



Leading Large-Scale Systems Change

by **Joel Cutcher-Gershenfeld**

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Seminar Co-Leads: Chris Magee and Joel Cutcher-Gershenfeld





Systems Change Initiatives

- Work-Process Centered Systems Change Initiatives
 - Taylorism, Industrial Engineering and Work Redesign
 - Socio-Technical Systems Redesign
 - Worker Participation and the Human Relations Movement
 - Team-Based Work Systems
- Relationship-Centered Systems Change Initiatives
 - Strategic Alliances
 - Joint Ventures
 - Labor-Management Partnerships
 - Customer-Supplier Partnerships
- Outcome-Centered Systems Change Initiatives
 - Quality Initiatives (Total Quality Management, Six Sigma, etc.)
 - Lean Initiatives (Lean Manufacturing, Lean Enterprise, etc.)



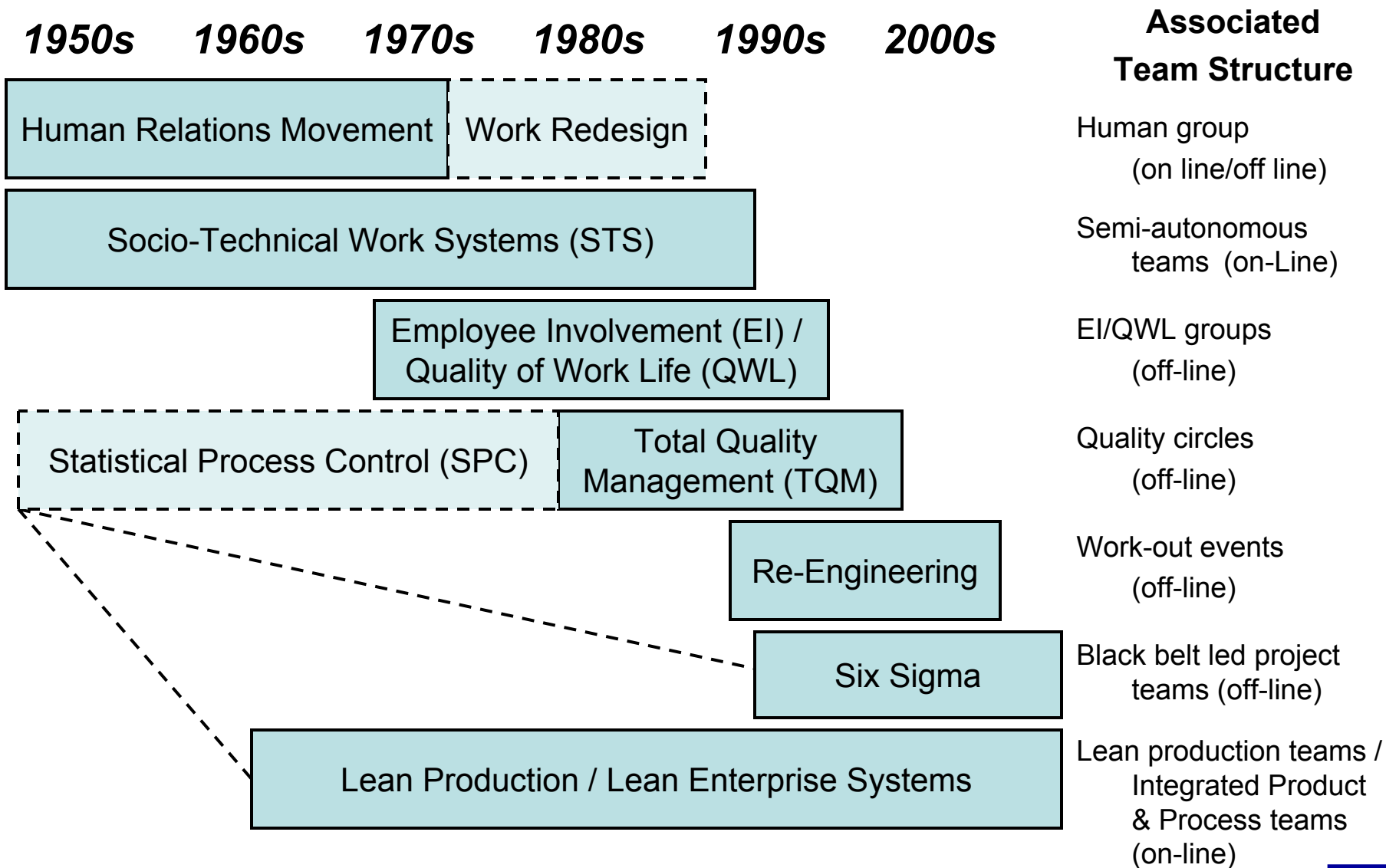


Systems Change Initiatives (cont.)

- Business Process-Based Initiatives
 - Process Re-engineering
 - Activity-Based Costing (ABC)
 - Enterprise Resource Planning Systems (ERP)
 - e-business Initiatives
- Structural, Policy and Market-Driven Systems Change Initiatives
 - Organizational Restructuring
 - Mergers and Acquisitions
 - Privatization
 - Regulation and De-Regulation of Markets
- Technology-Driven Systems Change Initiatives
 - New Technology Implementation
 - Material and Method-Driven Transformations
 - Research and Development Commercialization



Key Social System Transformation Initiatives





A COMPARISON OF THREE TYPES OF TEAM SYSTEMS

	Lean Production Teams	Socio-Technical Systems Teams	Off-Line Teams
Origins:	Japan (Toyota Pull System, 1960s)	Scandinavia (Volvo Kalmar, 1970s) and England (coal mines, 1940s)	U.S. (Harmon and GM/UAW QWL groups, 1970s) and Japan (Quality Circles, 1980s)
System Optimizes:	Continuous improvement in work operations	Mix of social and technical sub-systems	Ad hoc problem solving
Expected Yield:	Systematic gains in quality and productivity	Increased worker commitment and targeted gains in quality and safety	Increased worker commitment and reactive response to quality problems
Success Constrained by:	High expectations of team autonomy; Low labor/management support for continuous improvement	High levels of team interdependence; Limited resources for technical redesign	Separation from daily operations
Typically Found in:	Assembly operations (high interdependency among teams)	Continuous production operations (high autonomy among teams)	Broad range of workplaces
Leadership:	Depends on strong team leader	Depends on self-managing group	Depends on group facilitator
Membership:	Common work area	Common work area	May draw on multiple work areas
Organization Structure:	Core building block	Core building block	Adjunct to the structure
Links to Other Teams:	Tightly linked to internal customers and suppliers	Tightly linked across shifts; loosely linked with other teams	Little or no links among teams

Source: *Knowledge-Driven Work: Unexpected Lessons from Japanese and United States Work Practices*, Cutcher-Gershenfeld, et. al., 1998.





The Cross-Cultural Diffusion of New Work Systems

Structure

- Primary
- Secondary
- Reverse

Strategy

- Piecemeal
- Imposed
- Negotiated

Process

- Knowledge-Driven

Source: *Knowledge-Driven Work: Unexpected Lessons from Japanese and United States Work Practices*, Cutcher-Gershenfeld, et. al., 1998.

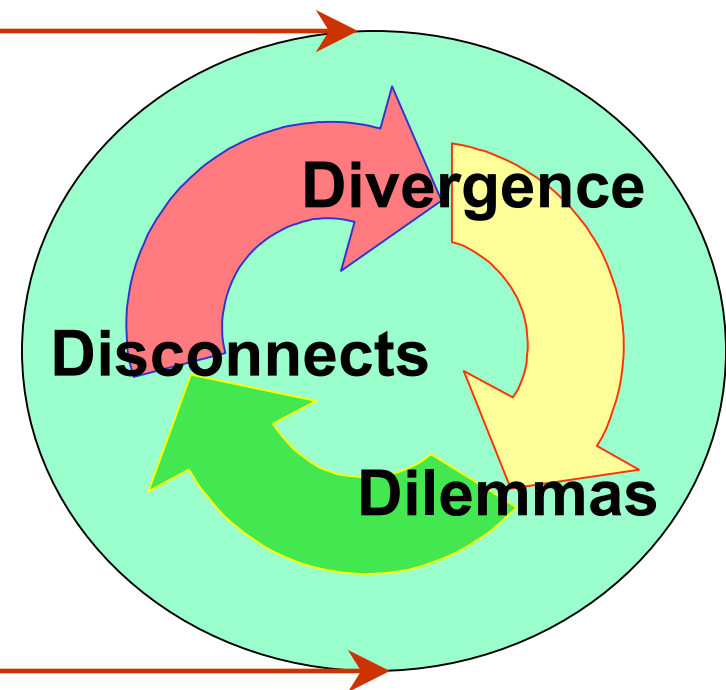
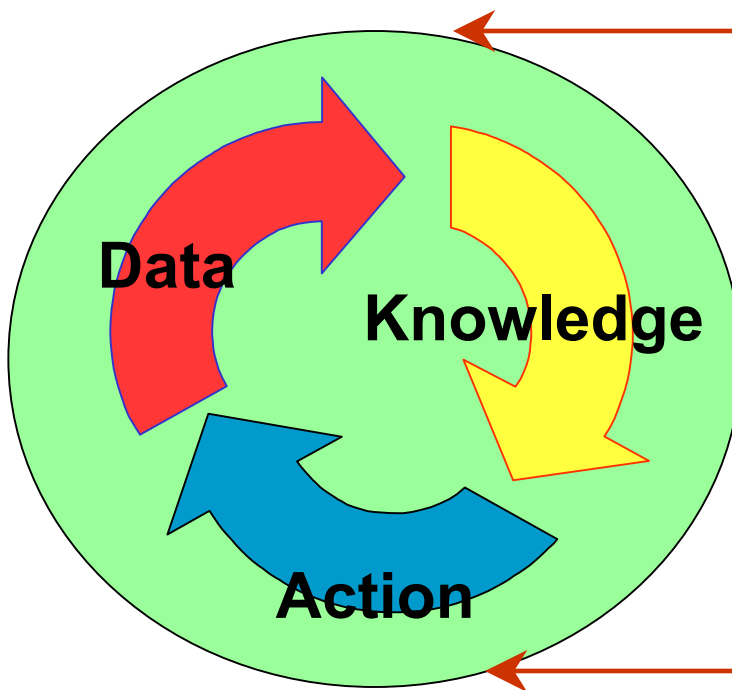




Valuable Disconnects

Active Learning Cycle

Divergent Learning Cycle



Source: Cutcher-Gershenfeld and Ford, *Valuable Disconnects*, New York: Oxford University Press (forthcoming).





Divergent Forms of Organizational Learning

	Fragmented	Interdependent	Opposed
Routine	Incremental Learning	Continuous Learning	Entrenched Learning
Adaptive	Experimental Learning	Synergistic Learning	Revolutionary Learning





Selected Enduring Dilemmas

- **Strategy:**
 - **Strategy Alignment Dilemma:** The cycle time and activities associated with building a learning culture typically exceeds the cycle time for formulating and implementing business strategies.
 - **Intellectual Capital Investment Dilemma:** Investment in intellectual capital is essential for learning strategies, but individuals and groups may or may not choose to utilize their new capabilities as intended.
- **Governance/Decision Making:**
 - **Centralization/Decentralization Dilemma:** Whenever decision making is highly centralized the lack of innovation/adaptation can create pressure to decentralize; whenever it is highly decentralized, the increasing variation can create pressure to centralize.
 - **Direction/Empowerment Dilemma:** Unilateral and other more directive modes of decision making provide clear guidance and directly utilize leadership knowledge; consensus and other more inclusive modes of decision making provide for increased input and ownership, but may be cumbersome, time-consuming, and sub-optimal.
- **Workplace Operations:**
 - **Operations/Capability Dilemma:** The cycle time for building learning capability far exceeds the time available given daily operating pressures.
 - **Competition/Cooperation Dilemma:** Fostering internal competition energizes individuals and groups, but may lead to sub-optimization; Fostering internal cooperation emphasizes common interests but may lead to complacency or incomplete attention to conflicting interests.





Systems Change Strategies

- Direction
 - “Top Down” Re-engineering
 - “Bottom Up” Kaizen

- Intensity Over Time/Scope of Change
 - “Pilot / Diffusion”
 - “Wall-to-Wall”





Systems Change -- Top Down

- **Concept of “Re-engineering”**
 - Many meanings, from a pretext for restructuring and downsizing to a systematic review of operations -- *if it's not broke, break it*
 - Roots private and public sectors, including “re-inventing government”
 - First driven by economic crisis, now seen as a process for system change
 - GE “workout” process as a proto-type





System Change -- Bottom Up

- **Concept of “Kaizen”**
 - Many meanings, from tangible improvement activities to an underlying philosophy and a way of life -- *you are never done improving*
 - Roots in post WWII Japan
 - First seen piecemeal -- quality circles (QC), statistical process control (SPC), just-in-time (JIT) delivery
 - Increasingly seen from a systems perspective -- Total Quality Management (TQM), Total Preventative Maintenance (TPM), Continuous Quality Improvement (CQI), Toyota Production System (TPS)
 - Kaizen-teian systems -- many small improvements build capability for system change



Systems Change -- Pilot/Diffusion

- **Concept of “Pilot Experiments”**
 - Many types of pilots
 - Pilot teams, facilities, business units
 - Selecting where to pilot
 - “If it will work here, it will work anywhere”
 - “Begin with small successes”
 - “Target bottleneck/priority areas”
 - Plan for lessons from the pilot experiment to guide subsequent diffusion
 - Issue of managing multiple concurrent pilots



Systems Change -- Wall-to-Wall

- **Concept of “Wall-to-Wall”**
 - Requires unfreezing event or bold leadership
 - System-wide shifts in policy or fundamental changes in external context
 - Gradual diffusion is not an option – the entire organization must change
 - Requires substantial planning and resources



System Change Debate

- Direction of change:
 - Kaizen versus re-engineering
 - **Pro:** *In general, for large-scale systems change initiatives, the incremental, bottom-up kaizen approach will be the most effective*
 - **Con:** *In general, for large-scale systems change initiatives, the revolutionary, top-down re-engineering approach will be the most effective*
- Debate format:
 - Opening Statements (1 min.)
 - Within team consultation (1 minute)
 - Rebuttal (2 min.)
 - Within team consultation (1 minutes)
 - Closing Statements (1 min.)





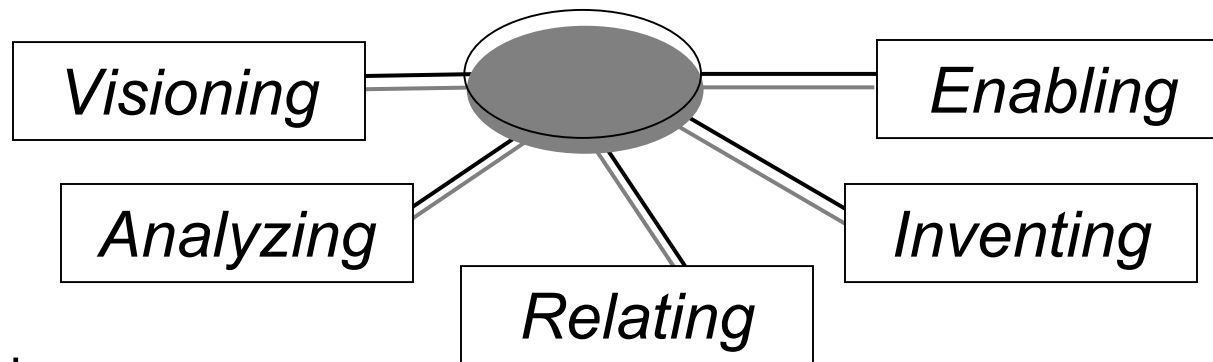
Appendix

- Sloan Leadership Model
- Sample Socio-Technical Implementation
- Cellular Manufacturing Exercise
- Strategic Negotiations and Systems Change Strategies





Five Core Leadership Capabilities



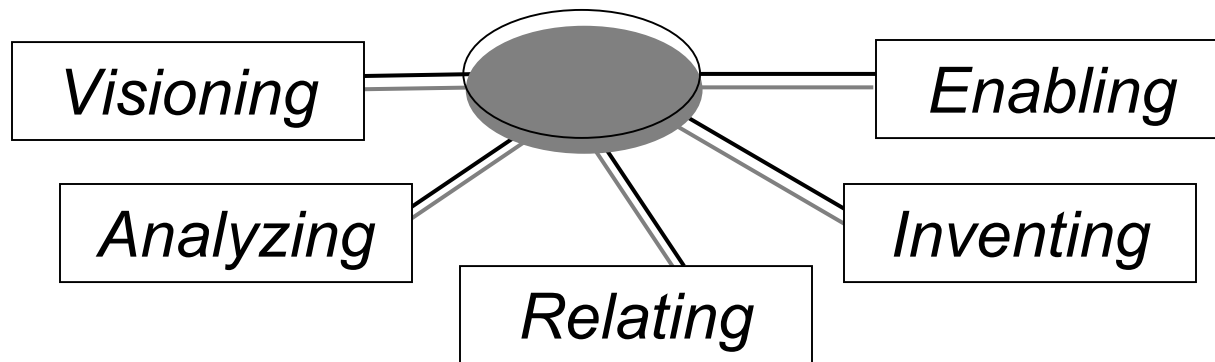
- Visioning
 - **Fostering individual and collective aspiration toward a shared vision**
- Analyzing
 - **Sense-making and strategic planning in complex and conflictual settings**
- Relating
 - **Building relationships and negotiating change across multiple stakeholders**
- Inventing
 - **Inventing new ways of working together – social and technical systems**
- Enabling
 - **Ensuring the tools and resources to implement and sustain the shared visions**

Adapted from: Distributed Leadership Workshop Group, Deborah Ancona, Tom Malone, Wanda Orlikowski, Peter Senge – July 2001





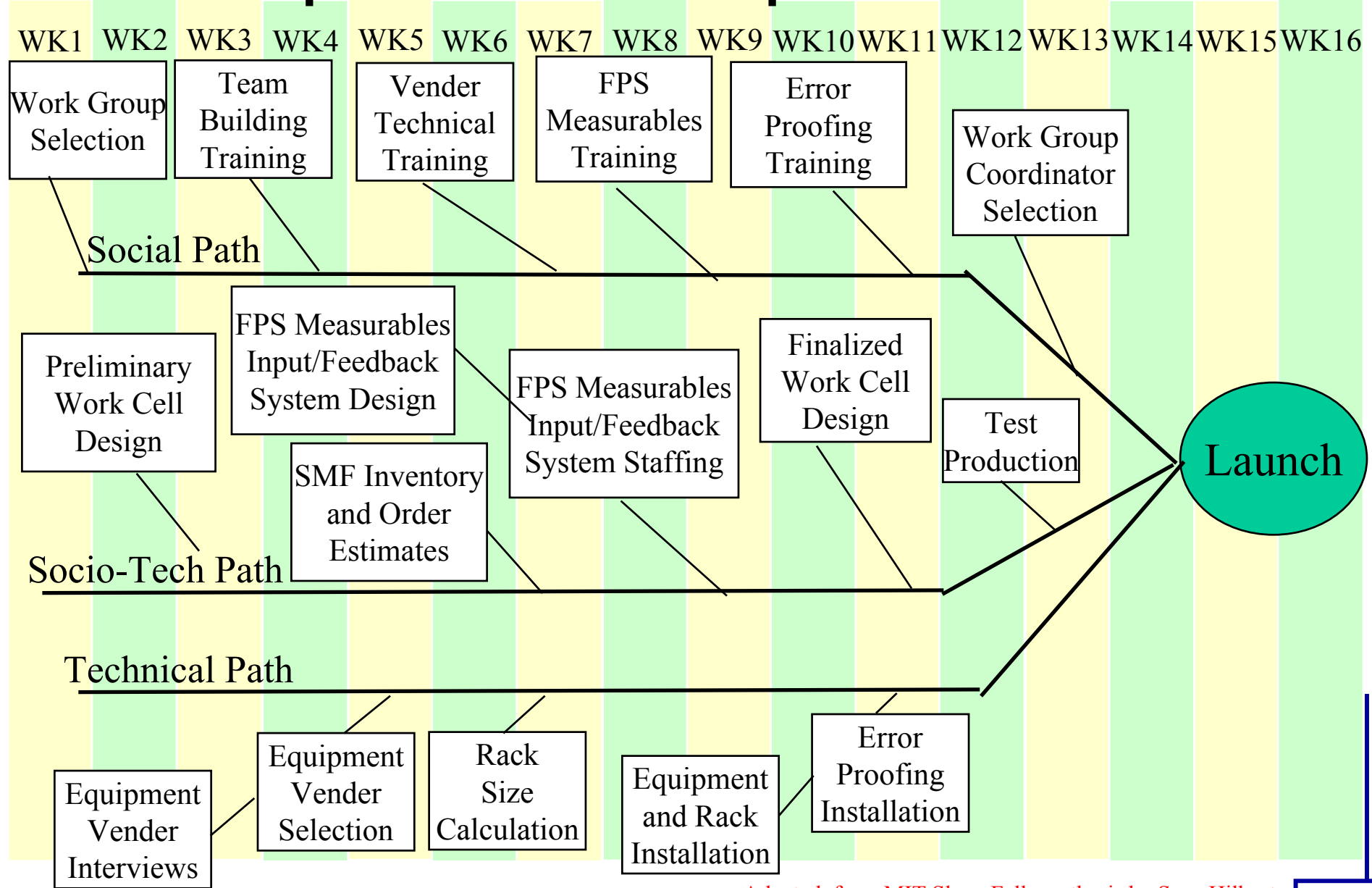
Leadership “Disconnects”



- Imposed vision
- Acting on assumptions – not data
- Discounting or disregarding key stakeholders
- If it's not broke, why change?
- Forced internal competition for resources



Sample Socio-Tech Implementation

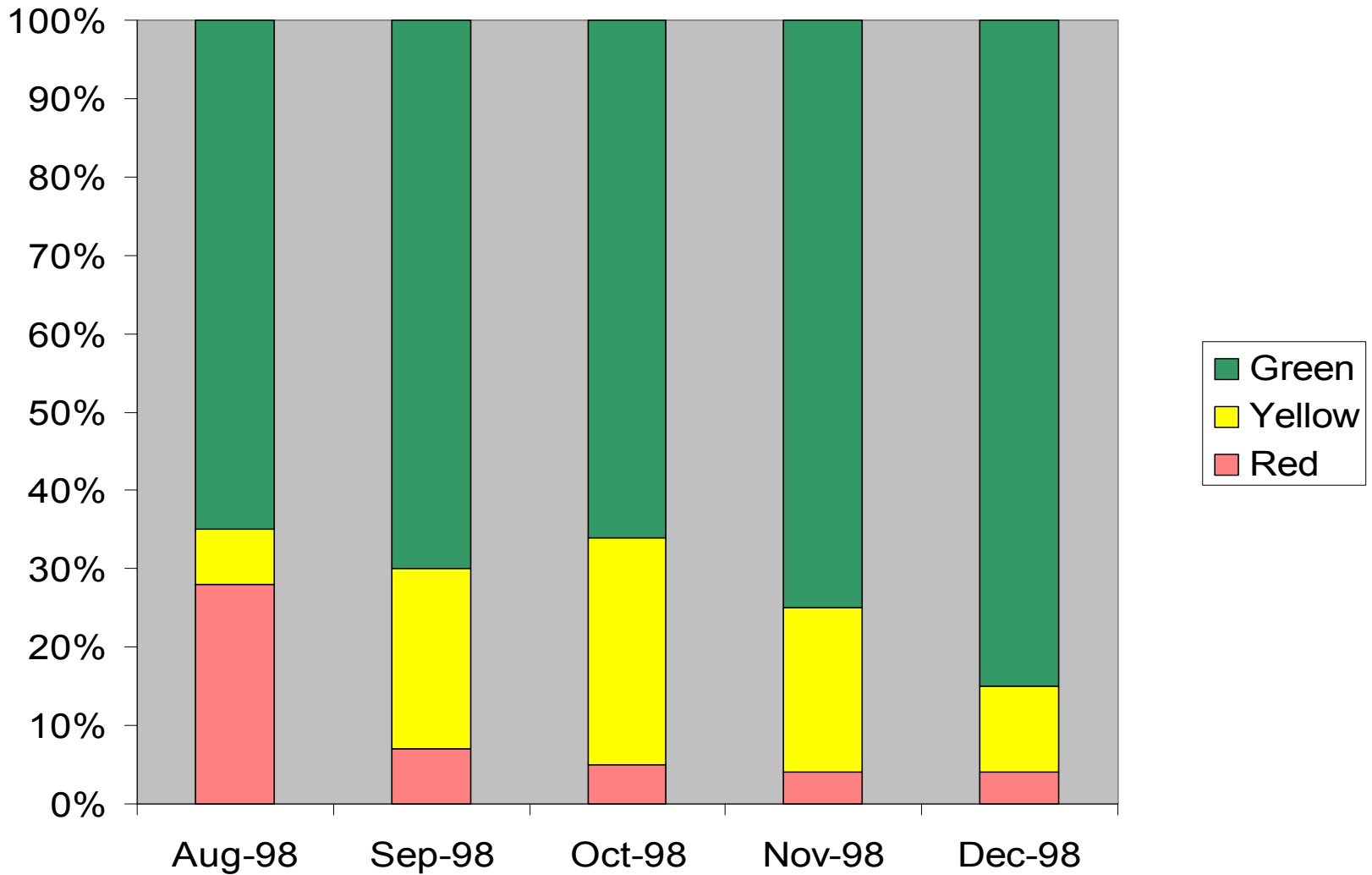


Adapted from MIT Sloan Fellows thesis by Sean Hilburt





Data on Technical Milestones

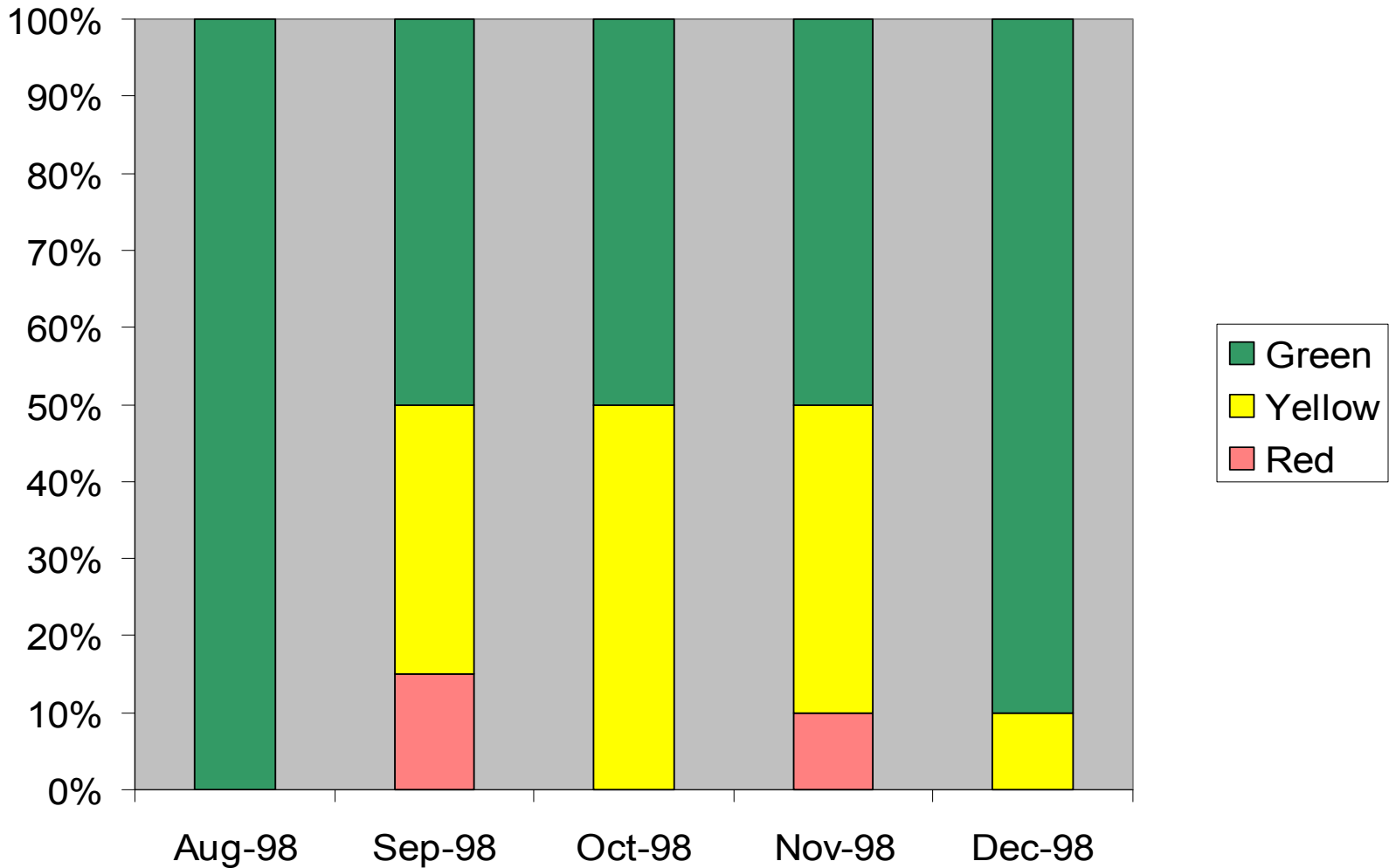


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Data on Social Milestones

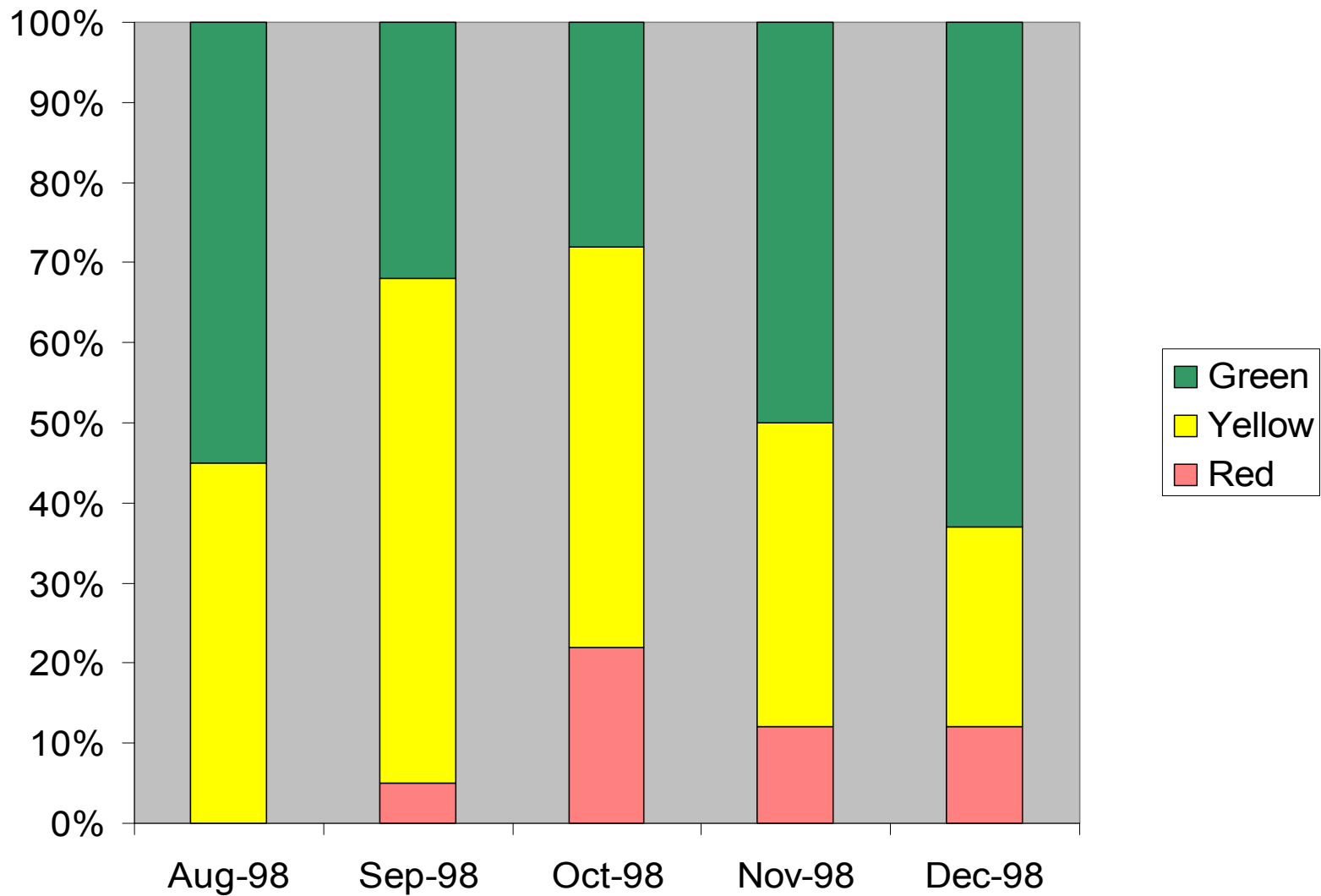


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Socio-Tech Data



Adapted from MIT Sloan Fellows thesis by Sean Hilburt





Exercise: Cellular Manufacturing Socio-Tech Analysis

Step 1: Group Formation and Stakeholder Analysis

Form small groups of 2-3 people (individuals at remote locations may link by phone), study the “current state” and “desired state” illustrations on a hypothetical cellular manufacturing intervention (next slide), and list stakeholders involved in your phase of this intervention.

Note: Some groups will be assigned to “Preparing,” “Implementing,” and “Sustaining” phases of this intervention

Step 2: Social Systems

Identify the most important social system changes in this work system that are relevant to your phase of the intervention.

Step 3: Technical Systems

Identify the most important technical changes in this work system that are relevant to your phase of the intervention.

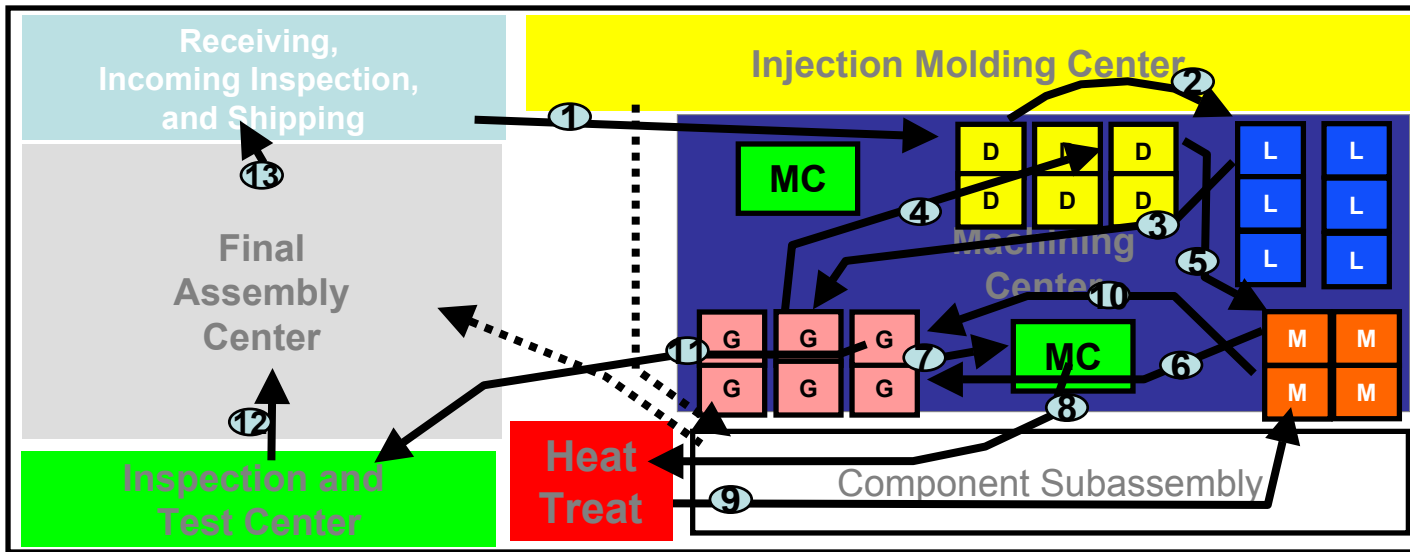
Step 4: Integration and Guiding Principles

Discuss ways in which the social and technical changes are or are not interdependent. Derive 1-3 “Guiding Principles” for implementing a systems change of this type.



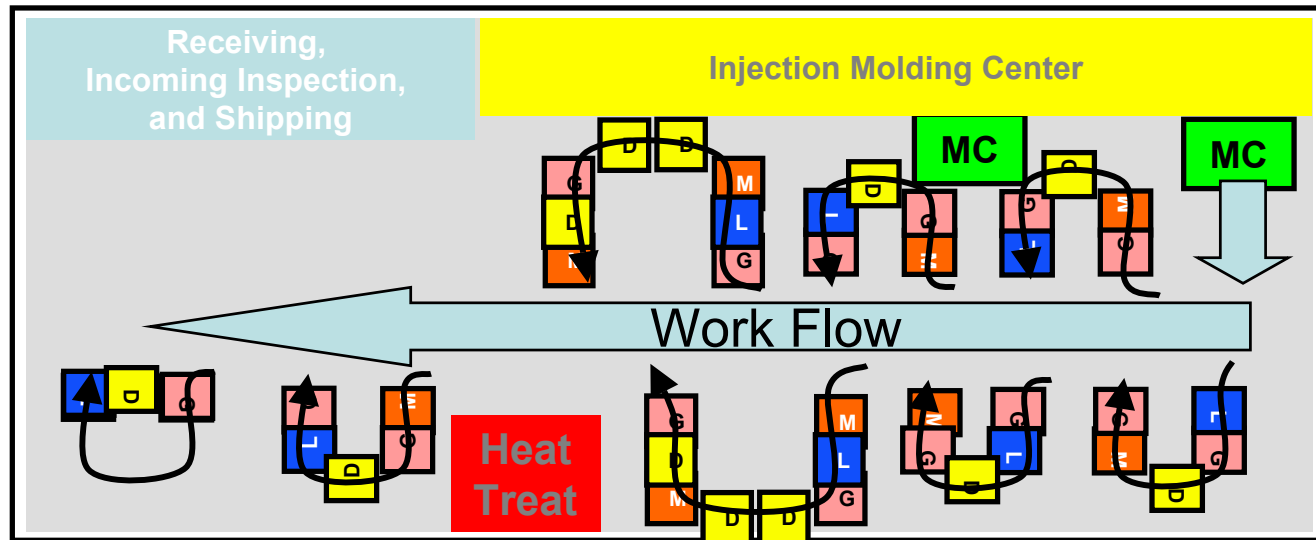


Exercise: Cellular Manufacturing



Current State

Desired State





Strategic Negotiations

 **Forcing**

 **Fostering**

Escape

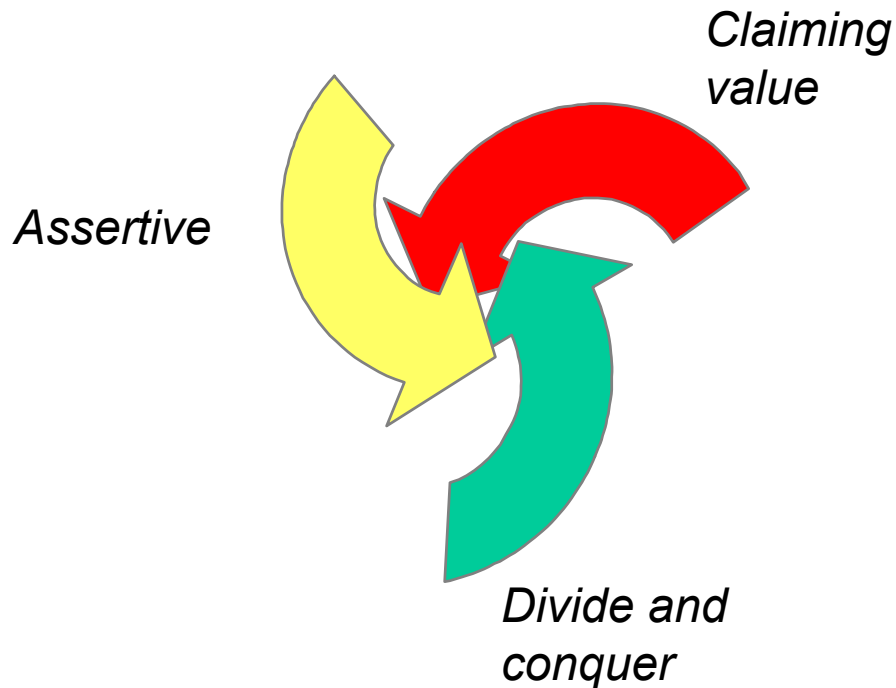


Source: Walton, Cutcher-Gershenfeld and McKersie, *Strategic Negotiations: A Theory of Change in Labor-Management Relations*, Boston: Harvard Business School Press (1994).

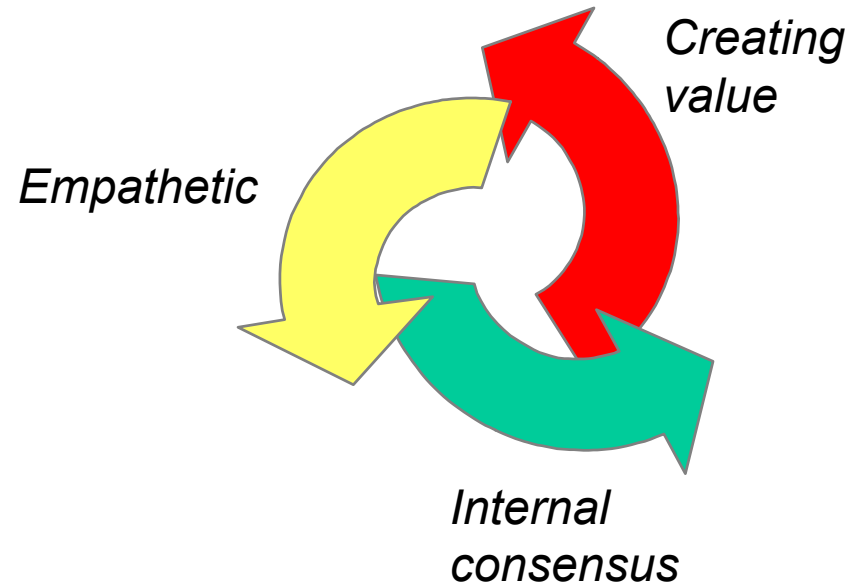


Risky links between tactics with strategy

Hard Forcing



Soft Fostering

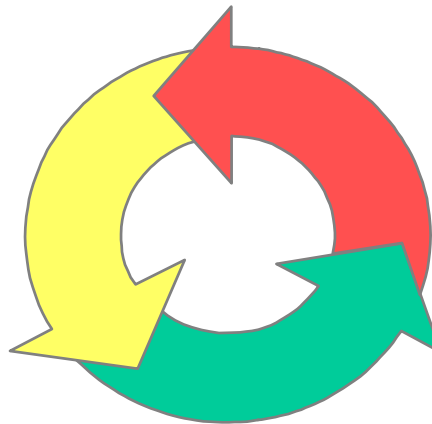




Promising links between tactics and strategy

Robust Fostering and Restrained Forcing

*Empathy and
Assertiveness*



*Creating value and
Claiming Value*

*Appreciating
internal
differences*



Strategies for Negotiated Change

- Change strategies and negotiation blind sides
 - Top-down re-engineering
 - Forcing process makes recovery afterwards difficult
 - Bottom-up process improvement
 - Fostering process makes subsequent conflict difficult
 - Pilot-experiment and diffusion
 - Diffusion depends on a combination of forcing and fostering

