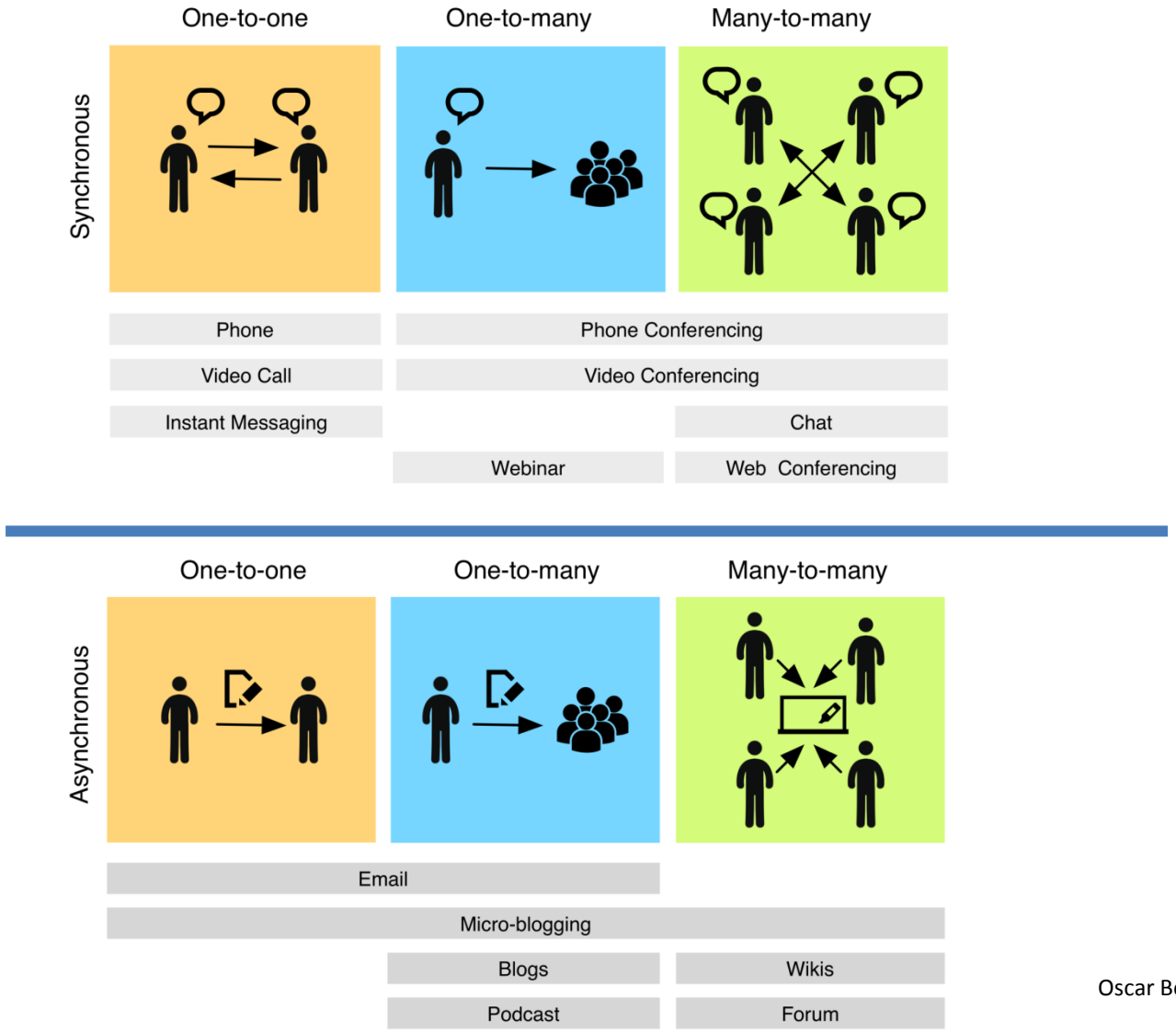
How ICT Views These Design Considerations



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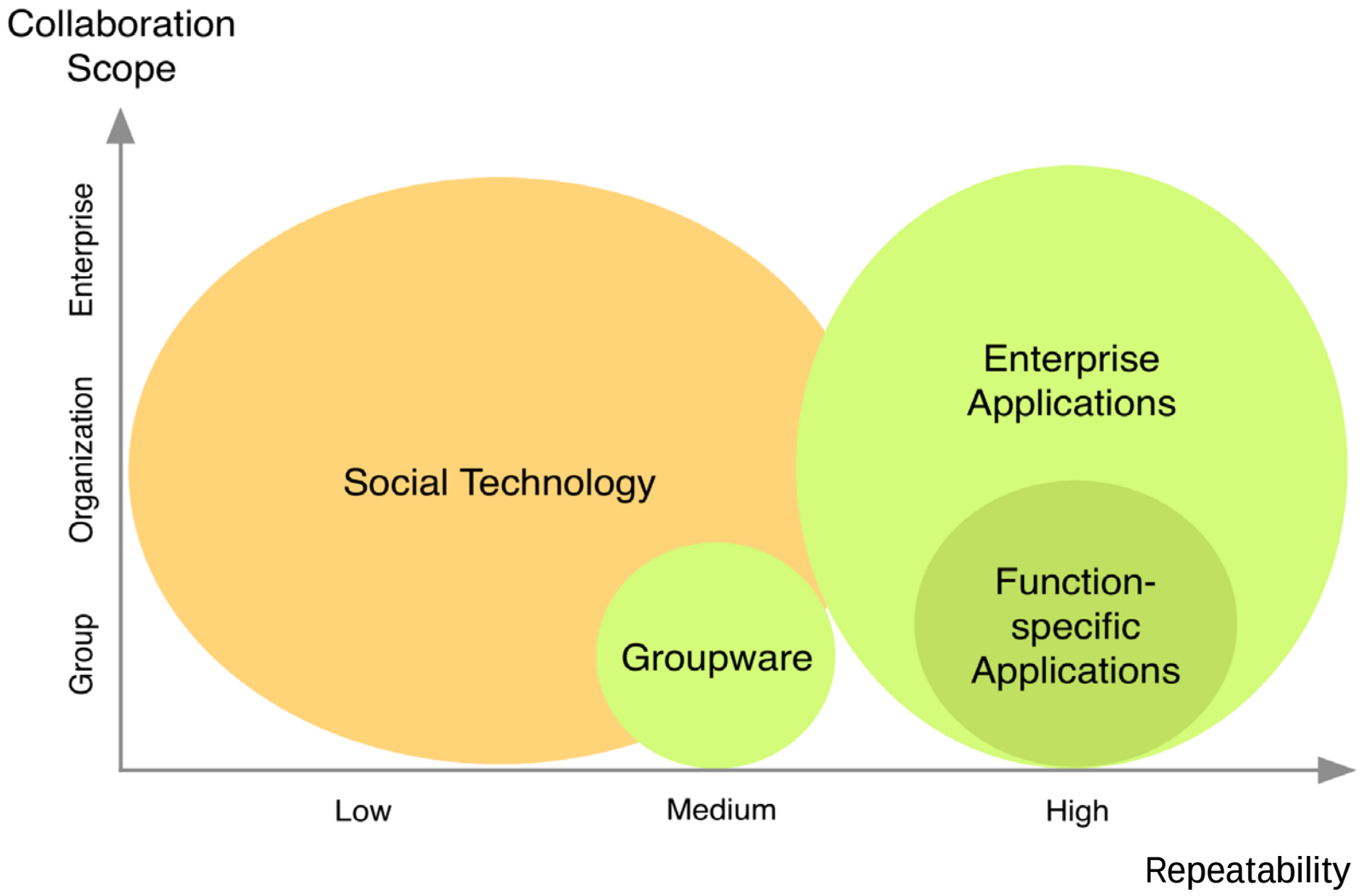

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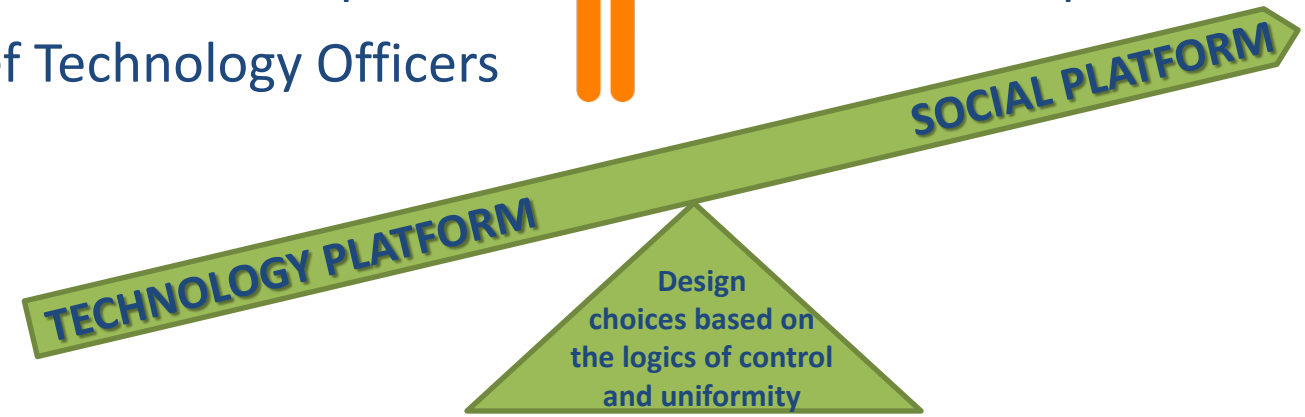
“Social” Technologies

Meet Today's Organization Designers

- Network engineers
- Data modelers
- Network architects
- Software engineers
- Internet applications specialist
- Enterprise architects
- Application developers
- Chief Technology Officers

- Network engineers
- System architects
- Applications engineers
- Chief Information Officers
- Intranet applications manager
- Systems analysts
- Web developer



ICT Collaboration Platforms

Organization design elements are treated as technical features that are not aligned with each other or with the overall purpose of the net/work system.

Structure - who connects with whom

Rewards – Recognition through reputation systems

Information - privacy & security

Network Design

Command & Control Management

Laissez-faire Management

ICT Professionals & Vendors

Evolution of Work and STS Design

• Routine work in single organizations • Work groups with shared identity • Prescribed repeatable conversion process • Known output • Transactional	• Joint optimization • Compatibility • Sociotechnical criterion and variance control • Boundary location • Information flow • Design and human values • Multifunctional principle: mechanism or organism • Support congruence • Transitional organization • Minimum critical specification • Incompletion
• Non-routine knowledge work in single organizations, mostly face-to-face • Low complexity manual or service work • Individual performers with specialized expertise • Concurrent nonlinear conversion processes • Known and unknown outputs • Both transactional and interactional	• Joint optimization • Self-design by the members of the unit being changed • Specify only those things that must be defined allowing for ongoing adaptation • Multi-functionality and redundancy of functions • Iterative and open-ended design process
• Virtual, non-routine knowledge work anytime, anyone, anywhere • Work and workers distributed across multiple locations and/or organizations • Multiple, concurrent, nonlinear, independent, and interdependent conversion processes • Mostly unknown outputs • Interactional and collaborational	• Profound respect for people • Mutual benefit and reciprocity • Self-management and participation • Wholeness and whole system thinking • Nested design • People, planet and prosperity

DELIBERATION DESIGN

Quality of Interactions

Suspension
Internal listening; accepting differences; building mutual trust

Dialogue
Confronting own and others' assumptions; building common ground

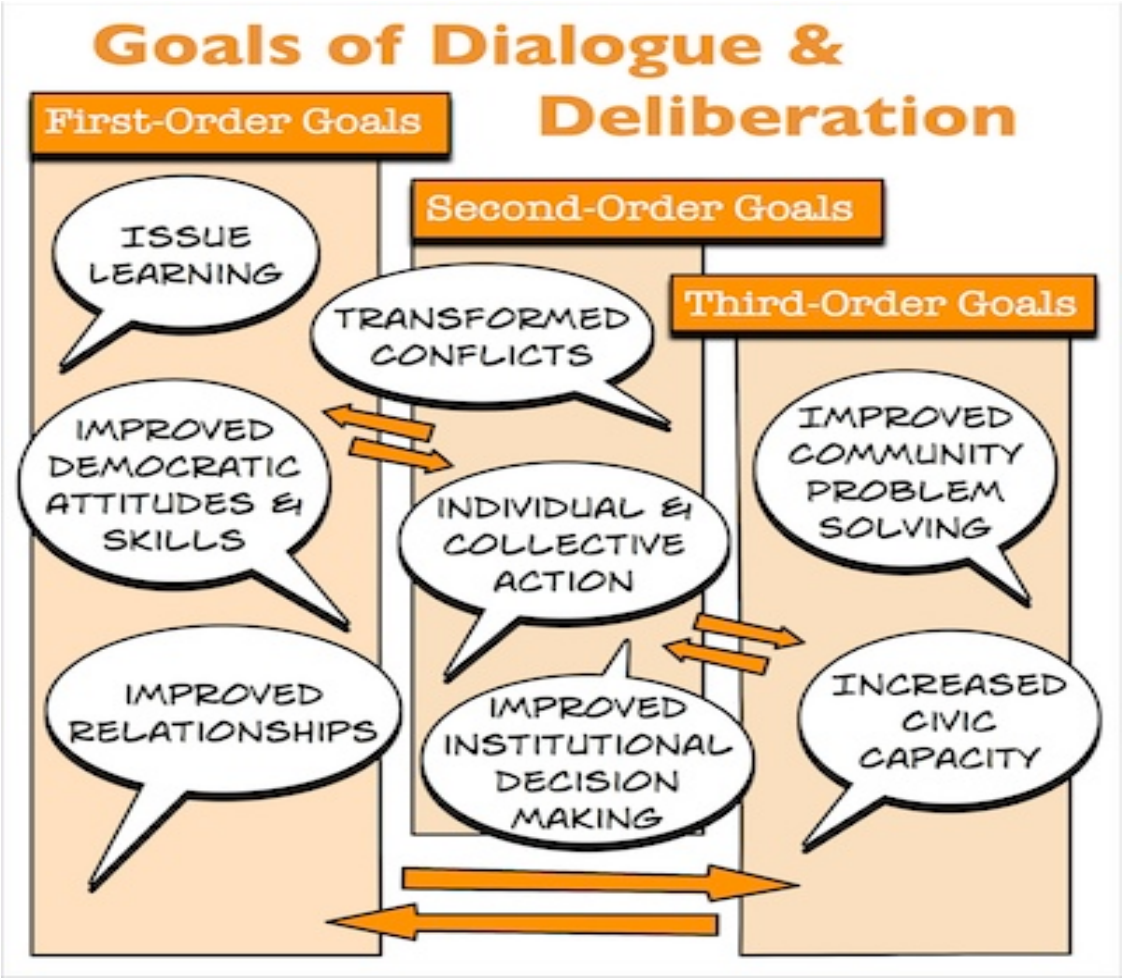
Metalogue
Thinking and feeling as a whole group; building new shared assumptions, culture

- Topics
- Points of View/Logics
- Participants & Relationships
- Information/ data
- Forums

Divergence
Generating possibilities

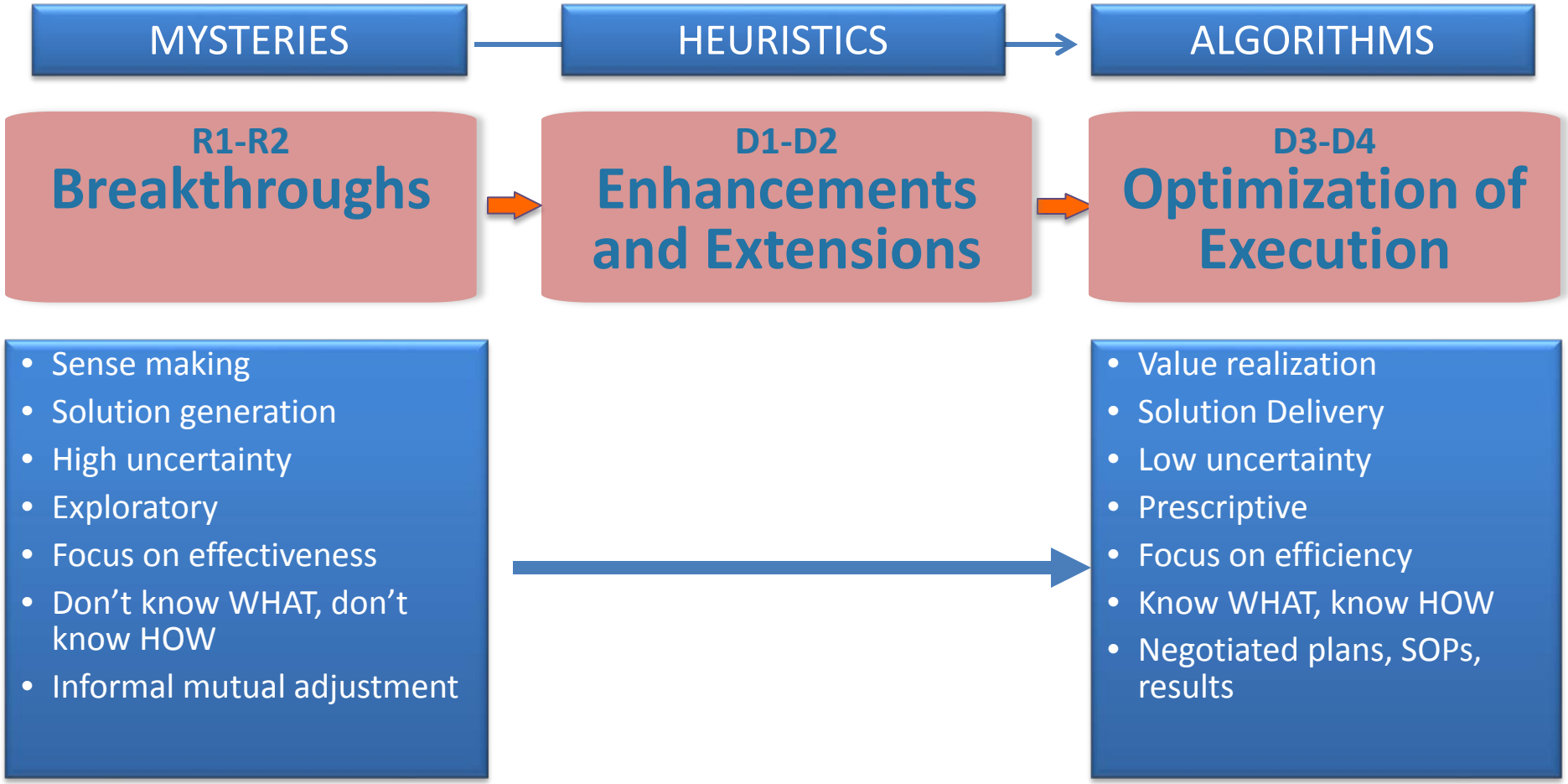
Convergence
Selecting Actions

Discretionary Coalition

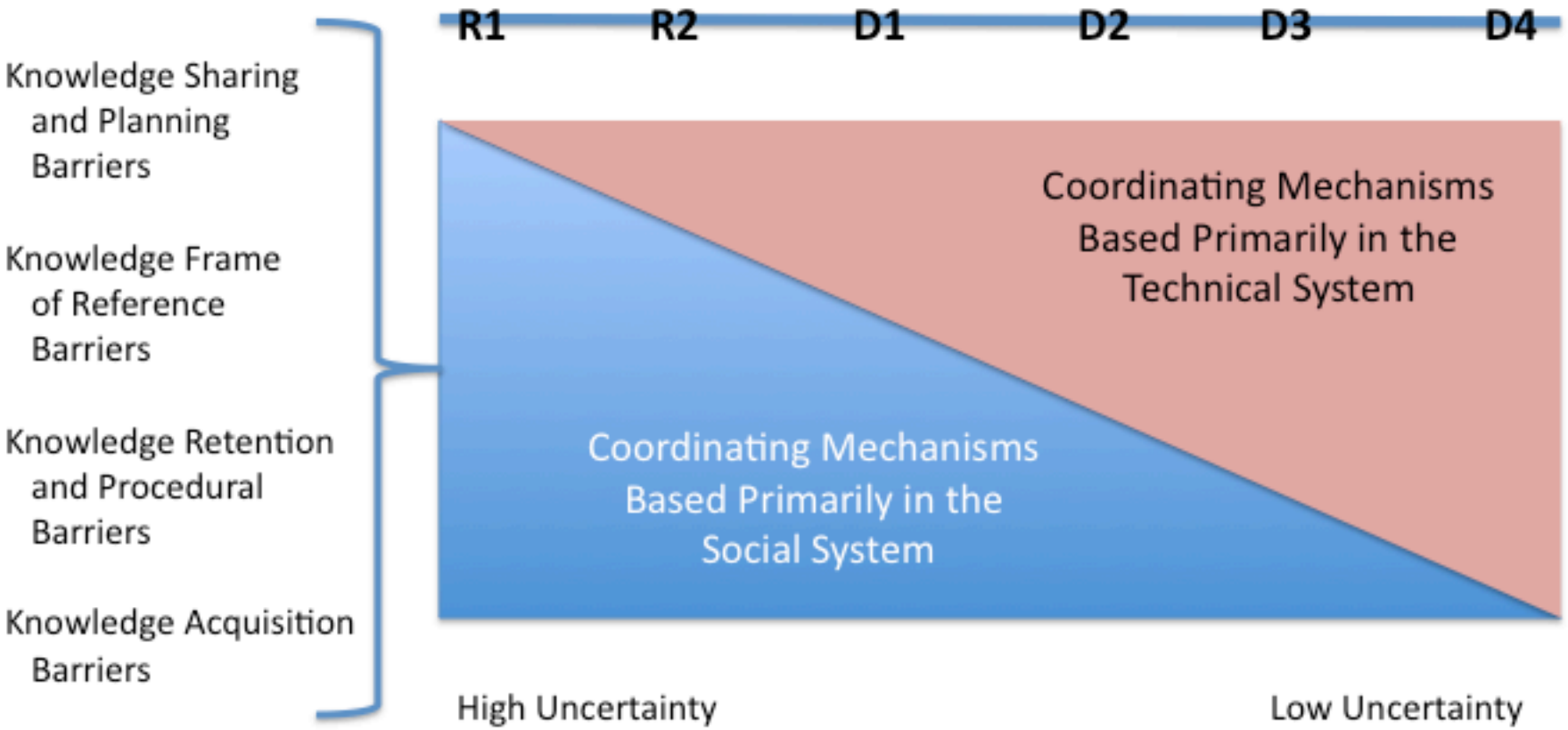


Graphic created by Sandy Heierbacher, NCDD (August 2009). Its content is slightly adapted version of the "Goals of Deliberative Practice (Summer 2009, Public Agenda's Center for Advances in Public Engagement, available at www.puclicagenda. Org/cape.

Deliberations Across an Innovation and Knowledge Generation Continuum



Knowledge Barriers and Coordinating Mechanisms[2]



[2] Bert Painter and VOSS Team

STS NET/WORK DESIGNING PROTOTYPE

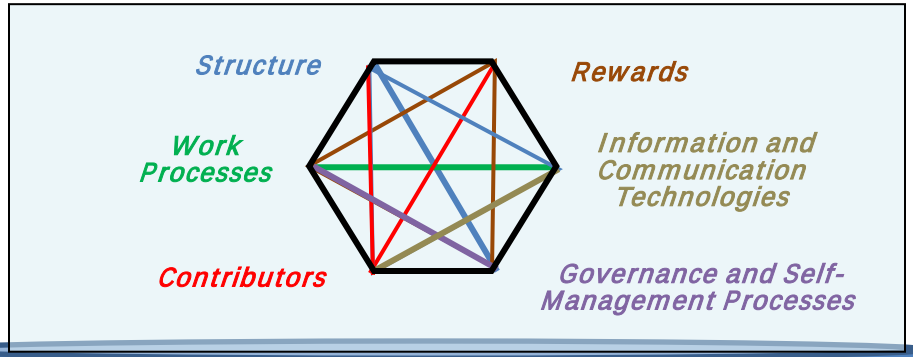
Phases of Network Design and Development	Jointly Optimized Net/Work Capabilities				
	Strategic Thinking *Core values and beliefs about who they are and want to be and their strategic direction*	**Sensing and Connecting** *Awareness of the larger environment, actively scanning and engaging in sensemaking to form action hypotheses*	**Mutual Accountability** *Ensure contributions of all to a coherent whole through multiple partners agreeing to be held responsible for the commitments they have voluntarily made to each other*	**Collaborative Coordination** *Collaboratively and innovatively Integrating and coordinating resources with needed capacity, skills, and resources*	**Dynamic Implementation** *Design of shared initiatives and projects through building and sustaining valued relationships with appropriate tools for quick action*
1. Know the Network *Identify needs*	• Engage contributors through mapping the issue, stakeholders and constituents of the potential ecosystem • Determine the boundaries of the system	Enable recognition of diverse perspectives on pressing social need and the limits of uncoordinated responses to addressing it		Collectively identify key deliberation topics and develop initial deliberation design	
2. Connect the Network *Simple hub-and-spoke network*	• Focus the system on the issue by formulating the purpose	• Develop shared appreciation of the situation • Frame the learning question so contributors can go beyond symptoms to root causes and new evidence	Identify partner accountabilities & commit to hold and be held accountable by other partners	• Build the foundation of trust and support • Identify shared governance and appropriate coordinating mechanisms	Identify shared priority initiatives
3. Organize the Network *Multi-hub network*	• Develop shared beliefs that collaborative efforts yield valued economic and social contributions, supporting a sense of legitimacy, purpose and meaning	• Enable information to be widely shared • Build support for specialized sensemaking and for interpretation functions	• Create systems for monitoring accountability • Create processes for attracting, mobilizing, and sharing resources from within or outside the group	• Implement shared governance and appropriate coordinating mechanisms (based on task certainty & complexity) to enable effective working relationships • Identify & design effective deliberations	Implement agile projects to address priority initiatives with project goals, plans, measures, capabilities, membership, prototypes, & pilots
4. Grow the Network *Core multi-hub and periphery network with competent, committed contributors*	• Spread, deepen and diversify network strategies • Manage risks • Ensure long term financial stability	Identify new knowledge and new stakeholders	Embed accountability norms & commitment systems	• Build enduring trust and connectivity • Establish collaborative coordination mechanisms to enable new initiatives	• Leverage ongoing learning from agile projects for next generation initiatives • Grow/ diversify network participation • Decentralize network functions

Topics + Participants + Forums + Data = Optimal Deliberations

STS Collaboration Platform

Sensing and Connecting	Strategic Thinking	Mutual Accountability	Collaborative Coordination	Dynamic Implementation

Jointly Optimized Net/Work Capabilities



Net/Work Design

Shared Purpose and Core Values

Identity

STS First Principles

- Profound respect for human dignity
- Reciprocity and mutual benefit
- Responsible autonomy and participation
- Wholeness

Foundation

Designing a STS Collaboration Platform

1. **Initiate** process by designing the **key deliberations** for the design process and conducting an **environmental scan.**
2. Elicit/delineate/confirm compelling **shared core purpose** and **core values** with philosophy statement.
3. Design **primary structure** -- value streams, boundaries.
4. Design knowledge **work processes** -- key deliberations, roles, guidelines and working agreements for optimal deliberations.
5. Design systems for identifying, recruiting, developing, engaging and retaining **contributors**.
6. Design **governance and self-management processes**.
7. Align **information and communication technologies** in support of optimal deliberations and knowledge advancement
8. Design a mutually beneficial **reward system.**
9. **Prototype and field test** design. Iterate and repeat.

1. Initiate and Scan

Activities	Deliberation Topics
Design the deliberation process for designing an STS collaboration platform.	• *What are the key topics that needed to be deliberated to design a STS collaboration platform for our enterprise?* • *How do we ensure that contributors and stakeholders have a voice in the design process?* • *What forums will we use for these deliberations?* • *What data/information will we need in our deliberations?* • *How will we document and disseminate our design deliberations and decisions?* • *What starting guiding principles will we employ to ensure*
Conduct an environmental scan paying particular attention to the customers/clients/users of the enterprise.	• *How can we best discern the dynamics of the environment within which we operate?* • *What are the salient iVUCA characteristics of our environment?* • *How do we engage with and listen to our customers?* • *What are our customer/clients/users current and unmet needs?* • *Who are our key stakeholders?* • *With whom do we need to connect to be effective?*

2. Shared Core Purpose and Core Values

Activities	Deliberation Topics
Define shared core purpose.	• *What do our customers/clients/users need and want?* • *Why should our enterprise exist?* • *What are we deeply passionate about?* • *What is our core purpose* • *Why (x5) does that matter?*
Road test the core purpose using whole systems perspectives on value.	• *Given our core purpose, how will we add value at the individual, organization, network, and societal levels in terms of people, prosperity, and planet?*
Surface shared core values.	• *What do we care deeply about?* • *How do the STS first principles resonate for us and what do they mean to us?*
Develop a philosophy statement of guiding principles based on STS first principles and the shared core values.	• *How do we weave the first principles and our core values into everything we do?* • *How can we best fulfill our core purpose?* • *How can the STS first principles and our core values guide how we design how we work together and with others to achieve our core purpose?*

Whole System Perspectives Matrix*

Levels of System	Meaningful Innovations	Value Perspectives		
		People	**Prosperity**	**Planet**
Society	Transformation Improves the quality of life for society as a whole and cares for people and planet	Well being, meaningful life	Wealth	Livability of environment
Network	Doing Good Allows the creation of ecosystems that can adapt to inherent changes & dynamics over a longer period of time to keep providing value for all stakeholders	Shared Drivers and reciprocity	Stability	Sustainability
Organization	Performing Well Provides an opportunity for sustainable value to ensure the continuity of the organization	Core values and CSR	Profit	Eco-effectiveness
Users and individuals	Experience Offers a pleasurable experience for users, influencing them to change their behavior to keep on using the product/service to contribute to an increased quality of life	Happiness and belonging	Value for money	Eco-footprint

** Adapted from Elke den Ouden, 2012*

Net/Work Design Deliberation Topics

Design Element	Deliberation Topics
3. Primary structure	• *How can we best fulfill our evolutionary purpose?* • *How can we reduce unnecessary complexity?* • *How can the STS first principles and our core values guide how we design how we work together and with others to achieve our core purpose?*
4. Work processes	• *What's the best way to work together?* • *How can we innovate to meet our customer's needs and fulfill our evolutionary purpose?* • *How can we have more timely, effective and efficient deliberations and decisions?*
5. Contributor processes	• *How do the STS first principles and our core values guide who we hire, and how people engage, learn, and contribute, and how they are supported and rewarded?*
6. Governance and self-management processes	• *What is the level of task uncertainty and complexity?* • *How do we foster a leader-ful enterprise and what are the key leadership tasks/roles and how are they organized?* • *What systems should we use to track how we're doing?*
7. Enabling ICT	• *How d we design our ICT so that it truly supports optimal deliberations and how contributors want to work?* • *How do we weave the first principles and our core values into everything we do?*
8. Mutually beneficial reward system	• *How can we ensure that mutually beneficial outcomes for all contributors?* • *How can we ALL thrive in order to fulfill our evolutionary purpose?*

Nonroutine Knowledge Net/Work

Considerations and Challenges

They are not employees so you don't have to deal with employment hassles and regulations.

People are taking ownership of the means of production – you just need a computer, your brain and Wi-Fi.

Nonroutine <u>Manual</u> Work
e.g. Amazon's Mechanical Turk; Sticky Crowd

Nonroutine <u>Knowledge</u> Work
e.g. Upwork; Freelancer; People per Hour; HourlyNerd; Topcoder; Upcounsel