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SIX STEPS TO THINKING SYSTEMICALLY

BY MICHAEL GOODMAN AND RICHARD KARASH

Bijou Bottling Company is a fictitious beverage bottler with an all too real problem: chronic late shipments. Its customers—major chain retailers—are looking for orders shipped complete and on time. About five years ago, in a U.S. region covering about six states, this problem reached crisis proportions...

In the face of day-to-day pressures, groups often leap to solutions after only a modest amount of brainstorming. A systemic approach, however, provides a structured problem-solving process for digging deeper into our most vexing problems.

To get a sense for how systems thinking can be used for problem identification, problem solving, and solution testing, we have outlined a six-step process. To use this process on a problem in your workplace, try the worksheet on page 9.

1. Tell the Story
   The starting point for a systems thinking analysis is to get your head above water enough to start thinking about the problem instead of just acting on it. An effective way to do this is to gather together all of the important players in the situation and have each one describe the problem from his or her point of view.

   At Bijou Bottling Company, the problem was usually a customer complaint: “Where were the 40 cases of 2-litre Baseball tie-in product that were ordered last week?!” Somehow Bijou would get the goods there on time, whatever it took—including airshipping heavy soda in glass bottles at enormous costs. But this crisis management led to a culture where people built their careers on coming in at the 11th hour and turning around a customer complaint.

2. Draw “Behavior Over Time” Graphs
   In the storytelling stage, most of the energy is focused on the pressures of the current moment. When we move to “Behavior Over Time” (BOT) graphs, however, we begin to connect the present to the past and move from seeing events to recognizing patterns over time.

   Draw only one variable per graph on a Post-it™ note so it can be easily moved around in the steps that follow. The time frame should span from past up to the present—but it can also include future projections (see “Bijou Over Time”).

3. Create a Focusing Statement
   At this point, you want to create a statement that will help channel energy during the rest of the process. This statement may involve a picture of...
what people want, or a question about why certain
problems are occurring. At Bijou, for example, the
focusing
statement was: “We’re pretty good at solving each
problem as it arises. But why are these problems re-
curring with greater frequency and intensity? What
is causing them?”

4. Identify the Structure
You now want to describe the systemic structures
that are creating the behavior patterns you identi-
plied. The systems archetypes are an easy way to
begin building a theory of why and how things are
happening (see “Systems Archetypes at a Glance,”
V22N6, August 2011).

Begin by reviewing the story, graphs, and fo-
cusing statement to see if they follow the storyline
of an archetype. If so, draw the loop diagram for
that archetype, place the Post-its of the variables in
the diagram, and move them around on a flip chart
until you have a diagram that seems to capture what
is going on.

The group at Bijou decided that their problem
matched the “Shifting the Burden” storyline, in
which a problem is “solved” by applying a short-term
solution that takes attention away from more funda-
mental improvements. They identified a balancing
loop that described how customer problems were
solved with heroic “11th-Hour” efforts (the sympto-
matic solution) at the expense of improvement and
redesign of the production/distribution system (the
fundamental solution). As people “learned” over time
that heroism is rewarded, their willingness and ability
to address system-wide problems decreased (see
“Shifting the Burden to Heroism”).

5. Going Deeper™ into the Issues
Once you have a reasonably good theory of what is
happening, it is time to take a deeper look at the un-
derlying issues in order to move from understanding
to action. There are four areas you should clarify:

• Purpose of the System. Ask yourself, “In the
larger context, what do we really want here?”

• Mental Models. Begin the exploration of mental
models by adding “thought bubbles” to those links in
the diagram that represent choices being made (see
“Mental Models and Systems Thinking: Going Deeper

• The Larger System. Add links and loops to
enrich the story and connect the relationships to the
larger system.

• Personal Role. Acknowledge and clarify your
own role in the situation.

For example, when the people at Bijou looked at
the larger system, they wondered what role their cus-
omers played in the system. They theorized that
customers were taking problem situations and esca-
lating them into crises in order to get the company’s
attention (B4).

6. Plan an Intervention
When planning an intervention, use your knowledge
of the system to design a solution that will struc-
turally change it to produce the results you want.
This might take the form of adding a new link or
loop that will produce desirable behavior, breaking
a link or loop that produces undesirable behavior, or
a combination of the two. The most powerful inter-
ventions often involve changing the thinking of the
people involved in the system.

At Bijou, the key to change was realizing that
the problems were largely self-inflicted. They real-
ized that they had to make progress on produc-
tion/distribution system improvements while still
doing enough fire-fighting to keep things afloat. In
the longer term, they would need to change the re-
ward systems that promoted heroic behavior. They
also recognized the need to sustain the improvement
efforts even when the pressure came off—otherwise
the problems would be back again soon.

Part of a Cycle
Even as systems thinkers, it is easy to fall back into
a linear process. But learning is a cycle—not a
once-through process with a beginning and an end.
Once you have designed and tested an intervention,
it is time to shift into the active side of the learning
cycle. This process includes taking action, seeing
the results, and then coming back to examine the outcomes from a systemic perspective.

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**“SIX STEPS” WORKSHEET**

1. Tell the story:

2. Draw graphs:

3. Create a Focusing Statement:

4. Identify the Structure:
   
   *How does the structure explain the observed behavior?*

5. Going Deeper™ into the Issues:
   
   • Purpose:
   
   • Mental Models
   
   • Larger System:
   
   • Personal Role:

6. Plan an Intervention:
   
   *How is the planned intervention consistent with the structure as described above?*