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FEATURE

Adaptive Action: Leveraging Uncertainty in Your Organization

by Glenda H. Eoyang and Royce J. Holladay

Every day, examples of social, economic, climactic, and political changes that erupt without warning. In this complex, uncertain world, we need the capacity to adapt to the unexpected, make sense of patterns, and build the adaptive capacity necessary to thrive in such volatile uncertainty. This article introduces the Adaptive Action model, an elegant and powerful approach for engaging with dynamic change.

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TOOLBOX

Exposing the Hidden Benefits of Business As Usual: Why the Status Quo Is So Difficult to Change

by David Peter Stroh

One of the premises of systems thinking is that systems are perfectly designed to achieve the results they are producing. When we look at how dysfunctional our existing systems can be, this premise seems absurd. Why would we create systems that produce poor outcomes? By understanding the hidden benefits of our current systems, we can increase our ability to achieve more of what we really want.

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Systems Archetypes As Structural Pattern Templates

by Daniel H. Kim and Colleen Lannon

The systems archetypes provide a powerful set of "reference structures" that allow us to look beyond individual events to the underlying structural patterns that are producing them. When we see these patterns, we can understand the larger forces at work in our organizations and make fundamental improvements to our systems.

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FROM THE RESOURCE SHELF

From "Teams" to "Teaming": Organizational Learning for the 21st Century

by Davis Liu

In *Teaming: How Organizations Learn, Innovate, and Compete in the Knowledge Economy*, Amy Edmondson documents the need for leaders to shift from creating effective teams to effectively supporting the teaming process. In teaming, people from a variety of functional areas come together to carry out short-term initiatives. Edmondson shows how leading effective teaming differs from traditional leadership concerns.

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FEATURE

ADAPTIVE ACTION: LEVERAGING UNCERTAINTY IN YOUR ORGANIZATION

BY GLENDA H. EOYANG AND ROYCE J. HOLLADAY

It is the bottom of the ninth. The game clock ticks to zero. The goalie has a weak knee; the star forward has five fouls. And the soprano just missed her cue. It is your move; you have the puck. What do you do? This may sound like the punch line of a nightmare, but for many of us it feels more like Tuesday at the office. Often we find ourselves in unfamiliar territory, working toward shifting goals, with colleagues who seem to be from another universe. Today it is sometimes hard to tell who works for whom. Relationships are shaped by inconsistent and often confusing cultural, social, emotional, and business practices. We are never quite sure what to expect or how (and by whom) our success would be judged. It is increasingly difficult to make sense of complex and uncertain patterns in organizations. There are questions about goals, rules, equipment, and skills that separate winners from losers. Relationships that might have held over the long haul are challenged by changing expectations and loyalties. Careers do not follow predictable predetermined patterns. Economic indicators are confusing even to the experts. All of us have trouble making sense of the game we are playing and figuring out what we have to do to win.

The Infinite Game

What rules prove to be constant in your day-to-day experience at work and at home? If you are anything like our clients or like us, you live and work in an environment where new rules are written and old ones are broken every day. James Carse saw the emerging complexity of the world back in the 1970s. He wrote a lovely book called *Finite and Infinite Games* to distinguish predictable, closed-system games from the ones that were open and unpredictable (James P. Carse, *Finite and Infinite Games*, Free Press, 1986). Traditionally, finite games have shaped our experience and our success.

TEAM TIP

With your team, evaluate whether your function operates in the realm of "finite" or "infinite" challenges. If the latter, practice using the Adaptive Action model described in this article.

In a *finite game*, it is easy to make sense. Everyone agrees on the goal; the rules are known; and the field of play has clear boundaries. Baseball, football, and bridge are examples of finite games. At one time in the not-so-distant past we expected careers, marriages, parenthood, education, and citizenship to be finite games. When everyone agrees on the rules, and the consequences of our actions are undeniable, responsible people plan for what they want, take steps to achieve it, and enjoy the fruits of their labor. We know what it takes to make sense in a finite game.

Most of us realize that we play a very different game. We play an *infinite game* in which the boundaries are unclear or nonexistent, the scorecard is hidden, and the goal is not to win but to keep the game in play. There are still rules, but the rules can change without notice. There are still plans and playbooks, but many games are going at the same time, and the winning plans can seem contradictory. There are still partners and opponents, but it is hard to know who is who, and besides that, the "who is who" changes unexpectedly.

Every day, the newspaper is full of examples of unexpected and sometimes unknowable developments. The mortgage market tanks, an interstate bridge across the Mississippi River collapses, youth in London turn into lawless mobs, earthquakes hit Washington, DC, and a tsunami devastates Japan.

In such complex and unpredictable environments, important factors that shape the future are unknowable. Social, economic, climactic, and political changes erupt without warning. We can plan, but we expect our plans to go awry. We can work toward our goals, but we understand that our work may be in vain. We experience unintended consequences that too often punish what should be rewarded and reward what should be punished. We need new ways to make sense in complex organizations. As individuals and organizations, we need the capacity to adapt to the unexpected. We need *adaptive action.*

Every day, forces we do not control reshape the landscapes of life in the 21st century. Not only are the rules of the game of life changing, but the game itself is being transformed. Not only are we playing a different game, but we are called upon to play

many different games at the same time. Not only are we playing many games, no one knows who will get prizes in the end and for what. It is your move. Life is uncertain. What do you do?

Economic foundations sit on quicksand of derived values and float on bubbles of speculation. Would it be possible to see, understand, and respond to economic turmoil in ways that reduce risk and increase value for us and our organizations?

Cultural and national loyalties shift too quickly or lock in too tightly for civil stability to be sustained. Might we see early signals of dissatisfaction so we could understand and influence the public discourse toward peaceful and productive dialogue?

Technology moves from imagination to reality to obsolescence at breathtaking speeds. Can we consumers, producers, suppliers, and service providers develop the capacity to keep up with the pace of technical change?

Massive, ubiquitous, and direct communications contribute to both intractable stability and incomprehensible disruption. Can we read the landscape and establish media and messages that support the patterns we choose to reinforce?

Local climactic conditions change more quickly and more unpredictably than farmers, multinational corporations, or emergency services can respond. Can we collect data from around the world, consider it in rational and open ways, and take collective action for the good of people and the planet?

These are the kinds of questions that shape our ability to thrive—perhaps even to survive—in the uncertain world of the future. As individuals, we face similar challenges in personal development, home, and health. As community members, such challenges appear in threats of violence and opportunities for collaborative action. At work, our abilities to manage planning, marketing, human resources, and supply chains all depend on the ability to see, understand, and influence emerging change in complex environments.

We don't think these problems are beyond human intervention. We believe that humans can make sense of patterns in a fast-changing environment and build the adaptive capacity they need to thrive in such volatile uncertainty.

We are living and working in a world—indeed in multiple worlds—that are changing before our very eyes. This massive disruption is no secret. Every scholarly and practical discipline has tried to describe how these fundamental changes affect decision making and action. In our work, we engage with people from many different sectors: educators, public health professionals, politicians, bureaucrats, military strategists, leaders, healthcare professionals, technology gurus, industry giants, mechanical engineers, entrepreneurs, product developers, middle managers, academic researchers, funders, and grantees. The particular challenges faced by each of these people are unique. They work with different resources, different conceptual and practical tools, different places and times and shares of the power picture. Still, they have one thing in common. They and their organizations all get stuck trying to deal with the uncertainty. They struggle to understand and to adapt to the ever-changing rules of the game.

Our research and practice, our personal and professional lives point to Adaptive Action as a path through these uncharted territories.

Adaptive Action Defined

Adaptive Action is an elegant and powerful method for engaging with dynamical change in an ever-emerging, always self-organizing world. The Adaptive Action model consists of three questions: *What? So What? Now What?*

What? What do you see? What changes have occurred? What is the same as before? What is different? What containers are most relevant? What differences are emerging or disappearing? What are the current exchanges and how strong are they? What is the pattern of the past? What desires are there for patterns in the future? *What?*

So What? So what surprises you? So what do your observations mean to you? So what do they mean to others? So what might you expect in future? So what assumptions or expectations were confirmed or denied? So what containers are open to change, and what might those changes mean? So what differences are open to change, and how might new or more effective differences be infused into the system? So what options are there for building new exchanges, changing existing ones, or breaking ones that are not helpful? *So what?*

Now What? Now what will I do? Now what will you do? Now what will we do together? Now what

messages should we send to others? Now what outcomes might we expect? Now what will we do to collect data for our next and emerging cycle? *Now what?*

That is it! After framing such an enormous set of overwhelming challenges we face in the world of today and tomorrow, it is a bit surprising that we would offer a solution as simple as the CDE Model coupled with Adaptive Action. How can such a simple method prepare individuals and groups to thrive in response to such complex challenges? How can such a simple method help us leverage the uncertainty that plagues complex adaptive systems? The answer is not so simple.

CDE MODEL

The CDE Model is a set of the three conditions for self-organizing of human systems. The conditions include ***Container***, significant ***Difference,*** and transforming ***Exchange***. The path, rate, and outcomes of self-organizing processes are influenced by these three conditions, which are co-dependent such that the function of each of the conditions depends on the others in nonlinear interactions in the system. A change in any one of the conditions results in a change in the other two over time.

See "Conditions for Self-Organizing in Human Systems" by Glenda Eoyang for more details.

First, Adaptive Action is a variation of a very old idea. Similar processes show up as the scientific method of building and testing hypotheses, PDSA (Plan, Do, Study, Act), learning cycles, action research, and diagnostic procedures. From records of ancient warfare to the latest scientific treatises, we see the steps of data collection, analysis, and action repeated in an infinite number of ways. The reason it keeps showing up is that it works. When adaptation is called for, seeing, thinking, and acting in iterative cycles is exactly the right response. Adaptive Action is a slightly adapted version of the age-old process. We have altered the process to account for the openness, high dimensionality, and nonlinearity of dynamical change in complex adaptive human systems by stating it as a series of inquiries and by embedding into the process the conditions for self-organizing.

Second, Adaptive Action is a cycle. Every ending action makes the next beginning question necessary. Complex systems of all kinds—from fractal mathematics to genetic biological systems—are driven by iteration. A short, simple process is repeated over and over, at different times, in different speeds, with different raw materials. The result is a highly diverse, but fundamentally coherent, pattern. You find examples of iteration leading to coherence in every facet of human activity. Practice makes perfect for the musician and the athlete. Reliable processes produce consistently high-quality goods. Behavior that is modeled and practiced is embedded in habit. Rituals build community. Good manners encourage respect. Saturation advertising seduces consumers. When you begin to see them, the examples of simple iteration and complex results are endless.

Third, Adaptive Action is framed as a series of questions. An adaptive actor is always standing in inquiry. In times of uncontrolled and dynamical change, inquiry is absolutely necessary. The greatest risk is allowing assumptions of the past to dominate expectations for the future. The only way to avoid this dangerous path is to ask questions—clearly and perpetually.

Fourth, Adaptive Action is simple enough to be flexible. It can be repeated by anyone or any group, in any place, at any time. It may be explicit or implicit, solo or shared, public or private. It may deal with patterns in physical, conceptual, emotional, social, or political reality. Formal groups and informal ones can engage in Adaptive Action. Cycles can be short as a second and long as a lifetime. In any variation, it supports effective and efficient engagement between people and their environments.

Fifth, it is the only way to reduce the risk of uncertainty in dynamical change. Under conditions of extreme unpredictability, it is impossible to know ahead of time what will happen. It is impossible to know what is a good choice or a bad choice before you make it and see the results. All you can do—the only way to mitigate risk—is to try something, quickly and carefully assess how the system responds to your action, and take another action in mutual response. Adaptive Action leads you to adjust and correct when it is impossible to predict and control.

Sixth, there are millions of tools, models, and methods to support each step. You can even use the ones you already know to fill in the blanks of *What? So what?* and *Now what?* Ultimately, we hope you find ways to create an Adaptive Action toolkit that fits you and your complex environment.

Seventh, Adaptive Action cycles can be embedded inside each other to build a network of inquiry and action. While you explore any large adaptive challenge, you will also encounter smaller ones. Sometimes these smaller challenges are closely connected together and sometimes they may be loosely connected. Planning a presidential campaign is a long cycle of Adaptive Action, but within it there are other adaptations like selecting staff, setting and testing strategy, reviewing poll data, deciding where to spend your time and where to dispense your message. As any political operative can attest, there is no end to the numbers and levels of Adaptive Action cycles that inform a political campaign. Each one can stand

alone, and all of them are intimately connected to each other, so you can choose to deal with one at a time or any combination of a group of them. The trick is to choose a sufficient number to do the work well and few enough to do the work efficiently. ◘

Excerpted from the forthcoming book Adaptive Action: Leveraging Uncertainty in Your Organization*, by Glenda Eoyang and Royce Holladay, to be published in April 2013 by Stanford University Press. Glenda Eoyang and Wendy Morris will present Adaptive Action: Leveraging Uncertainty and Thriving in Chaos at the 2013 ALIA Summer Institute.*

Glenda Eoyang is offering a series of free online conversations about Adaptive Action and Human Systems Dynamics (HSD). Participate each month in this opportunity to explore new answers to the most persistent questions in your continuing leadership challenges. There is no charge for these events, but ***registration*** *is required. Once registered, you are signed up for all sessions and will have access to the archived conversations. For more information, go to the HSD website.*

Glenda H. Eoyang is the founding executive director of the Human Systems Dynamics Institute, a network of professionals working at the intersection of complexity and social sciences. A master teacher and facilitator, Glenda supports change for individuals, organizations, and communities around the world.

Royce J. Holladay is the director of the Network of the Human Systems Dynamics Institute. She is a prolific writer and engaging presenter, seeking to explain complex ideas in simple and understandable terms. In addition to formal essays, articles, and papers, Royce often uses stories, poetry and haiku, and graphics to express complex ideas.

NEXT STEPS

Adaptive Action Planning Model

Adaptive Action Planning is an iterative planning process based on three questions:

What? We gather pertinent data from across the environment to develop a picture of the underlying dynamics of our current status. What are the patterns we see and what do we know about their impact on the system?

So What? We examine data to make sense of it. We come to understand what the "picture" of our current status means and begin to explore and plan next steps. We explore the impact of the system patterns on the whole, part, and greater whole; the conditions (CDE) that generated those patterns; and options for action that can shift the patterns to make the system more adaptable, more sustainable, more fit.

Now What? We take action and then pause for a second check to measure our impact. By following up and asking where we are now and what is to be done next, we start the next cycle in the iterative process.

Progressing through the three steps to collect and analyze data that informs next steps becomes an ongoing cycle that can be carried out at all levels of the system. This sounds and looks much like the "Plan-Do-Check-Act"-type models that are used in a number of approaches to change. There are, however, fundamental differences that set Adaptive Action apart.

- —It is assumed that the questions are based in the dynamics, examining patterns of decision making and interaction.
- —Analysis of those patterns focuses on understanding the conditions that generate those patterns.
- —Some options for action can emerge from decisions to amplify or damp current patterns by influencing environmental conditions.
- —Other options for action can emerge from decisions to shape new patterns by shifting environmental conditions toward greater sustainability and fitness.
- —This approach to planning is intended to be iterative or nonlinear, meaning the cycle never ends. Each "Now What?" returns to a new "What?" to launch a new cycle.
- —This constant cycling through means it can happen in the span of a heartbeat or across the arc of a longitudinal study.
- —The constant cycling through also requires that the "we" remain in a stance of inquiry, always watching and remaining open to what we can learn from the dynamics that swirl around us.

In a human system, long-range change can happen as individuals and groups use multiple and connected cycles of Adaptive Action to shape their own patterns of productivity and performance to support the overall, agreed-upon goals of the system. This shared direction and action is what we refer to as coherence in the system and is a more effective and productive approach to planning than traditional strategic planning.

For additional resources, go to Human Systems Dynamics Institute.

Check out this video of Glenda Eoyang as she talks about Adaptive Action.

EXPOSING THE HIDDEN BENEFITS OF BUSINESS AS USUAL: WHY THE STATUS QUO IS SO DIFFICULT TO CHANGE

BY DAVID PETER STROH

For the medical informatics unit of a major health services organization, the vision was clear and compelling: assure that the most advanced current knowledge about medical informatics be incorporated into the company's clinical information systems. Despite strong corporate support, the unit faced multiple problems, including trying to convince a loosely knit confederation of hospitals to implement its ideas, making commitments to these hospitals and then failing to deliver high-quality systems on time, and burning out its staff in the process. Simply put, people were overcommitted and under-delivering.

Senior staff talked about the need for change and actually learned new skills such as how to make more reliable commitments, but they had an uncomfortable feeling that they were not addressing the really critical issues.

This situation is all too common in organizational life:

- We have noble aspirations for what we want to achieve.
- The costs of conducting business as usual are high and growing.
- We make changes that should work but don't seem to get at the core issues.
- We can't get traction on making the most important changes.

It raises two questions:

1. Why do people persist in making seemingly superficial changes?
2. What would motivate them to make the changes that would best enable them to accomplish what they want?

TEAM TIP

Look for both/and solutions, i.e., ways to achieve the benefits of both the status quo and the desired state.

We'll answer both in turn.

A Perfectly Designed System

One of the premises of systems thinking is that systems are perfectly designed to achieve the results they are producing. At first glance, when we look at how dysfunctional our existing systems can be, this premise seems absurd. For example, why would people create a system that produces low-quality products delivered late at the expense of their own personal health and well-being?

However, on closer observation the premise leads to some important insights:

1. People experience payoffs from the system as it is currently designed.

For example, the senior managers of the medical informatics group came to recognize that the existing system acknowledged them for their ambitious vision and commitment, motivated them to work hard in service of this vision, and averted the need to challenge their clients' own unrealistic expectations.

2. One of the most common payoffs is that the current system allows people to avoid "paying the price" of changing their behavior.

For example, for the senior managers of the medical informatics group, many of whom are doctors themselves, making more reliable commitments would require them to plan their work more carefully. However, the physicians in charge did not have strong planning skills. Developing these skills would have required them to acknowledge their weakness in this area and take time away from delivering on their current commitments.

In addition to evading paying the price of change, there are several other typical benefits to conducting business as usual. These include:

3. The solutions that people have employed so far work well enough in the short term.

For example, when the senior managers in the medical informatics group make promises to their clients, the very act of making a commitment temporarily removes external pressure from them to perform. Because they are people of high integrity,

they believe that their commitment means that they will deliver the result. Moreover, they experience the act of making a promise as motivation to work as hard as they can to succeed.

4. These short-term benefits reinforce the belief that people are doing the best they can. They do not have to consider the longer-term consequences of their actions that often undermine their effectiveness.

For example, the medical informatics managers take comfort in the belief that their noble aspiration, innate intelligence, and hard work are sufficient to achieve their vision. Belief in the power of one's passion and persistence is perfectly understandable, even though these qualities might be necessary but not sufficient to achieve great results. The managers fail to recognize that making commitments without realistically thinking through the time, resources, and focus required to be successful is a quick fix that leads over time to delivery shortfalls, quality problems, and reduced credibility with clients.

5. The short-term benefits people experience tend to meet normal human needs for competence and acknowledgement of their good intentions and effort. Experiencing these immediate payoffs also enables people to blind themselves to their responsibility for subsequent problems with execution. Rather than take ownership for these problems, they convince themselves that they are doing the best they can and others are to blame when things do not work out as expected over time.

For example, the medical informatics group prides itself on working extremely hard to achieve a significant vision, and staff members can easily point to external obstacles, such as the corporate culture or clients' unrealistic expectations, as preventing them from being as successful as they could be.

"Cost Benefit Analysis of Change vs. No Change" can help people expand their awareness of the benefits and costs involved in changing. It helps people explicate not only the more obvious benefits of changing and costs of not changing, but also the frequently hidden benefits of not changing and costs of changing.

COST BENEFIT ANALYSIS OF CHANGE VS. NO CHANGE

Changing		Not Changing
1. Benefits of changing	**Benefits**	3. Benefits of not changing
4. Costs of changing	**Costs**	2. Costs of not changing

In order for change to occur, the product of cells 1 and 2 must exceed the product of cells 3 and 4.

Five Steps to Achieving More of What You Want

There are five steps you can take to increase your ability to achieve more of what you really want:

1. Reinforce the case for the desired outcome, i.e., make your vision (the benefits of changing) and costs of not changing as visceral as possible.

2. Acknowledge that the status quo, however overtly dysfunctional, also produces benefits you value.

3. Clarify how your current actions actually undermine the vision you want to achieve. Systems maps can assist this process by tracing the long-term unintended negative consequences of people's well-intentioned behavior. Illuminating these consequences:

- Reduces your attachment to your current behavior and the accompanying benefits of maintaining the status quo;
- Increases the perceived costs of not changing because you can now see how your actions lead to worse rather than better performance.

4. Look for ways to achieve the benefits of both the status quo and the desired state. It makes sense to look for both/and solutions that maximize benefits of both the status quo and the desired state, and to implement these solutions where they exist. However, given a system's tendencies toward better-before-worse behavior (i.e., "there's no free lunch") and worse-before-better behavior (i.e., "pain before gain" or the need to make upfront investments for long-term success), finding these both/and solutions is not so easy.

5. Choose consciously. Where tradeoffs between short- and long-term payoffs are required, you need to make a deliberate choice in favor of those actions that are likely to produce the longer-term result you say you really want. Alternatively, you can accept that the benefits of the status quo are more important than your espoused vision—and consciously choose to maintain the status quo.

David Peter Stroh (dstroh@bridgewaypartners.com) is a founder and principal of Bridgeway Partners and an expert in applying systems thinking to organizational and social change.

SYSTEMS ARCHETYPES AS STRUCTURAL PATTERN TEMPLATES

BY DANIEL H. KIM AND COLLEEN P. LANNON

In the September issue, Daniel Kim showed that there are at least three ways to use the archetypes: as different "lenses" on a problem; as structural pattern templates; or as dynamic "scripts" (or theories). In this issue, he and Colleen Lannon focus on using systems archetypes as structural pattern templates.

Imagine you were suddenly struck with a strange illness that affected your vision. While you were still able to "see" everything around you, somehow your mind was unable to put all of the bits of color, shape, and texture into any recognizable forms. You couldn't move around your office without bumping into furniture, distinguish between your desk and the papers *on* your desk, or recognize the faces of your co-workers—everything was a blur of light and color, each part indistinguishable from the rest...

While this scenario is highly improbable, it illustrates how facile our minds usually are at seeing patterns. The human brain is able to assemble trillions of pieces of data into recognizable objects and relationships that allow us to navigate through the world. Similarly, our minds are good at storing and retrieving linked chains of cause and effect. For example, it doesn't take a child very long to realize that touching a hot stove means hurting a finger. Without this fundamental ability to recognize familiar patterns, every moment would be a new experience, and we could never learn from the past.

In order to see such patterns quickly, however, we must have reference structures that help us recognize similar situations. Such references allow us to go beyond the details of a situation and see larger patterns (e.g., touching hot objects will cause pain). Systems archetypes provide a powerful set of reference structures that allow us to see beyond the level of individual events in our organizations to the larger forces that are at work.

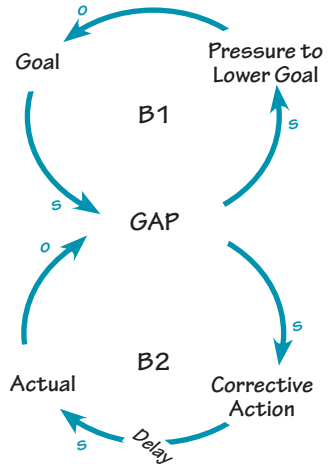
Seeing the Structures Behind Events

Once we are able to look beyond individual events and begin to see the underlying structural patterns that are producing them, we can make more fundamental improvements in our organizational systems. In particular, systems archetypes—a set of templates for identifying common patterns of behavior—can help in this process.

The archetype diagrams provide a visual representation of a pattern of linked causes and effects. For example, "Drifting Goals" describes a pattern of gradually eroding goals that occurs over a long period of time. The storyline of the archetype says that if there is a gap between a desired goal and our actual performance, we can close the gap in one of two ways—by taking action to reach the goal, or by lowering our goal to be more in line with the current reality (see "'Drifting Goals' Archetype"). The critical difference between these two approaches is that lowering the goal immediately closes the gap, whereas corrective actions usually take time. The tendency, therefore, is to let the goal gradually drift until a crisis occurs that focuses organizational attention on the problem.

Mapping out the specific loop structures of "Drifting Goals" and other archetypes helps us identify the structures creating the behavior patterns that

"DRIFTING GOALS" ARCHETYPE



The "Drifting Goals" archetype represents a pattern of gradually eroding goals caused by two balancing processes that are trying to achieve equilibrium between a goal and the actual state.

This article was originally published in *The Systems Thinker®* V6N4, May 1995.

we observe. We can then use the structural pattern template to see similarities across seemingly diverse situations. For example, "Drifting Goals" shows a pattern of gradually eroding goals caused by two balancing processes that are trying to achieve equilibrium between the goal and current reality. The problems of lengthening delivery times or an increasing aging chain of receivables are both very different, yet each demonstrates a pattern of drifting goals and can be addressed using similar corrective actions. This ability to transfer lessons from one setting to another enables us to accelerate learning across the organization.

Seeing Loops and Nothing Less Than Loops

By using systems archetypes as structural patterns, we can begin to see the world in terms of interrelated factors. Loops, not the component variables, become the smallest unit of analysis. We are no longer satisfied with explanations listing isolated factors as causal agents. Instead, we want to know how those factors relate to other parts of the system.

If we are looking at a rapid growth situation, for example, and are concerned about becoming caught in a "Limits to Success" archetype, we might begin by looking at the growth drivers. In such situations, it is common to list linear factors (A causes B causes C, etc.). Mapping the situation through an archetype, however, forces us to map the factors into a loop that tells a coherent story. For example, if we identified new product introductions and service quality as key success factors, we could incorporate those into the "Limits to Success" diagram. This diagram includes both the engines of growth and the potential limits to that growth (see "From Factors to Loops").

In working through this process, we are, in essence, looking for loop structures that capture a fuller story. In the case of "Limits to Success," we are looking for a structural pattern of one or more reinforcing loops that are generating growth, coupled with one or more balancing loops that are slowing down the growth. Through continual practice with the archetypes, we can develop our perceptual capabilities and move from seeing isolated factors, to seeing loops, to seeing whole archetypal structures.

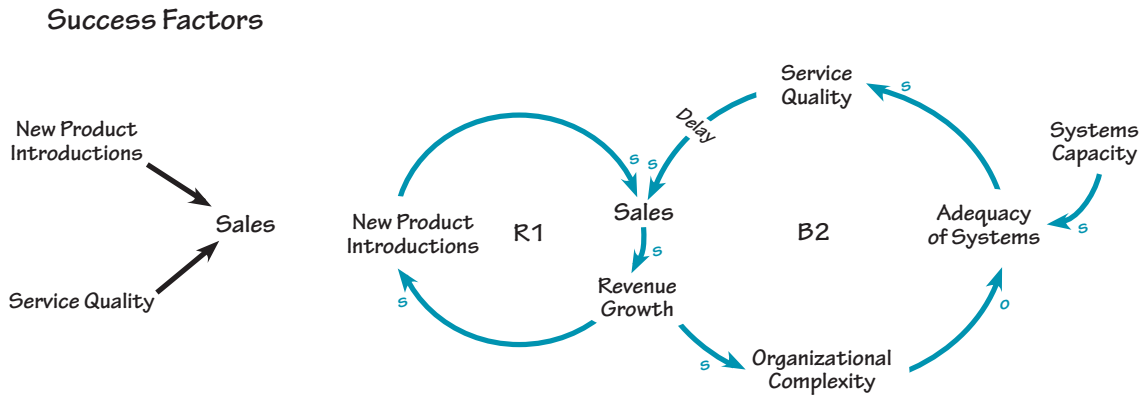
Visual Structures

The value of a clear and unambiguous description of a complex situation can't be overemphasized. When talking about complex organizational issues, it is easy for a team to stray from the main topic into many interesting details that are not very relevant to the issue at hand. Without the clarity of focus provided by a common picture, the conversation can turn into a storytelling fest where much is shared and little is actually accomplished. At its worst, those discussions can turn into counterproductive finger-pointing sessions.

The archetypes, however, can help focus a group's attention on the heart of an issue by providing a structural pattern and a process for identifying and drawing out each of the requisite loops of that pattern. Diagramming an archetype provides an explicit visual form that can depersonalize issues by focusing attention on a system's structure, not on the individual players in the system. In addition, the language of links and loops provides a disciplined way of specifying relationships between factors by identifying them as part of a reinforcing or balancing loop.

The "Archetypes as Structural Patterns" chart (on p. 10) shows the loop structures of each of the archetypes. Highlighting the basic reinforcing and/or balancing loop patterns of the archetypes provides a starting point for identifying those dynamics in our own organizations. This chart can help us see broader

FROM FACTORS TO LOOPS



Looking at a situation from a "Limits to Success" structural pattern forces us to go beyond simply listing success factors. We must actually map them into reinforcing and balancing loops. For example, new product introductions lead to higher sales and boost revenue (R1), but revenue growth puts a strain on the organization's internal systems, which leads to lower service quality and, ultimately, lower sales (B2).

structural patterns at work, rather than viewing each event as a unique individual occurrence.

Seeing Structures Across Diverse Situations

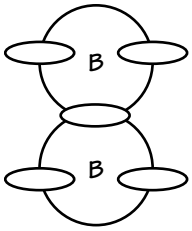
As we internalize the structural patterns of each of the archetypes, we begin to see the world in terms of larger "systemic chunks" instead of unrelated bits and pieces. When we see a competitor responding to one of our company's pricing promotions, for example, we won't just see it as a one-time reaction, but will recognize how each player is operating in his or her own balancing loop process that is perhaps part of a larger "Escalation" structure.

A Chinese philosopher once said, "One cannot step into the same river twice." Although the river is slightly different each time we dip into it, for most practical purposes we can treat it as if it were the same. Likewise, from a systemic perspective, we can look beyond the myriad details that makes each situation look unique and recognize the underlying structural patterns that produce the same dynamics in a variety of situations. This ability to leverage learning across many different situations is one of the most powerful benefits of the systems thinking approach, and one of the most significant distinguishing characteristics of the human mind. ◘

Daniel H. Kim is co-founder of Pegasus Communications, founding publisher of *The Systems Thinker* newsletter, and a consultant, facilitator, teacher, and public speaker committed to helping problem-solving organizations transform into learning organizations.

Colleen P. Lannon is co-founder of Pegasus Communications, Inc.

ARCHETYPES AS STRUCTURAL PATTERNS

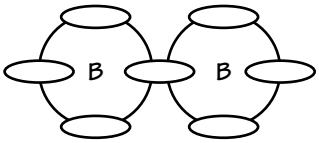


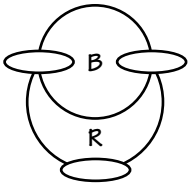
Drifting Goals

Two balancing loops that strive to close the gap between a goal and current reality.

Escalation

Two or more players who manage their own balancing loop in response to the threatening actions of others.



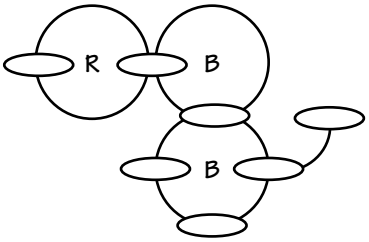


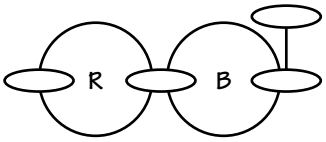
Fixes That Fail

Efforts to bring something into balance create consequences that reinforce the need to take more action.

Growth and Underinvestment

A "Limits to Success" structure with a specific system constraint—namely, an investment policy balancing loop.



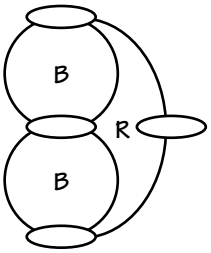


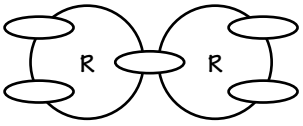
Limits to Success

A reinforcing loop creates pressure in the system that is relieved by one or more balancing loops that slow growth.

Shifting the Burden

Two balancing loops compete for control in "solving" a problem symptom, while a reinforcing side-effect of one solution makes the problem worse.



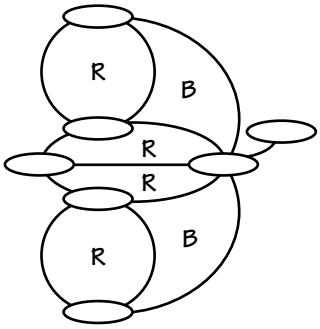


Success to the Successful

Two reinforcing loops compete for a common, limited resource.

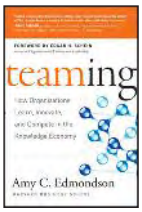
Tragedy of the Commons

Two or more reinforcing activities whose sum total strains a limited resource and creates balancing consequences for all.



FROM "TEAMS" TO "TEAMING": ORGANIZATIONAL LEARNING FOR THE 21ST CENTURY

BY DAVIS LIU



Teaming: How Organizations Learn, Innovate, and Compete in the Knowledge Economy
by Amy Edmondson

In *Teaming: How Organizations Learn, Innovate, and Compete in the Knowledge Economy* (Jossey-Bass, 2012), professor Amy Edmondson of Harvard Business School has crafted a practical, evidenced-based book on how leaders and organizations must approach the increasing complexity of the problems they face. Although the "execution mindset" was successful in the past, Professor Edmondson demonstrates that in an increasingly competitive global economy, a different approach is needed. She says, "For over a century, we've focused too much on relentless execution and depended too much on fear to get things done. That era is over. . . . Generating ideas to solve problems is the currency of the future; teaming is the way to develop, implement, and improve those ideas."

Unlike formal teams that exist to serve specific functions, in teaming, people from a variety of functional areas fluidly come together to carry out short-term initiatives. The factors involved in leading effective teaming likewise differ from traditional leadership responsibilities and concerns. For instance, according to the author, individual and organizational psychology, hierarchical status, cultural differences, and physical distance can and do separate team members and prevent successful teaming. Leaders can close these gaps by understanding the existence of such obstacles and by adapting their leadership styles to overcome them.

Professor Edmondson also notes that leaders must thoughtfully identify where the challenges they face fit on the Process Knowledge Spectrum—Routine Operations, Complex Operations, or Innovative Operations. A car manufacturing plant, where outcomes are fairly well known, is generally a Routine Operation. At the other extreme, in Innovative Operations such as an academic research lab, the outcomes are quite unknown. Although the teaming framework applies in each of these settings, the leader's specific behaviors and actions must change. Having excellent outcomes and appropriate teaming requires matching the right approach to the specific kind of operation.

An Actionable Framework

Interestingly, conflict and failure are necessary for teaming to be successful and for maximum learning to occur. But these kinds of positive outcomes can take place only if leaders create an environment of psychological safety by framing failures as essential for continuous improvement and innovation.

Edmondson gives examples of instances when teaming has gone well (the improbable rescue in Chile of 33 miners after 69 days trapped underground) and not so well (the space shuttle Columbia tragedy). She also illustrates challenges and solutions with numerous case studies and insights from organizations such as Prudential, GM, Toyota, IDEO, the Internal Revenue Service, and several hospitals.

Professor Edmondson has woven 20 years of research and observation into an actionable framework and structure. Her findings and the stories she has captured make *Teaming: How Organizations Learn, Innovate, and Compete in the Knowledge Economy* compelling. It is destined to be a classic reference for leaders today and in the foreseeable future as they lead their colleagues and organizations into confronting and solving increasingly complex problems and challenges. ◘

TEAM TIP

In any initiative, take the time to build trust among team members—even if those individuals aren't part of a formal team.

Dr. Davis Liu is a practicing family doctor and physician leader. He blogs regularly at www.davisliumd.com and is the author of *The Thrifty Patient: Vital Insider Tips for Saving Money and Staying Healthy*.

LEARNING QUOTES

"We are all capable of becoming fundamentalists because we get addicted to other people's wrongness."

—Pema Chödrön

"How do you quickly build trust? Self-disclosure and inquiry. The more I ask, the more genuine curiosity I have about you, and the more questions I ask of you, the more you will trust me and the more I'll learn about you, which will also help me trust you. So, it's a kind of positive feedback loop, and it starts with curiosity, inquiry and disclosure."

—Amy Edmondson

THE SYSTEMS THINKER®

EDITOR: Janice Molloy (janicem@pegasuscom.com)
FOUNDING PUBLISHER: Daniel H. Kim
PRODUCTION: Nancy Daugherty
CIRCULATION: Mark Alpert (marka@pegasuscom.com)

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ORDERS AND PAYMENTS INFORMATION
Phone 800-272-0945 • 781-398-9700 • Fax 781-894-7175
customerservice@pegasuscom.com

EDITORIAL AND ADMINISTRATIVE STAFF
Phone 781-398-9700 • Fax 781-894-7175
editorial@pegasuscom.com 319 Littleton Road / Westford, MA 01886-4133 USA

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