

Toward Middle-Up-Down Management: Accelerating Information Creation

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THE AUTHOR IS ONE OF A GROUP of Japanese management scholars developing a frame of reference strikingly different from that of American scholars writing about business administration. Here Professor Nonaka introduces the concept of compressive management, which recognizes a key role for middle managers in information development: "The essential logic of compressive management is that top management creates a vision or dream, and middle management creates and implements concrete concepts to solve and transcend the contradictions arising from gaps between what exists at the moment and what management hopes to create." The development of the Honda "City" is used to illustrate "middle-up-down" management. In their wish to develop an entirely new car, Honda's top managers gave a group of young designers that task—with virtually no direction. The designers first attempted to modify an existing model but were eventually forced into questioning and transcending universal assumptions about automobile design. *Ed.*

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THE CONCEPTS of "top-down" and "bottom-up" management pervade management research and the popular business literature. Both center on information flow and information processing. Top-down management emphasizes the process of implementing and refining decisions made by top management as they are transmitted to the lower levels of the organization. Bottom-up management emphasizes the influence of information coming up from lower levels on management decision making. The management styles of individual firms are usually seen as located somewhere on the continuum between these two types.

However, organizations must not only process information; they must also create it. If we look closely at R&D activities, we find a pattern in some firms that does not fit on the continuum between top-down and bottom-up. It is a process that resolves the contradiction between the visionary but abstract concepts of top management and the experience-grounded concepts originating on the shopfloor by assigning a more central role to middle managers. This process, which is particularly well suited to the age of fierce market competition and rapid technological change, I call *middle-up-down management*. The development of the Honda "City" exemplifies this management style.

Development of Honda City

In 1978, the management of Honda Motors was worried that the company was losing its vitality. Its basic models, such as the Civic and the Accord, had reached "middle age" at a time of major generational shift in the Japanese market. For the first time, Japanese born after World War II outnumbered those born before and during the war. Honda's top management decided to let the younger design engineers develop something for their own generation. The project began with the catchphrase, *Boken o yatte miyo*—literally, "Let's make an adventure."

The youngest people on Honda's design staff were selected as members of the City development team. Their average age was only twenty-seven. Former president Kiyoshi Kawashima and other top managers promised there would be no interference with the team's operation. One of the team members recalls, "It was surprising and wonderful that the company dared to entrust younger staff like us with the design and development of a new model." Even so, the company did not just abandon them, but rather sought to impress them with a high degree of responsibility.

Mr. Nobuhiko Kawamoto, vice president in

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charge of R&D, describes how Honda's top managers approach research projects:

We usually control the tasks of researchers quite tightly, and then loosen the control from time to time. Ideas with great potential often emerge from this process. What we have to do is to watch these creative spurts carefully, notice them when they are good, and then develop them. Of course, too much freedom doesn't work. But sometimes we take the chance of giving researchers basic goals and responsibilities, and then letting them go by themselves. In other words, we put them upstairs, remove the ladders, and say, "You have to jump from there. We don't care if you can't." I think human beings display their greatest creativity under pressure.

Some say Honda not only puts researchers upstairs without a ladder, but also "sets the first floor on fire."

Mr. Kawamoto appointed Mr. Hiroo Watanabe, a chief researcher who was thirty-five years old at the time, to be the leader of the team. Mr. Kawamoto explains, "It's hard to get enough cooperation if you only have young staff members. Therefore I chose a skilled senior as their leader."

The autonomous team faced some challenging goals. The overall assignment from headquarters was to "create something different from the existing concept." This involved two major targets: creating a popular, fuel-efficient car (a top management goal) and designing a low-priced but not cheap model (a self-imposed team objective). The team eventually saw two ways to achieve these goals.

They first attempted to develop a "mini Civic" by shortening the car 100mm in front and back. Although the original instructions from top management—on a single sheet of paper—had been general and ambiguous, management resolutely rejected the compromise. Team leader Watanabe recalls, "No matter how we refined development plans of this kind, Mr. Kawamoto rejected them again and again, saying we had to start all over from the very beginning. We didn't know what to do, but we couldn't tell them that a fresh start was absolutely impossible. So we were finally persuaded to try it." Top management thus forced the team forward but maintained the loose power balance between the two groups. Mr. Watanabe, who had reached a conceptual dead end, went to Europe, where he was inspired by Austin Mini to lead the team to create a "luxurious mini" model.

The second means of reaching the team's goal involved challenging an idea that was dominant in

the automobile industry: that a car should be "horizontally long and vertically short." At the time, most automobile manufacturers were looking for fuel economy with lightweight materials and aerodynamic designs. Consequently vertically short designs were prevalent. After a month of heated discussion, the team began to move in another direction. Their new policy involved what Mr. Watanabe called "automobile evolution theory":

The theory is that the ultimate form of the automobile requires us to maximize human space by minimizing machine parts. We decided that the automobile was evolving toward this ideal form, and that Honda should lead this evolutionary movement. The first step was to design a tall model that would challenge the "common sense of Detroit," which permitted car designers to pursue beautiful forms at the expense of space for human use. . . . It takes a technological perspective to see the significance of a taller model. . . . It is a cube that can be more lightweight, lower priced, and more solid.

Based on this theory, the development team chose a "horizontally short and vertically tall" car as its target. The "luxurious mini" became the core of their design policy. The challenge was to design a machine-minimum (minimum space devoted to the machine) and man-maximum (maximum space for human use) automobile. These seemingly contradictory goals required the creation of a new viewpoint.

One of the team members recalls, "I feel, however illogical it sounds, that the success of this project owes a lot to the very wide gap between the ideal and the actual. We could not achieve the ideal goal by an incremental improvement of the actual. Revolutionary reformation was necessary, and, in order to achieve this, new technologies and concepts were generated one after another."

The group, then, was given autonomy and was simultaneously forced to challenge long-held assumptions. These alone were not sufficient for the realization of creative concepts, however. The importance of also having a group of people with heterogeneous backgrounds cannot be overstated. Any group can create a wider variety of concepts than the average individual. This potential is best realized when group members are extremely heterogeneous with respect to jobs, orientations, and behavior. In the phase of concept formation, the City development team was a hybrid, except in that all of the members were genuine car maniacs. In fact,

many worried that the team would be unable to reach consensus.

The group needed to introduce, challenge, process, and integrate a wide range of information and ideas. One of the methods used was *tamadashi kai*, or meetings to create and share information. *Tamadashi kai* are not formal, and every meeting was held at a different time and place. Each was entirely devoted to discussion and aimed at clearing some hurdle the project had run into. The participants in these meetings were not just the team members. When necessary, the staffs of related departments were invited as well. All participants were required to be equally involved and absorbed in the lively discussion regardless of titles or qualifications. However, criticism was taboo. As Mr. Watanabe says, "To criticize is ten times easier than to propose a constructive opinion. The discussion would have been useless if participants had remained silent for fear of being criticized." Several times, Mr. Watanabe held day-and-night discussion sessions, most often in rooms at small taverns or inns near the research lab instead of at luxurious hotels. In ceaseless discussion from morning to midnight, participants had to use all their wits to challenge existing paradigms.

During the development process, the project team comprised people from the development, production, and sales departments. The team made use of a quick information creation system based on a hybridization of the three departmental positions. The system performed the following functions: procuring personnel, facilities, and budget figures for the production plant; analyzing the automobile market and the competition; and setting a market target and determining sale price and production quantity. This system, which collects, creates, and implements information, is called the "SED system." It is also used to develop about forty-five new motorcycle models each year. The SED system was established when Mr. Kawashima was president of Honda. Its initial aim was to manage development activities more systematically by integrating the knowledge and wisdom of ordinary people instead of relying on a "hero" like founder Soichiro Honda.

The operation of the system is quite flexible. The three areas, Sales, Engineering, and Development (SED), are nominally distinct, but there is a built-in learning process that encourages invasion into others' areas. The actual work flow requires researchers to collaborate with their colleagues. Mr.

Watanabe comments, "I am always telling the team members that our work is not a relay race—that's my work, and yours starts here. Every one of us should run all the way from the start to the finish. Like in a rugby game, all of us should run together, passing the ball left and right, reaching the goal as one united body."

This process leads to a high level of information sharing. In a project team, members share a huge amount of managerial information received through conversations with top management; they also share market information concerning the competition. Moreover, as the division of labor is rather unclear and flexible, members can meddle wherever they like. There is thus no information lag between top management and the team leader. Also, since whatever the various members are doing is out in the open, each knows almost instinctively what his or her coworkers have in mind. This information sharing among project members reflects a distinctive aspect of Honda's broad corporate culture. The company is already famous as an originator of the "large room" system, and all its meeting rooms are glass-plated so that what is going on can be seen from the outside. As the degree of information sharing increases, individuals identify themselves with the team as a whole, and begin "self-controlling." "Basically speaking," says Vice President Kawamoto, "organizational management is no longer necessary if each individual properly performs what is expected. Once a goal is given and roles are specified to a certain extent, our staff works quite well."

Every participating member grows up by casting off his older skin in the process of successful project development. Prominent success helps other members to follow, saying, "Hey! Look at what those guys have done." After the successful completion of a project, participants are assigned to other projects so that the knowledge they have acquired can be transferred throughout the organization. An engineer comments, "I think it's pretty difficult to articulate really meaningful know-how in text, figures, or other measurable forms. The knowledge is alive because . . . it changes continuously. . . . The best way to transfer it is through human interaction."

On the other hand, Honda dislikes easy imitations of recent successes, and sometimes even goes so far as to destroy its own accumulated knowledge. "The most severe criticism for us is to say, 'It looks like something else,'" states Mr. Hiroshi Honma, a chief engineer. The concept of "Tall Boy"

(the nickname for the City model) was created by destroying the concepts that dominated Honda and the automobile industry in general at the time. A special engine, suspension, and radial tire were developed exclusively for the new car. All other parts were also designed for the City, to avoid giving customers an image of a “mini Civic.” About ninety patents were applied for during the project, which clearly indicates the “unlearning” of accumulated knowledge and the acquisition of new knowledge.

Middle management plays a key role in this process of abandoning the old and generating the new. The Honda City case clearly shows the critical importance of Mr. Watanabe, the middle manager selected as project leader. His role had several key aspects: providing direct information links to top management; transforming top management’s general vision into directions for the team’s activities and for pursuing the creation of meaning; managing “chaos” and keeping it within tolerable limits; and providing the context for integration across specialties. While Honda pays tribute to the energy and drive of the young researchers who generated the new product idea, top management clearly recognizes the strategic role of its middle management project leaders as well.

Product Development and Information Creation

If we wish to understand how the City development project was managed, the familiar information-processing paradigm is not especially helpful. For innovation is not so much a process of gradually reducing uncertainty (processing information) in moving toward a prescribed goal. Rather, it is a process through which uncertainty is intentionally *increased* when circumstances demand the generation of chaos from which new meaning can be created. This process is full of discovery, surprise, and redundancy. Senior management at Honda,

in forcing the project members to challenge their most deeply held assumptions, forced them not to process information but to create it. To do this successfully, project members had to confront ambiguity, contradiction, and failure.

The information-processing paradigm emphasizes the structure of the organization. The information creation paradigm, in contrast, stresses the process of creating meaningful information through personal interaction.¹ The *quality* of information becomes more important than the quantity. Inductive, synthetic, and holistic methodologies become more useful than the deductive, analytic, and reductionistic ones used in information processing.

If we view the organization as a three-tiered structure—composed of the individual, the group, and the organization as a whole—then we can pinpoint the specific characteristics that are important to information creation at each tier of the organization (see Table 1).

The Individual Level

The emergent, or critical, property of information creation at the individual level is autonomy. This level is characterized by action and deliberation: Only here is it possible to deliberate and act autonomously. Autonomy begins to be realized when individuals are given the freedom to combine thought and action at their own discretion, and are thereby able to guarantee the unity of knowledge and action.

The methodology for information creation can be looked at in a number of ways—deductive or inductive, analytic or synthetic, reductionistic or holistic, etc. If we approach information creation with the idea that a new point of view will emerge as facts and knowledge are related, then our approach is essentially inductive. An inductive style is more likely to produce innovation, because the knowledge that forms the basis for information creation is often inarticulate. (Michael Polanyi has called this tacit knowledge—intuitive knowledge that cannot be completely expressed either in writing or in speech.²) The essential elements of tacit knowledge—the creation, learning, or recognition of the new and the unknown—are particularly important in the process of information creation that leads to innovation. Overt knowledge is important, but intuitive knowledge is essential, because it reflects an internalized understanding gained from previous experience. In any event, the interaction

Table 1 Levels of Organizational Information Creation

Level	Emergent Property	Factors Related to Information Creation
Organization	Structure	Competitive Resource Allocation
Group	Interaction	Direct Dialogue
Individual	Autonomy	Action and Deliberation

between perception and action is the methodological basis for individual information creation.

This methodology is characterized by a never-ending rephrasing of the basic questions one is dealing with. However, this type of self-reflection far more often leads to failure than to success. Therefore, if one does not have the freedom to fail as well as the freedom to succeed, then one is not truly autonomous.

The Group Level

The emergent property at the group level is interaction—more concretely, open and frank dialogue. Human interaction is best realized within the organization at the group level.

The creation of information is the creation of a new perspective. The dynamic, complementary process that results in a shift to a new point of view requires interaction—a dialogue or debate—among people. The process is convoluted, involving a cycle of affirmation, denial, and resolution before new information is created. Since the significance of information is elastic during this process, individuals have the opportunity to interpret and reinterpret for themselves; this freedom allows group members to organize information individually. Unity and coherence are born from this group action. Coherence itself, however, can serve both to promote and to hinder the creation of information. Coherence often produces a pressure for conformity, and differing opinions are confined or limited with the birth of what Janis calls “group think.”³ However, this tendency must be balanced against the fact that trust is the precondition for creative dialogue, as well as for the open exchange and cooperative possession of information.

The Organizational Level

The emergent property of the organization as a whole is structure. An organization’s structure regulates the depth of the relationship between groups (sections) involved in information creation. From a macro perspective, structure produces the means for the distribution of resources among the various groups in the organization, and thereby contributes to a greater competitive capability. The structure of an organization is designed to be able to mediate between the desires of the group and of the individual in relation to information creation. It thus addresses the problem of allocating

resources properly among competing interests.

The key resources in information creation are people, things, money, and information. One of the objects of competitive resource allocation is the proper integration of these limited business resources. An organizational structure based on the logic of competitive resource allocation regulates the ability of a group or individual to create information. The structure thereby provides basic direction, in terms of breadth and depth, to individual acts of information creation over a specified period of time.

This discussion of methodology at the individual, group, and organizational levels suggests some differences between the levels with respect to information creation. It is important to recognize, however, that these methodologies can either promote progress or generate contradictions. For example, even when individual autonomy exists, there may be no constructive dialogue at the group level. Or if there is constructive dialogue at the group level, but no competitive allocation of resources at the organizational level, then productive information creation cannot be realized in a competitive market. And even if inductive and deductive methodologies were unified so that information creation could be managed in a single process, the breadth and depth of the organization’s information creation might thereby be lost. I therefore suggest that the special characteristics of these distinctive methodologies be allowed to coexist.

Methodologies of Organizational Information Creation

Top-down management is essentially deductive; bottom-up management is essentially inductive. Let us briefly consider how these two managerial styles affect the “emergent properties” of resource allocation, interaction, and autonomy. Later we will propose middle-up-down management (seen in the development of the Honda City) as a methodology for information creation that can incorporate the strengths of both inductive and deductive management.

Deductive Management

- **Resource Allocation.** The management methods used in deductive corporations are premised on the belief that information creation occurs mainly at the top. The role of top management

is to clarify decision premises and to design organizational structures that can reduce individual information and decision burdens. Top management also allocates resources using sophisticated analytical techniques. Since decision making is concentrated at headquarters, a common set of clear-cut and measurable criteria that transcends the specific requirements of the various divisions is needed. ROI is typically used as such a criterion, with cash flow within and across individual strategic business units becoming the major concern with respect to resource allocation.

The underlying principle supporting such a management approach is the information-processing paradigm. But the hierarchy designed by top management in a deductive manner is not suited to allow organizational members at lower levels to create information in a flexible manner.

- **Interaction.** Top-down, strong leadership is the basic policy adopted by deductive management. Information is processed; it moves from the upper levels to the lower levels, and variety reduction is the keystone. The elimination of “noise,” “fluctuation,” and “chaos” is the paramount concern. Information creation at the lower levels proceeds with great difficulty.

Information activity between divisions has a sequential relay pattern; work completed by one division is passed on to another division.

There is a tendency for the transformation of information into knowledge to occur with great intensity within the narrow areas of labor divisions. However, the amount of semantic information and knowledge absorbed and accumulated by the lower levels of the organization is small because of the lack of personal interaction.

- **Autonomy.** Top managers and corporate staff possess the greatest autonomy. They are likely to adopt a hands-off, deductive methodology rather than a hands-on one. Consequently their information creation activities sometimes move far from the individual, shopfloor viewpoint. However, there is a potential for creating visionary concepts at the organizational level that could not be reached based on individual experience.

Inductive Management

- **Resource Allocation.** Inductive management maintains that the organizational creation of information begins with the vision of the individ-

ual—the entrepreneurial individual—and that people who have an interest in a project will become the core of any long-term effort.

Technology is seen as the interaction between people and systems of information or knowledge. Thus the concept of synergy is basic to inductive management. Resources are allocated in a way that encourages interaction, allowing new concepts and theories to develop in the most natural way possible. The ideal inductive organization is “self organizing.” Autonomous information creation takes place by expanding from the individual level to the group level and then to the organizational level. At 3M, for example, a project can become a department and then a division if it is sufficiently successful.

- **Interaction.** A supportive leadership that moves in step with the individual, the group, and the organization is necessary for information creation in an inductive-management organization. The support of an influential leader is necessary for individuals or self-organizing groups that have vision, since they will need help overcoming opposition from within the organization.

The need for a supporting sponsor to assist the intracompany entrepreneur is particularly emphasized at 3M. Before a daring and promising idea can stand on its own, it must be defined and supported by a sponsor willing to risk his or her reputation in order to advance or support changes in intracompany values. The leadership style of the sponsor can be summed up in the unspoken maxim, “The captain bites his tongue until it bleeds.” On the basis of past experience, the leader relies on his or her own criteria (consciously and unconsciously) to guide the creation of new information.

- **Autonomy.** Autonomy is given to those working as entrepreneurs at every organizational level. In many cases such individuals create meaningful information in the midst of interactive, tense relations, by testing and deepening their intuitive understanding through practice. Their information creation may be based on hunches or intuition, or on the ability to recognize the essence holistically in a moment.

Since the individual internalizes a great deal of tacit understanding, a career-path personnel policy that stresses promotions and transfers is used to support the organizational transfer of understanding. On the other hand, since the unlearning of acquired personal experience is difficult, inductive management may be unsuitable in instances where

there are frequent large-scale reorganizations or replacements due to acquisitions or divestitures.

Synthesizing Inductive and Deductive Management

Today, the intensity of market competition and the speed required for efficient information creation suggest a need to synthesize these two managerial styles. This synthesis involves the conceptualization of symbiotic management,⁴ or what I call compressive management. The development of the Honda City is a good example of this methodology, which can also be called middle-up-down management. The core of this managerial style is not the top managers or the entrepreneurial individuals, but rather the middle managers.

Middle management occupies a key position; it is equipped with the ability to combine strategic macro (context-free) information and hands-on micro (context-specific) information. In other words, middle management is in a position to forge the organizational link between deductive and inductive management.

Middle management is able to most effectively eliminate the noise, fluctuation, and chaos within an organization's information creation structure by serving as the starting point for action to be taken by upper and lower levels. Therefore, middle managers are also able to serve as the agent for change in the organization's self-renewal process.

- **Resource Allocation.** Top management is responsible for determining the overall direction of the company and for establishing the time limits on realizing that vision. Time is the key resource. Each individual performing day-to-day tasks has his or her own vision. It is the middle manager who works, within a certain time limit, as a "translator" in charge of unifying individual visions and creating a larger vision, which will in turn be reflected in future individual visions. The group functions as the field for the realization of this process. In order to achieve this vision, middle managers work with upper- and lower-level personnel. However, it is the top that selects the middle, and selecting the right people becomes the most important foundation of an effective corporate strategy. In addition to deciding who will formulate and implement a strategy, the top serves as a catalyst that creates fluctuation or chaos.

Consequently, in compressive management, the

entrepreneurial middle receives broad direction from the top and begins the process of information creation within the group, working to involve relevant individuals and carrying out information creation intensively within a compressed period of time. Through interaction with top management, middle management secures the resources required to achieve its vision. In this process, both deductive strategic planning and inductive emanation of information from the needs of the market are integrated to establish a definite direction for resource deployment and to create a practical concept which follows that direction.

The unit for resource allocation should be designed by the top so that the middle can create meaningful concepts. The structure of this unit can take a variety of forms, but usually consists of a multidisciplinary team led by middle management.

- **Interaction.** Before the entrepreneurial middle can realize its vision, it must first confront and survive the criticism of other members of the group through intensive communication. As a result of this criticism, a more concrete concept will be formed. In order to realize a vision, an idea must successfully challenge the stability of the organization, involving people from both top and bottom, left and right.

This process often involves the following steps. The first stage is establishing creative chaos.⁵ Top management offers a challenging goal and creates tension. As the organization moves in the direction of innovation, creative chaos is amplified to focus on specific contradictions in order to solve the problem. These contradictions produce a demand for a new perspective, speeding up information creation activity. This approach is exemplified by the Honda R&D manager's statement, "Creativity is born by pushing people against the wall and pressuring them almost to the extreme."

The second stage involves the formation of a self-organizing team that tries to create a new order (meaning) out of the chaos. This self-organizing group has the following characteristics: it is autonomous; it is multidisciplinary, so as to encourage cross-fertilization among its members; and it creates challenging goals that force it to transcend the existing contradictions. This team forms the core for an intense level of activity and works independently of other divisions within the corporation.

The third stage is the synchronization of concept creation. This stage is the embodiment of the

spiral in which information creation moves from middle management to the top and bottom. These movements resemble the punting and passing that occur in a rugby match as the opposing teams attempt to win ground.⁶ The realization of a concept is made possible by the intraorganizational divisions pulling together in a “shared division of labor” and by promoting “active cooperative phenomena.”⁷

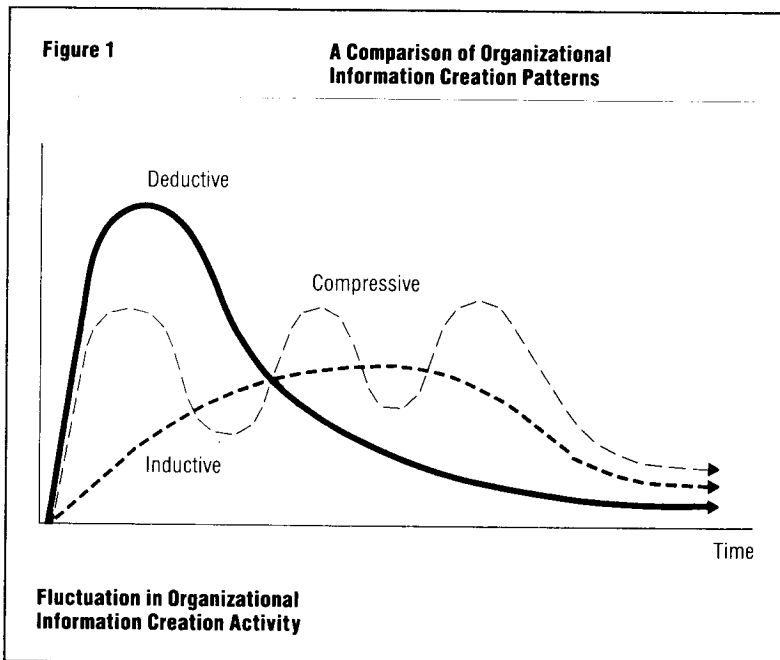
The fourth stage involves the transfer of learn-

ing and unlearning. Innovation that aims at a distant and vaguely defined goal goes through apparently redundant phases of shared division of labor. The natural consequence of this process is to activate the information creation activities at all levels of the organization. The successful innovation generates a new order, and gives birth to organizational learning and unlearning.

• **Autonomy.** A group is given both autonomy (freedom) and a time limitation (constraint). Middle management becomes the logical center for the fusion of the deductive and inductive styles of management. Although it may be possible to balance the use of stored syntactic information and of tacit understanding, the need for a rapid response to changing conditions will not allow middle management to concentrate exclusively on the creation of information. The requirement to simultaneously expand the knowledge base and process information may eventually place an excessive burden upon the middle management group. If these people are not allowed to recharge their batteries from time to time, the long-term capacity for organizational information creation will weaken.

Proper Management of Organizational Information Creation

I have spoken of three methodologies for information creation—deductive, inductive, and compressive. Their approximate patterns are sketched



	Deductive Management	Inductive Management	Compressive Management
Resource Allocation			
• Key Resource	Money	People	Time
• Time Management	Periodical Planning	Self-management	Deadline
• Unit of Resource Allocation	SBU	Individual	Self-organizing Team
Interaction			
• Top Management	Leader	Sponsor	Catalyst
• Context of Interaction	Within Headquarters	Among Voluntary Individuals	Among Designated Individuals within the Group
• Direction	Top-down	Bottom-up	Middle-up-and-down
Autonomy			
• Methodology	Deductive, Hands-off	Inductive, Hands-on	Hands-on and -off
• Knowledge	Articulate	Tacit	Articulate/Tacit
Problem	Analysis Paralysis	Inductive Ambiguity	Exhaustion

in Figure 1 and Table 2.

One cannot make an unqualified choice of methodology until one has considered the special environmental characteristics present. The relationship between the environment and the appropriate management methodology is perhaps best illustrated in Figure 2.

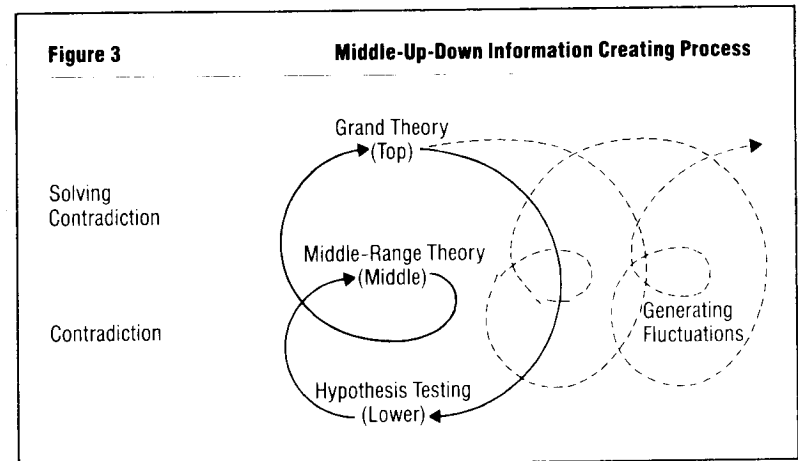
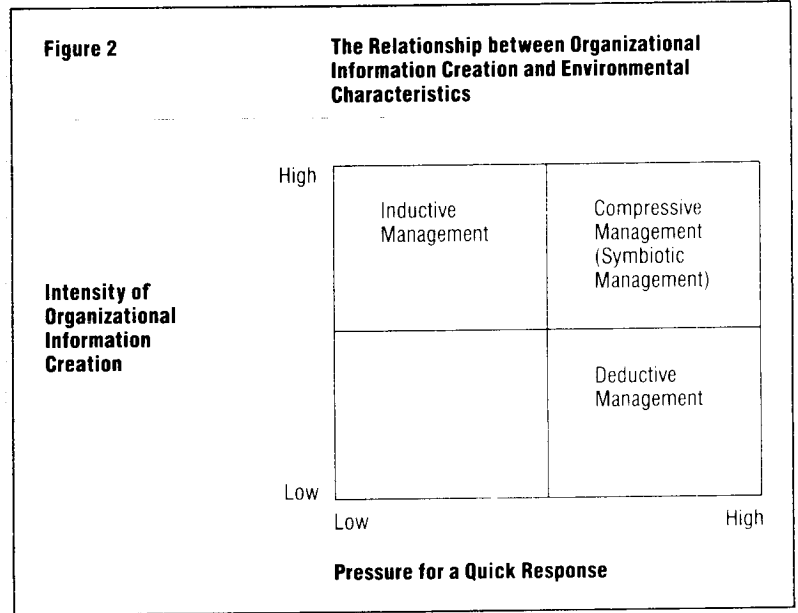
As environmental uncertainty increases, the organization can adapt itself more effectively with a high level of information creation occurring at all levels of the organization, rather than with a low level of information creation. In this sense, as the need for information creation increases, companies will probably make a shift from deductive management to inductive or compressive management, which have higher information creativity.

In the meantime, as market reactions speed up as a result of intense competition, companies will likely shift from inductive or deductive management to compressive management to cope with that problem. However, compressive management must come to grips with the problem of placing a great deal of pressure on middle management to process an expanding base of information within a limited time period. Therefore, whether or not information creation that is both high in quality and well coordinated can occur will depend largely on how entrepreneurial middle management really is.

Conclusion

The essential logic of compressive management is that top management creates a vision or dream, and middle management creates and implements concrete concepts to solve and transcend the contradictions arising from gaps between what exists at the moment and what management hopes to create. In other words, top management creates an overall theory, while middle management creates a middle-range theory and tests it empirically within the framework of the entire organization.

Mr. Tadashi Kume, president of Honda, expresses the role of middle management as follows: "I continually create dreams, but people run in different directions unless they are able to directly interact with reality. Top management doesn't know what bottom management is doing. The opposite is also true. For example, John at Honda Ohio is not able to see the company's overall direction. We at corporate headquarters see the world differently, think differently, and face a different environment. It is



middle management that is charged with integrating the two viewpoints emanating from top and bottom management. There can be no progress without such integration."

Honda is, in fact, a company continually creating contradictions. Their company principle is, "Maintaining an international viewpoint, we are dedicated to supplying products of the highest efficiency at a reasonable price for worldwide customer satisfaction." Simultaneously, the company stresses the need to "be in touch with the reality of local conditions." Consequently, the company constantly generates conflict between dreams and reality. In order to resolve these contradictions, middle management must create and implement business and product concepts capable of being tested empirically. This is a never-ending process, illustrated in Figure 3.

Mr. Katsutoshi Wada, head of the Human Resources Development Center at Honda, characterizes Honda management as follows:

Mr. Soichiro Honda, the founder of our company, did not articulate this, but we now realize that an organization has a kind of culture, with dreams on the one hand and a realistic methodology on the other. Taken together, the dream is always larger than the reality, qualitatively as well as quantitatively. The solution to the gap between the two comprises the essential mission of Honda management. We are perpetually engaged in an effort to mediate and solve the contradictions generated by a naive romanticism and a hard realism. Without coupling such romanticism and realism, it would be difficult to manage our company well. Neither a dreaming child nor an adult who has lost all his dreams can produce good management. Good management can be achieved only by matching the dream of a child with the realism of an adult.

It is middle management's role to create and realize verifiable business concepts for the creative solution of contradictions and gaps between the ideal and the actual. The development of the Honda City illustrates this process concretely. The project was initiated with a top management dream to "create an original car of high energy and resource efficiency." This dream was then brought to the middle, which created and realized a more concrete concept—and added its own vision—using a self-organizing group as the core of the project.

The process of organizational information creation can also become a process of organizational theory development—in other words, the language and assumptions that underlie the corporation's existence can be transformed if information creation is sufficiently innovative. One of the significant products of the Honda City project, for example, was the use of such metaphors as "automobile evolution" and "cube." Concepts are created through the spiral loop of recognition and practice. The

metaphor can leverage movement toward a companywide change of perspective.

Middle-up-down management is a type of organizational information creation that involves the total organization. It may best embody the essence of an organization spontaneously surviving in the business environment's ceaseless generation of changes. ■

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