You Can't Get There From Here:

Tipping Points and the Transition Problem in Organizational Change

J. Bradley Morrison

Sloan School of Management, MIT
Cambridge, MA 02139

morrison@mit.edu

Abstract

You Can't Get There From Here: Tipping Points and the Transition Problem in Organizational Change

J. Bradley Morrison

Organizational change processes often start and then stall. Through extensive fieldwork at a manufacturer adopting lean manufacturing practices, I closely examined how people do the work of process improvement and developed a feedback theory that explains the observed successful start and subsequent fizzle. Workers were actively involved in generating ideas, but implementing those ideas strained key support personnel. As they modified work practices to address mounting workload, the change process evolved and so did the content of changes it produced. I use a system dynamics model first to demonstrate that the feedback structure accounts for the start and fizzle pattern and then to identify a tipping point beyond which the organization transitions to a regime of lasting change. The simulations characterize the transition problem in organizational change: imitating current practices of other successful firms is not sufficient to navigate the dynamics of learning and adoption inherent in an organizational transition.

The Start and Fizzle of Change

- **Why is it so hard for people in organizations to make happen what they want to happen?**

  – The Knowing - Doing Gap

  – Failures in innovation implementation

  – The Improvement Paradox

- **The tendency for change processes to run out of energy and momentum is widely recognized.**

  – "It is hard to make changes stick." (Kanter, Stein & Jick, 1992)

- In the words of my respondents:

  – **"This stuff's not rocket science. So, why aren't we doing it?"**

  – **"CRS Syndrome, that's Can't Remember Stuff."**

  – **"AFP, you know, Another Fine Program."**

  – **"What scares me the most is how are we going to sustain this."**

Data and Methods

- **Extensive field work observing a manufacturing organization implementing change: adoption of lean manufacturing.**
  - Participant observation
  - 120 + days on-site
  - Semi-structured interviews
  - Ongoing conversations with managers and hourly workers

- **Inductive analysis using causal loop diagrams and formal system dynamics models**

- **To develop an integrated feedback theory describing how**
  - Situated actions of various groups
  - Interact with each other and
  - With the characteristics of improvement
    - **To explain the observed start and fizzle reference mode.**

Adoption of Lean Manufacturing

- **Began with a climate for success:**
    - Top management support
    - Skilled, tenured workforce
    - Strong union-management relations
    - Experience with high performance work systems
    - Supportive organizational culture
    - Compelling need for change
    - Slack production capacity
    - Learning orientation
- **Started with typical steps:**
    - Recruited salaried and union leaders
    - Selected one work group for pilot activity
    - Formed an implementation team
    - Conducted training, including 7 Forms of Waste, Visual Factory, 5S, One-piece flow
    - Formed a steering committee

Early Results - A Successful Start

After a few months, initial success:

- **Process Improvements**
  - "We got the layout running."
  - "You got a pull system in place."
  - "The area was starting to really look uniform."

- **Performance Results**
  - "Some of the overall numbers - they're outstanding."
  - "Scrap has come down [thousands of dollars]."
  - "Performance went up from 70% to 94%."

- **Employee Motivation**
  - "The people that were there, ... when they saw the results, ... they got kind of excited about it."
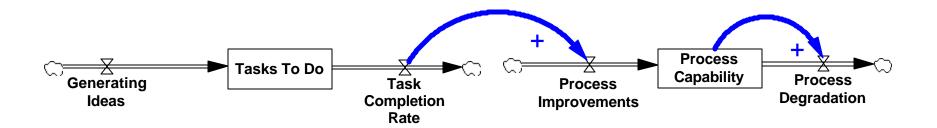
And, The Fizzle

Several months later:

- "If you go over there a couple of months later, after all this stuff, the looks [of the area} started to deteriorate." (Union official)

- "If you look at our department now, we've got stuff all over the place. We've got runoff material. We had our incoming supermarket. That's all in disarray." (Production worker)"

- "The wheels are coming off." (Plant engineer)

> A Pattern of Start and Fizzle

Learn a Little, Do a Little

"What if we all learn this stuff together? ... **Learn a little, do a little.** Let's teach these folks a little bit. Let's learn a little bit about this stuff ourselves. Let's put our heads together." (Production manager)

"Let's train them and ... then let's channel their thoughts and their ideas into things that are consistent with ... lean manufacturing." (Production manager)

What Does It Take To Do A Little?

- **Workers generate ideas for improvement, but these create task demands on support personnel.**

TASKS TO DO	SUPPORT PERSONNEL
Paint lines on floor	Maintenance
Make overhead signs	Tool room
Install overhead signs	Maintenance
Buy storage containers	Engineering
Develop kanban cards	Materials handling

What Does It Take To Do A Little?

- **Critical Role of Support Personnel:**
  - **"Very rarely is it the person that came up with the idea."** (Production manager)
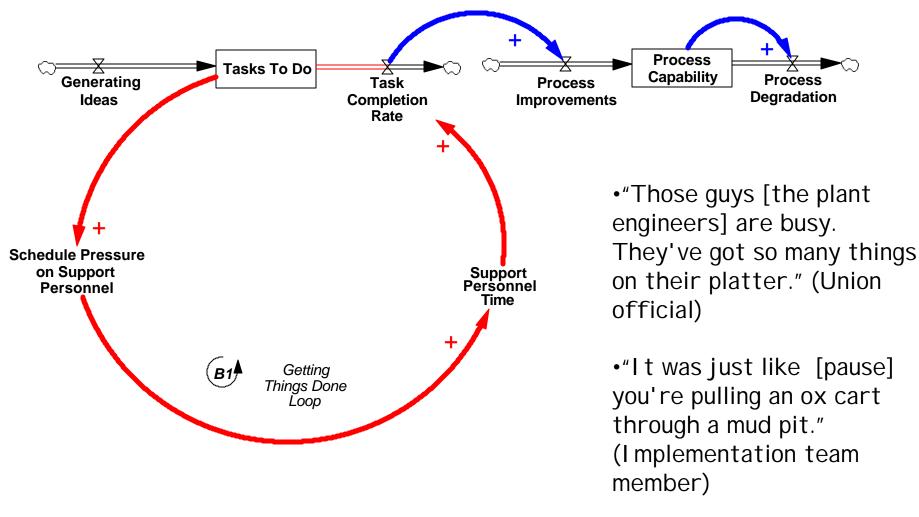
- **Taken-for-granted Understanding of Roles:**
  - **"When you are sitting in a group ... talking about how you are going to change this process ... You knew what your part of that job was."** (Production Engineer)

- **Accumulating Ideas:**
  - **"The workers will always be able to generate ideas faster than we can implement them."** (Production manager)

A Model of Process Improvement

•"Those guys [the plant engineers] are busy. They've got so many things on their platter." (Union official)

•"It was just like [pause] you're pulling an ox cart through a mud pit." (Implementation team member)

A Model of
Process Improvement

Generating Ideas

Tasks To Do

Task Completion Rate

Process Improvements

Process Capability

Process Degradation

+ +

Schedule Pressure on Support Personnel

+

Productivity of Support Personnel

+

Support Personnel Time

+

-

B1 *Getting Things Done Loop*

+

B2 *Going It Alone Loop*

-

Degree of Collaboration

A Model of
Process Improvement

Tasks To Do

Generating Ideas

Task Completion Rate

Process Improvements

Process Capability

Process Degradation

Schedule Pressure on Support Personnel

Support Personnel Time

Productivity of Support Personnel

Improvement per Task

B1 *Getting Things Done Loop*

B2 *Going It Alone Loop*

Collaborating Experience

Degree of Collaboration

A Model of Process Improvement

The Allure of Shortcuts

- **Cognitive and perceptual biases**
  - Salient nature of task work
  - Results with minimal delays
  - More certain outcomes
- **Social and organizational factors**
  - Incentives and rewards
- **Comfort Zone**
  - Familiar skills
  - "You do the easiest ones first."

A Shortcut That Works

- **We didn't do a good job of sharing** what we were doing. The vision, the knowledge, the tools, so that they [the work group] could then apply their thinking and have input into this process.

- Q. Who's we?

- You know, a few of us. [The work group advisor], the engineer, one operator, [a plant manager], and [an outside consultant] actually did it. Okay? And, the intern. And so you know, we did it, right? **We implemented** this new layout and the work group **seems to be working reasonably well** with it. (Production manager)

Effect of Backlog on Idea Generation

Worker Response Loop

B4

+

Generating Ideas

Tasks To Do

−

Task Completion Rate

+

Process Improvements

+

Process Capability

+

Process Degradation

Add Ideas

+

+

+

+

Schedule Pressure on Support Personnel

Productivity of Support Personnel

Improvement per Task

−

+

+

Support Personnel Time

B1

Getting Things Done Loop

+

R3

Social Capital Loop

B2

Going It Alone Loop

+

−

Degree of Collaboration

+

Collaborating Experience
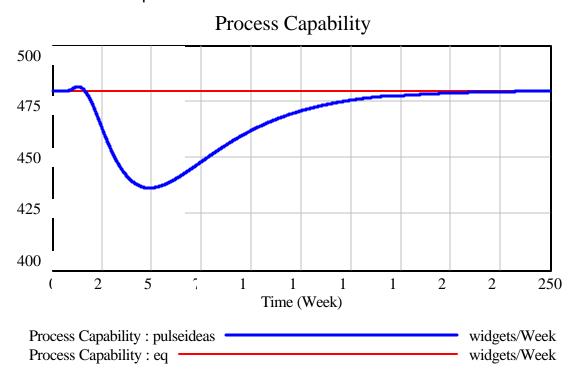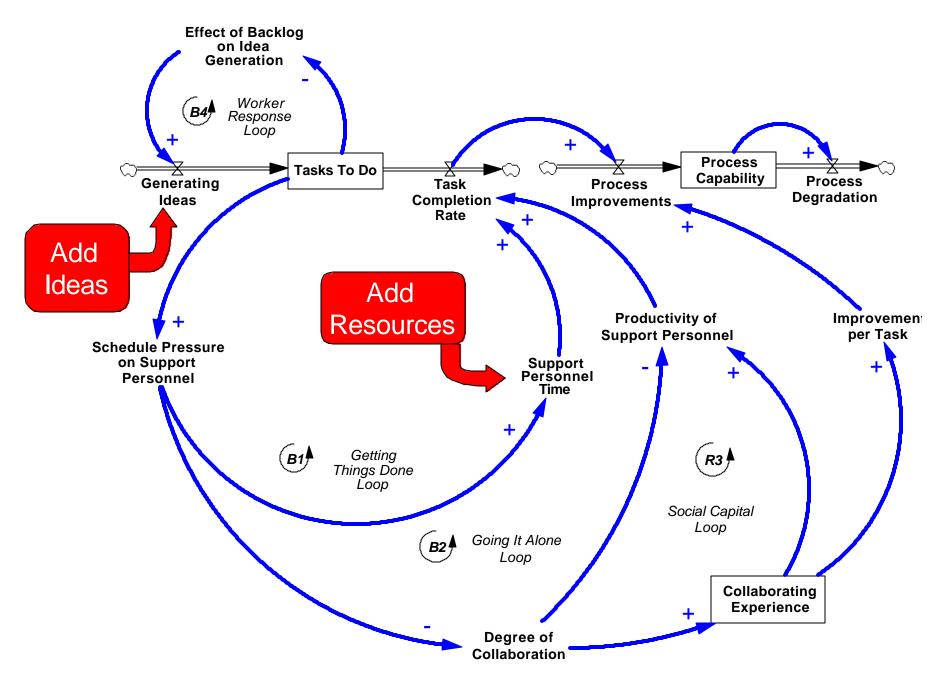
+

You Can't Get There From Here © 2003 J. Bradley Morrison

Good Ideas Lead to Ruin

New ideas alone lead to an extended period of worse performance.
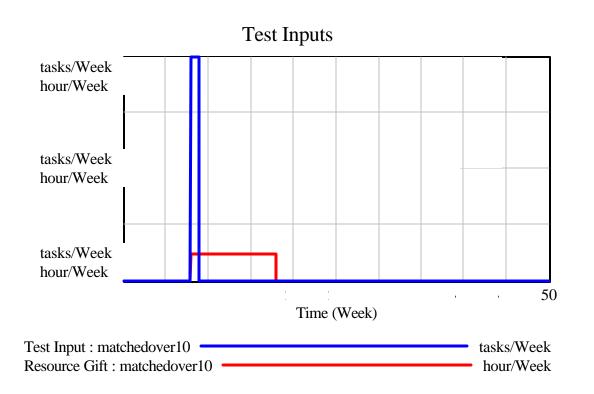
Response to a one-time pulse of new ideas

Process Capability

| Process Capability : pulseideas | ———————————— | widgets/Week |
| Process Capability : eq | ———————————— | widgets/Week |

Test input: Pulse of 15 new ideas in week 8.

Effect of Backlog on Idea Generation

B4 Worker Response Loop

−

+

Generating Ideas → **Tasks To Do** → **Task Completion Rate** → **Process Improvements** → **Process Capability** → **Process Degradation**

+

+

+

Add Ideas

+

Add Resources

Schedule Pressure on Support Personnel

Support Personnel Time

Productivity of Support Personnel

Improvement per Task

+

−

+

+

B1 Getting Things Done Loop

R3 Social Capital Loop

+

B2 Going It Alone Loop

−

+

Degree of Collaboration

Collaborating Experience

You Can't Get There From Here © 2003 J. Bradley Morrison

The Temporal Pattern of Resources

Test inputs to introduce new ideas and extra resources

Test Inputs

tasks/Week
hour/Week

tasks/Week
hour/Week

tasks/Week
hour/Week

50

Time (Week)

Test Input : matchedover10 ——————————— tasks/Week
Resource Gift : matchedover10 ——————————— hour/Week

Test input: In week 8, add 60 new ideas and a matching quantity of resources over 10 weeks.
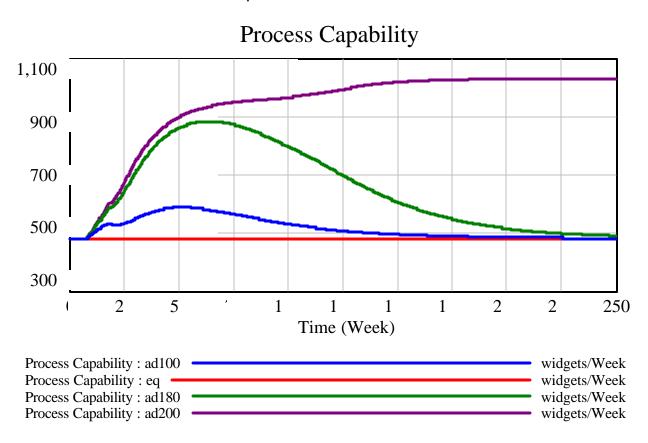
Temporary Success: Start and Fizzle

Process Capability

Test input: In week 8, add 60 new ideas and a matching quantity of resources over 10 weeks.

Sustained Success: Engaging the Positive Loop

Response to new ideas and various quantities of resources over 10 weeks

Process Capability

Test inputs: In week 8, add 60 new ideas and resources, in various multiples of the indicated amount, over 10 weeks.

Right Resources: Easier Said Than Done

What the production managers said:

COSTS

*   "They think it's other people's money, which means it's somehow not money."

HARD TO ANTICIPATE

*   "We're not good at defining whet resources are needed."
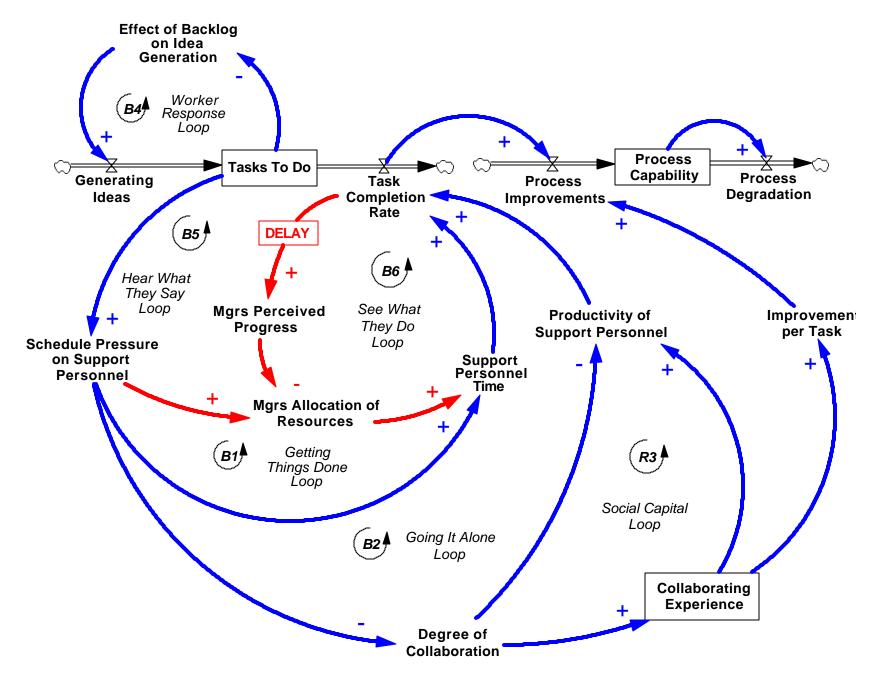
BALANCE WITH OTHER NEEDS

*   "Right now I can't be responsive to that work group because I have a more urgent need for the business."

"REALITY"

*   "We're never going to have enough resources to do everything that everybody wants when they want it done."

Things Are Not So Bad

- "They were making the right part at the right time. ... You didn't have all of these emergencies [such that] if we don't run Saturdays and Sundays, the [assembly] line isn't going run on Monday. The things in the Supermarket were being filled, and they were holding up pretty decent." (Union member)

- "The actual flow of material through the workgroup. The actual staging of material. We [used to] run out of stuff because we couldn't find it, not because we didn't have it. And that's been a big improvement. Certain things go in certain places now that used to pretty much just be anywhere before." (Production manager)

Effect of Backlog on Idea Generation

B4

Worker Response Loop

−

+

Generating Ideas

Tasks To Do

Task Completion Rate

+

Process Improvements

+

Process Capability

+

Process Degradation

B5

Hear What They Say Loop

+

DELAY

+

Mgrs Perceived Progress

B6

See What They Do Loop

+

+

+

+

+

Productivity of Support Personnel

Improvement per Task

Schedule Pressure on Support Personnel

+

+

−

Support Personnel Time

+

+

Mgrs Allocation of Resources

+

B1

Getting Things Done Loop

+

−

+

B2

Going It Alone Loop

R3

Social Capital Loop

−

Degree of Collaboration

+

Collaborating Experience

+

You Can't Get There From Here © 2003 J. Bradley Morrison

A Focus on What's Rather Than How's

- **Plausible**
  - Confirmation Bias
- **Cognitive and Perceptual Biases**
  - Salient nature of task work
  - Results with minimal delays
  - More certain outcomes
- **"The Good Times Conspiracy"**
  - Can-do attitude
  - Selective reporting
  - Positive spin

Conclusion

- **Participation doesn't take place in a vacuum:**

  – Support personnel play an essential and often overlooked role.

- **"Start and fizzle" can happen as a "routine consequence" of "ordinary adaptation."**

  – Process and content co-evolve in course of organizational change.

- **Insight into pervasive resource shortages:**

  – Managers will be slow to recognize, so shortages are likely to persist.

  – Resource shortages can become locked in.

  – "Real" needs are often much greater than actors realize.

- **We should attend not only to "Transfer" of knowledge but also to the Transition Problem.**

The Transition Problem

- **Organizational transitions must be understood as fundamentally dynamic phenomena.**

  – Process and content during organizational transitions differ from process and content in the aftermath.

- **Imitating the current practices of other successful firms is not sufficient to navigate the dynamics of learning and adoption inherent in organizational transitions.**

- **Managers focused on the end state risk misunderstanding and mismanaging the transition.**

  – Benchmarking and "best practices" may be misdirected. More attention to how an organization learned is needed.

  – Today's practice does not fully reflect yesterday's learning journey.

- **We may indeed need to reinvent the wheel.**