How strategic innovation really gets started

Robert Chapman Wood

(bio)
Robert Chapman Wood is professor of strategic management at San José State University, San José, California, where he studies processes of innovation and managed institutional change in large human systems. Prior to his academic career he was a research director at Strategos, a consulting firm founded by Gary Hamel.

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How does strategic innovation—the development of new business models and the effective introduction of dramatic innovations to the marketplace—really get started? There are two schools of thought: leading scholars say that senior management needs to develop a vision and a clear plan to achieve an innovation goal and then drive a program that makes the vision a reality. A few CEOs, however, intuitively understand that the process of starting strategic innovation is famously messy -- more likely to get under way successfully if it is not preplanned in detail. According to this second school of thought, management's chief function is to promote continual adaptation—both of goals and processes--and extensive learning from experience as innovation evolves.

A leader who adopted this "messy" approach is Robert Shapiro, former chairman of Monsanto. In the era when the company's research-based products first began to transform agriculture, he rejected standard approaches to organizational change almost completely. "The literature said the way you created change was that it was driven from the top," Shapiro explained in an interview. "You pick three things that you really want to see happen, and then you say those things over and over until you beat them into the organization. I came to the conclusion that that wouldn't produce a revolution at all." The standard approach might produce changes in behavior, Shapiro believed. But it would not deliver what Monsanto needed: repeated, truly strategic innovation. "I wanted something that was more spontaneous, that would produce new things from the field," he said.

So how are companies to achieve repeated, successful strategic innovation? Based on my research, I propose an approach that is essentially simple: Instead of trying to develop a clear "blueprint" for how the innovating organization should work, start with a big, emotionally involving goal, improvise some steps toward it along with the rest of your team, and maximize the learning from what's been improvised. This process permits the emergence of new routines and methods

that embody the wisdom of the organization and can promote repeated future innovation.

The approach is based on my study of what really worked in Monsanto and two other – very different – innovating organizations. I also studied the problems in three firms that tried to create repeated strategic innovation and failed. Leaders in the firms that were successful innovators behaved differently from the ways that many change experts recommend. Instead of trying to create a clear, simple blueprint for innovation, they created a powerful but by no means entirely well defined goal that people throughout the organization could share emotionally. I call this goal "strategic intent," since the leaders' behavior paralleled that recommended in the famous article by Gary Hamel and C.K. Prahalad.[1] The next step for the successful innovators was to work with others in the organization to improvise initial actions in support of the strategic intent and gain some initial successes without relying on either established systems or any specific new principles of innovation. After some notable accomplishments emerged, they then let people learn from them, allowing many to play key roles in the emergence of the organization's own unique method of creating new activities. As new ways of innovating evolved, leaders supported the process with a few rules that made it work better.

Table 1 summarizes the model of how leaders can get continual strategic innovation started and compares it with a more conventional organizational change model.

Less planning, more real innovation

The three highly innovative organizations studied were:
- Monsanto, a manufacturer whose products at the time the study was launched were agricultural chemicals, seeds, and pharmaceuticals.
- GE Capital, a leading participant the financial services industry.
- NIPSCO Industries, a holding company whose principal asset was the gas and electric utility Northern Indiana Public Service Co. NIPSCO had built an innovative reputation through consolidation of local gas pipelines and water utilities and creation of a subsidiary that helped local firms build on-site power plants.

The three less successful innovators examined were AT&T, Digital Equipment, and Lucent Technologies. With support from the consulting firm Strategos, I obtained management cooperation in each firm and conducted 71 interviews as well as reviewing internal and external documents. (See box, "The Research.")

As Table 1 shows, this research uncovered successful practices that comprise a five-step process of starting continual strategic innovation. But key to understanding those steps is realizing the importance of improvisation. To

promote effective strategic innovation processes, leaders need to understand the difference between improvisational change and planned change.

Improvisation means figuring out how to do something as you do it. Improvisation is the opposite of planning and then doing. If a team meets and decides who will do each task in a project and the members then go off and perform those tasks, that is a planned project. If members arrive at work one morning, learn of a crisis--such as a rival's new product introduction, or a technology innovation--and work together on a coherent plan, that's improvisation.[2] Major strategic changes in organizations can't be entirely improvised, but especially during crises they don't need to be fully planned either. And this study suggests that change that is at least partially improvised can capture wisdom that careful planning might not.

As Monsanto's CEO Robert Shapiro noted, many works on innovation and change presume that leaders can and should plan the key elements of the changes that will occur in the organization's processes and then carefully promote the implementation of their plans.[3] Change management consultant David Nadler, for example, believes that leaders have to define where the organization is going and how it will change its work, its people, its formal organizational structures, and the nature of informal arrangements within it. (His methodology is described in the right hand column of Table 1.) According to this approach, leaders have to guide the organization through the transformation they have planned, then "consolidate" change by incorporating new practices "into the very fiber of the enterprise." Models like Nadler's seem most likely to work when an organization needs to make a big once-and-for-all change. An example in Nadler's 1998 book, *Champions of Change*, is the transformation of the Kaiser Foundation Health Plan and Hospitals in the 1990s to focus more on cost containment. The model even seems to work for dramatic transformations like Xerox' adoption of total quality management in the 1980s.

However, Nadler and others have also applied the standard model to firms like AT&T, Lucent, Ford – and Xerox -- in the 1990s and later when the demands of the future were unclear and they needed a capability for repeated strategic innovation. Using the standard model for this is problematic. As my study showed, different kinds of innovation require very different kinds of structures and cultures in the organization. In a fast-changing environment, leaders cannot predict what kinds of innovation may be needed. Thus it is not clear how senior managers can determine in advance what kind of structure and culture are needed.

Analysts like Nadler say little about improvisational behavior. Yet experienced managers know that it is impossible to plan every step of an innovation process, especially in a volatile environment. And the data from the companies in this study suggests that the best way to create a capability for on-going large-scale strategic innovation is to allow much of the initial innovation to emerge in a less planned exploration than standard models propose. Admittedly, large-scale

innovation may require development of complex systems, and this usually can't be entirely improvised. But the study suggests that people should at least improvise much of the initial planning processes. Letting people explore a big, vague goal at the beginning of the effort to innovate can open the door to good ideas that might otherwise be killed and prevent an organization from marching in lock step to develop innovations and ways of innovating that will fail.

Five leadership steps that support repeated success

The process by which the innovative companies learned to create and implement new strategies resembled the standard processes that change gurus advocate in significant ways. However, it also differed dramatically.

1. Recognize the crisis and the need for radical transformation. As Table 1 shows, at the outset the process through which Monsanto, GE Capital, and NIPSCO began innovating resembles the process proposed by Nadler's model. Change cannot get started without recognition that the organization faces a crisis that it can't overcome without radical transformation. Leaders have to use the crisis to unfreeze the organization, weakening commitments to the status quo.

This, however, is the only part where the two processes are identical. The rest of the process that produced continual strategic innovation in the successful firms in my study differed significantly from standard models such as Nadler's, which describe a carefully guided process. Nadler advocates that firms develop principles that can be "repeated like a mantra," providing guidance as leaders define and implement specific new approaches to each of four aspects of the company: its way of working, its formal structure, its culture, and its ways of finding and training people. He advocates that the firms should next consolidate change by having lower-level managers adopt these approaches. Finally they "sustain change" by seeking new kinds of change that are necessary and implementing them.

Managers in Monsanto, GE Capital, and NIPSCO followed some of these prescriptions. However, no leader in any of these firms first defined the way of working that would allow it to innovate and then deliberately brought that kind of innovation process into existence. Their chief executives all insisted in interviews that neither they nor anyone else had blueprints of innovation processes, and interviews with other organization members supported their statements. Indeed, they often acknowledged that the strategies they described to financial analysts were simply ways of explaining groups of actions that they had taken without any grand plan. "We want people to understand what we're doing - that the markets understand it, that the customers understand it, that the regulators understand it," said a senior executive at NIPSCO. He described the comprehensive strategy the firm was articulating in the late 1990s as "a presentation approach to help explain the individual things that we are doing."

Thus, learning from experience guided the emergence of innovation routines, not top managers' principles. The following sections summarize rules of thumb for leaders based on the successful innovators' practices. Each rule corresponds to one of the steps in the process found in the innovating companies (See Table 1).

2. Create inspiring but necessarily vague goals. Leaders of each innovating organization developed a big goal and worked hard to ensure that other organization members would share it. However, none of the goals was precise. Monsanto, which had been investing in biotechnology from the late 1970s through 1990 with little return, sought a goal of "Abundant Food and a Healthy Environment." At GE Capital, whose way of innovation dated largely from the early 1980s, the emergence of innovation was profoundly affected by Jack Welch's insistence at that time on radical improvement in performance ("No. 1 or No. 2 in all the businesses we serve"). Welch's goal, however, gave managers no hint of exactly what they should do, which in retrospect seems to have been the best practice. (Contrast this approach with the conventional wisdom offered by Noel Tichy, whose book is the classic description of how Welch transformed GE. Tichy suggests Welch would have done even better if he had followed the standard innovation model by developing a clearer "blueprint.[4]") NIPSCO's leader, Gary Neale, promoted what he called a "smarter, faster" energy company after he came to power in 1989, but never adopted any simple management slogan or set of goals at the corporate level.

The experiences suggest the goals that drive the emergence of continual strategic innovation can be broad and unspecific, but they need to convey urgency and management's willingness to commit resources.

3. Start to innovate without clear principles. Some culture-change efforts comparable to those that Nadler recommends were important in Monsanto, GE Capital, and NIPSCO. But they did not seem to be key drivers of the on-going strategic innovation that emerged. The leaders in each successful innovator began innovating or encouraged others to begin innovating outside of and with little reference to any rules or systems that were being created. In other words, the innovation processes were improvised. So were many planning processes.

Thus the leader's role in this early part of the emergence of continual strategic innovation was to participate in or support innovation that didn't follow rules. The combination of the organization's vague goal, the fear of the crisis, and the knowledge that team members had to do something drove the creation of genuinely new strategies.

Each of the three organizations began effective strategic innovation in a different unplanned way.

GE Capital struggled with an opportunity that appeared by accident. Ronald Reagan-era tax breaks allowed it to make huge profits through tax-oriented

leasing. But the breaks were so generous that it quickly became apparent that Congress would cut them back. Anxious to keep the leasing profits, managers launched a study of successful leasing firms. "Companies in leasing were adding something," recalled Gary Wendt, who was chief executive of GE Capital at the time of our interviews. "There was GPA, which was doing airline leasing in Ireland. There was a group doing rail cars in Chicago. There were companies doing fleets of autos. They made money from providing a service to the customer besides the money." According to Wendt, the GE managers decided to seek leasing niches where they could leverage GE's tight operating discipline and match the profits they had been earning from tax leasing. They did, and it was the first big GE Capital success of the Jack Welch regime.

Monsanto also began innovating without a clear blueprint. It knew something of what it wanted to do: profitably sell bioengineered seeds that could greatly increase productivity. But this was the vaguest of plans. It gave no hint of what strategies might produce profits or how to create them. Historically seeds had been a low-profit business. When seed companies sought high prices for hybrid seeds, farmers responded by saving some of their crop so they could replant without paying the seed company. If farmers could do this with bioengineered seeds Monsanto's investments in biotech would be threatened, and the best lawyers and consultants offered no real solutions. Only after a diverse team of insiders studied the problem did a scientist volunteer a solution to a key piece of the puzzle. "A researcher said, 'I could develop a test to determine whether that gene is in the plant,'" recalled James Tobin, Monsanto's seeds business director. Tobin knew the product would succeed when the test was demonstrated for cotton farmers "and we could see from the look in their eyes" that they would not want to cheat in the face of such a test.

At NIPSCO, Gary Neale started improvising innovation when he was a newly hired executive vice president. NIPSCO had been in crisis because a series of expensive investments had made the firm a high-cost producer of electricity, raising the threat that a larger utility would take it over. Neale's solution was a rate freeze. He discussed the freeze only briefly with existing top management then immediately announced it with no formal studies of its likely impact. He said in an interview that he was confident even without analysis that cost-cutting opportunities would exist. The opportunities did materialize and the freeze dramatically improved the firm's position in the market.

The work of these three successful innovators suggests that good leadership in the pursuit of repeated strategic innovation means avoiding too many rules regarding how initial innovations are created.

4. Learn from initial innovations. If the successful innovators started out with less well-defined ideas about what they were going to do than the standard innovation process model suggests, they made up for it by learning from the processes that produced their initial innovations. CEO Gary Wendt said that after

GE Capital developed ways to find new opportunities to leverage capital, services, and operating discipline in leasing, managers created small business development units designed to find similar opportunities to leverage capital, services, and operating discipline routinely in all kinds of financial services.

At Monsanto, a major result of the initial innovation was the appointment of biologists to the post of general manager. Biotech researchers accustomed to the extremely complex issues of biological research and to collegial processes of addressing them soon created collegial processes of addressing the extremely complex issues of biotechnology business. "People were new to industry," said David Fischoff, one of the scientists who became a senior manager. "Most of this work was an international sort of exercise being done primarily in academic labs. So it was in many ways natural for people in that atmosphere to collaborate. They would collaborate internally as if they had been in academic labs." The process proved helpful in a world where products involved complex interactions of scientific, manufacturing, legal and public relations issues.

At NIPSCO, the ways of innovating that emerged were influenced by the success of Gary Neale's initial rate freeze. Neale was soon promoted to chief executive. Having established that he could achieve success by innovating on his own, he took an approach to innovation that was collegial but more directive than those that succeeded in GE Capital or Monsanto. He or an executive vice president would ask another member of the top team to investigate a possible strategic innovation such as the purchase of an asset or entry in a new business (for example, purchase of another utility or a firm with unique energy conservation technology). Decisions would be made informally by the top team.

5. Encourage emergent strategy innovation routines. Innovation processes based on the ways of innovating that emerged with little planning evolved into routines that were used for further strategic innovation. Moreover, leaders supported these routines with some formalization to increase efficiency and clarity. As the kind of small-scale innovation achieved through the business development groups became common, managers added "open-door days" when anyone could drop in and propose an idea. Seeking to make diverse cross-functional teams more common and effective, Shapiro and Monsanto's human resources group established rules for creating and staffing innovation-related units. One of the most striking was that each unit would have two leaders, one each from two different parts of the organization. They would usually be co-equal. For instance, a unit planning the introduction of a new pest-resistant variety of potatoes would have two heads sharing an office ("two-in-a-box," it was called), one from marketing and the other from R&D.

Senior leaders played a key role in guiding routines that supported a capability for repeated strategic innovation, but they did not design them.

Success of innovation based on emergent routines

These emergent strategy innovation routines not only enabled each firm to innovate repeatedly. There was also reason to believe each organization's routines were particularly suitable for that firm.

For example, GE Capital executives emphasized that they believed successful financial services businesses are basically simple. When interviewed, one executive said there remained in the U.S. "a lot of loosely managed businesses" in financial services that GE Capital, taking a global approach and applying tight operating discipline, could acquire or defeat in the marketplace. The innovation routines that GE Capital had created through its largely improvisational processes were in fact highly suitable for creating simple businesses. Small business development groups found opportunities and specified how they could be addressed. The annual planning cycle began with "dreaming meetings" and presumed that businesses discussed in the dreaming meetings could be launched by the end of the year. In fact GE Capital launched or acquired hundreds of simple new businesses during the late 1990s and early 2000s.

Monsanto, on the other hand, was launching very complex businesses, inevitably involving complicated scientific, manufacturing, legal, and public relations issues. The routines that emerged were similarly complex because they involved repeated creation of teams with people from many parts of the business (and sometimes from outside the firm). They allowed the company to develop a series of new approaches for selling a variety of bioengineered seeds in a variety of markets and for dealing with the rapid biotechnology advances that developed outside its own labs. Shapiro's top-down decision in the late 1990s to purchase large seed companies to improve distribution created problems when several big firms came on the market simultaneously. As a result, Monsanto spent more than it had intended. The firm went through several restructurings, driven mainly by difficulty servicing its debt, but it eventually emerged as the leader in the agricultural biotechnology field.

Innovation through NIPSCO's chief-executive-dominated process allowed the company to accumulate a portfolio of energy-related businesses and water utilities in a corridor from the Great Plains to New England. In the early 2000s it emerged as an important and successful player in the utility business and changed its name to NiSource. During this period many comparable utility firms were merged out of existence.

The distinctive routines that emerged in each successful organization suggest that an improvisational approach to strategic innovation encourages people to discover business processes that are particularly suited to their situation.

The less successful firms

Two striking differences existed between the organizations that succeeded at innovation and those that failed. First, the unsuccessful firms had far less of a

crisis mentality than the successful ones. Second, the leaders of the unsuccessful firms seemed to be more wedded to a preconception of the particular future they believed was most likely to occur than the leaders of the firms that ultimately succeeded.

At AT&T, few saw their organization as being in crisis during the period of our interviews (1999-2000). Change proposals faced extensive internal opposition and senior executives did little to overcome it. Soon after our interviews ended, a new chief executive arrived with an innovation blueprint that called for buying cable television firms and selling comprehensive telecommunications through the cables. Unfortunately AT&T lacked the financial resources to develop and introduce an effective product. Eventually the cable firms had to be spun off for less than AT&T had paid for them.

At Digital Equipment senior management did not acknowledge the gravity of the crisis or use it to motivate innovative behavior. Senior management had a blueprint for innovation, but it was fatally flawed. Digital's chief executive focused on creating a microprocessor far more powerful than that of chief rival Intel. Though Digital produced the chip, it could not persuade enough customers to buy it because that would have required them to abandon investments in Intel-based software.

Lucent Technologies made its intense effort to launch strategic innovation in 1998-99 at a time when the company, recently separated from AT&T and participating in a telecommunications boom, did not seem to face any crisis. Its blueprint for innovation: attain 15 percent growth through expansion of all key technologies. Unfortunately, when the telecommunications boom collapsed this goal could not be achieved.

Many serious errors contributed to these firms' failures. But it is fair to emphasize that these cases show how having well-defined plans that aren't easily adapted to changes in circumstance can cause misfortune rather than success.

Taking the first key steps

In the both the model suggested by my research and the standard model, the first best practice is: recognize that efforts to achieve continual strategic innovation are unlikely to succeed unless the organization perceives it's in a crisis. Before the general awareness that a crisis exists, each effort to produce a distinctive new offering may create useful learning, but it is not likely to be "The Big Leap" that produces the new techniques required for repeated, successful strategic innovation.

My second finding, on the other hand, is that when the crisis is apparent the management approach that brings real, continual strategic innovation into existence can't be found in standard models. Effective strategic innovation is

most likely to emerge when leaders create a big goal and rally their organization to start improvising their way toward it. The five-step process used by successful firms requires a vague but potent goal, initial innovation experiments that are largely improvised, and continuous learning from them to bring effective strategy innovation routines into existence.

These difficult but essentially simple steps made the difference for the successful organizations studied.

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The research

      This research began as an effort to identify how firms could repeatedly start to create strategic innovations. The sample of highly innovative organizations was designed to be small enough to allow in-depth coverage but diverse enough for meaningful conclusions. Diversity was sought by industry, leading vs. following position within the industry, and size. Industry diversity was sought at the one-digit SIC code level, and three of the five largest one-digit SIC code industries (manufacturing, financial services, and the "transportation and public utilities" industry) were included. Monsanto and GE Capital represented large organizations that were leaders in their industry; NIPSCO Industries represented a smaller firm that had held a lower rank in its industry. Comparison firms were identified that had been less successful in strategic innovation (AT&T, Digital Equipment, and Lucent Technologies).

      When research showed that processes of innovation differed radically from one firm to another, the study focused on how the different processes within the firms emerged. Histories were developed of 30 innovation efforts in the innovative firms together with a smaller number in the less innovative firms, and histories were developed of how the management systems evolved in each firm. In addition to review of internal documents and published information on the firms, 71 managers and professionals were interviewed between 1999 and 2004.

      The research was carried out with support from the consulting firm Strategos and Profs. Gary Hamel, Kenneth Hatten, N. Venkatraman, and Peter Williamson.

Table 1
Comparing a new empirically based model of how continual strategic innovation begins to a standard approach to innovation

Process Found in Innovating Companies	Stages in Standard Model (Nadler's version*)
1. **Recognizing the change imperative**. Leaders see a crisis confronting the organization and help others understand	1. **Recognizing the change imperative**. Leaders see a crisis confronting the organization and help others understand

and face it.	and face it. (First step is similar under both models.)
2. **Developing a widely shared and powerful, but probably vague, goal**. The goal should have emotional appeal and thus be easy for people to support. Benefits should be clear not just to the company but also to society. The goal is a theme to drive initial innovations. (But it isn't necessary to repeat it over and over.)	2. **Developing a shared direction**. Central is "a small number of high-concept principles that speak to strategy, structure, and culture … communicated through public statements by the CEO, and then … repeated over and over again until they become a kind of corporate mantra" (p. 139)
3. **Beginning to innovate**. Motivated by the powerful goal, someone innovates in a new and different way, not following any well-defined rules or methodology. (At the same time the organizations may make changes in basic strategy, structure, culture, and/or personnel, but there was no consistent pattern in this in the firms studied.)	3. **Implementing change**. Leaders separately develop and implement (a) new basic strategy and ways of working, (b) a new formal structure, (c) a new culture, and (d) ways of finding and training the right people. The emphasis is on planned, controlled change.
4. **Learning from initial innovations.** Some innovations seem to succeed, and people copy initial innovation processes, adapting them to new uses and thus creating new innovations.	4. **Consolidating change.** Once senior managers have created the basic changes in Steps 2 and 3, managers below them have to drive the changes into every part of the organization.
5. **Development and operation of strategy innovation routines.** Innovation processes based on the ways of innovating that emerged from improvisation become routines. Leaders formalize some elements to increase efficiency and clarity.	5. **Sustaining change**. Leaders seek new kinds of change that are necessary and implement them.

*Based on *Champions of Change,* Nadler (1998)*.

Endnotes

[1] Hamel, G., & Prahalad, C. (1989, May). "Strategic intent," *Harvard Business Review.*

[2] For a carefully grounded study of how improvisation can work in organizations, see Miner, A. S., Bassoff, P., & Moorman, C. (2001). "Organizational improvisation and learning: A field study," *Administrative Science Quarterly, 46,* 304–337.

[3] For a good summary of conventional approaches to change management and their strengths and weaknesses, see Weick, K. E., & Quinn, R. E. (1999). "Organizational change and development," *Annual Review of Psychology, 50,* 361–386.

[4] Tichy, N. M., and Sherman, S. (1994). *Control your destiny or someone else will: Lessons in mastering change—the principles Jack Welch is using to*

revolutionize General Electric. (pp. 21-25). New York: HarperBusiness. Tichy and Sherman say that Welch had an "inchoate vision" not a clear blueprint.