Creating new knowledge the Japanese way

How to create a more fertile environment for new knowledge creation, based on Japanese concepts of leadership.



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By Ikujiro Nonaka

The deadly tsunami that struck Japan on March 11, 2011, proved that a little knowledge, far from being a dangerous thing, can be a real lifesaver. Although thousands of people died in the disaster, in one school district, only five of the 2,900 primary and middle school students perished — and only because those five had gone home early that day.

For years beforehand, local experts had been running emergency drills with students in 14 Kamaishi area schools, practicing what to do in the event of a disaster. The lessons were integrated in various subjects, such as calculating tsunami velocity in math class, or the ethics of running for the hills to save yourself rather than heading home in search of your family, which history had shown resulted in more casualties.

When the real catastrophe hit, the well-rehearsed children sprang into action. As one 12-year-old recalled, “I was worried about my house and family, but I ran up to a higher place without thinking.”

They also worked in close cooperation, similarly without having to think too much about what they were doing. When the P.A. system malfunctioned, the older children instinctively grabbed the hands of their younger classmates and led them to safety.

Even the instructor was surprised by the children’s preparedness. “I’ve repeatedly told children in class that we might experience a tsunami larger than ever expected.” Commenting on their escape to hilltops more than two kilometers away from harm, he said, “I’m proud of the children for making (lifesaving) decisions on their own.”

This example illustrates what I call the conversion of the ordinary into the extraordinary. It contains important truths about human knowledge: that it is as much about bodily experience and prior experimentation as it is about logical and analytical thinking. The actual practice of dealing with each situation we face serves to embed the knowledge deep within us, so that our response to new situations, or even crises, can be one of resolute action, not panic or fear.

In 1995, Hirotaka Takeuchi and I coauthored a seminal book on the knowledge-creation process, based on methods pioneered in the ’80s and ’90s by Japanese companies (*The knowledge-creating company: How Japanese companies create the dynamics of innovation*). My contention, then as now, is that strategic management has tended to overemphasize logical and analytical thinking, focusing almost exclusively on the acquisition, accumulation and utilization of *existing* knowledge, particularly at the top of the organization, while paying

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little or no attention to the process of *new* knowledge creation.

Recent years have seen renewed interest in organizational knowledge creation theories. Given the sweeping changes happening across the business world with regard to more collaborative forms of learning and open innovation, companies are increasingly looking for better ways to foster new knowledge, seeing it as a key source of value creation and competitive advantage.

This article draws upon years of research I have conducted into Japanese firms. It follows on from a seminar on "Tacit Knowledge and Knowledge Conversion" that I delivered at IESE Business School on November 17, 2011. It also follows the launch of the Nonaka Institute of Knowledge, which aims to pursue basic research on knowledge and innovation.

Here I will outline a series of steps that companies and their leaders can take to create a more fertile environment for new knowledge creation.

Creating knowledge through practice

How we relate to others, and how we perceive the world that surrounds us, changes according to the situation, since both we and the world are in constant motion.

In such case, management is not merely formulated by analysis based on universal rules. Instead, management emerges through practices devised to deal with the particular problems that a firm faces. It is more art or craft than science because it is based on insight, vision and intuition, and relies on experience.

In our book, Takeuchi and I proposed that knowledge is created from the continuous interaction of both:

- **tacit knowledge,** that which is intuitive, ambiguous and nonlinear; and
- **explicit knowledge,** that which is laid down in manuals, analyzed and taught.

An organization develops knowledge in a four-stage process that we refer to as **SECI**, which stands for Socialization, Externalization, Combination and Internalization.

Put simply, the tacit knowledge possessed by individuals is externalized and transformed into explicit knowledge (Externalization), so that it can be shared with others (Socialization) and enriched by their individual viewpoints to become new knowledge (Combination). This is then internalized once again by a larger number of individuals as new, richer, subjective

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knowledge (Internalization), which becomes the basis for starting another cycle of knowledge creation.

Ba: the petri dish for creative interaction

Contrary to what some theories may hold, knowledge cannot be created in a vacuum. It needs *a place or context* that enables the sharing and interpretation of information to construct meaning and become knowledge. In Japan, we refer to that place as *ba*.

The notion of *ba*, which translates literally into English as *place*, *space* or *field*, originates in the concept of *basho* developed by the Japanese philosopher Nishida Kitaro and later refined by Hiroshi Shimizu.

Like a petri dish for the cultivation of ideas, *ba* is a temporary container for creative interaction, a shared space for emerging relationships among individuals and between individuals and their environment.

Although it may be easier to see *ba* as a physical space (such as an office or a meeting room), it should be understood as a multilevel state in which interactions occur at specific times and in specific places. This could include:

- working groups, project teams, informal circles and temporary meetings.
- virtual spaces, such as email groups and social media sites.
- frontline contacts with customers.

The most important feature is that the participants are sharing and building here-and-now relationships.

The importance of “indwelling”

Let’s take an example. In the late ’90s, Takaki bakery decided to upgrade its manufacturing processes. Before undertaking any action, however, managers sought advice from Mayekawa, the firm that had provided almost all of Takaki’s original systems since the ’60s.

Although Mayekawa already had considerable knowledge of dough-making, in order to serve Takaki better, Mayekawa felt it needed to understand the entire bread-making process better. To this end, four independent divisions of Mayekawa’s food products division joined forces with each other and with Takaki, dispatching engineers to Takaki’s factory to learn

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how to make bread.

By “indwelling” at Takaki’s factory, Mayekawa’s cross-functional teams were able to identify the root cause of manufacturing inefficiencies: Takaki’s complicated processes of sales and shipping to customers, which were creating complications on the production line.

The problems, it soon became apparent, would not be overcome by improvements inside the factory alone. A complete overhaul of all major processes was needed. With Takaki senior managers fully on board, action was swiftly undertaken.

The end result was a completely new production system that enabled Takaki to run its wholesale and retail business factories in a much more flexible, integrated way. Not only was the bread-making process improved, but a better-tasting bread was achieved, and many other processes at the factory were made more efficient.

This transformation was possible thanks to the temporary but powerful alliance formed between both companies. Such active collaboration allowed participants to share contexts, combine respective insights, learn together and create new meanings through these interactions, leading to the creation of new knowledge that was mutually beneficial for both partners. This is *ba*.

Locating decision-making closest to knowledge sources

Another factor at play was Mayekawa’s customer orientation, not just toward Mayekawa’s immediate customer (Takaki), but also the customer’s customer, that is, the final customer of the bread products.

This customer closeness was made possible by Mayekawa’s versatile organizational structure made up of many small independent entities, known as *doppo*. Each *doppo* employs between 10 and 15 people, and serves a particular region or focuses on a specific market.

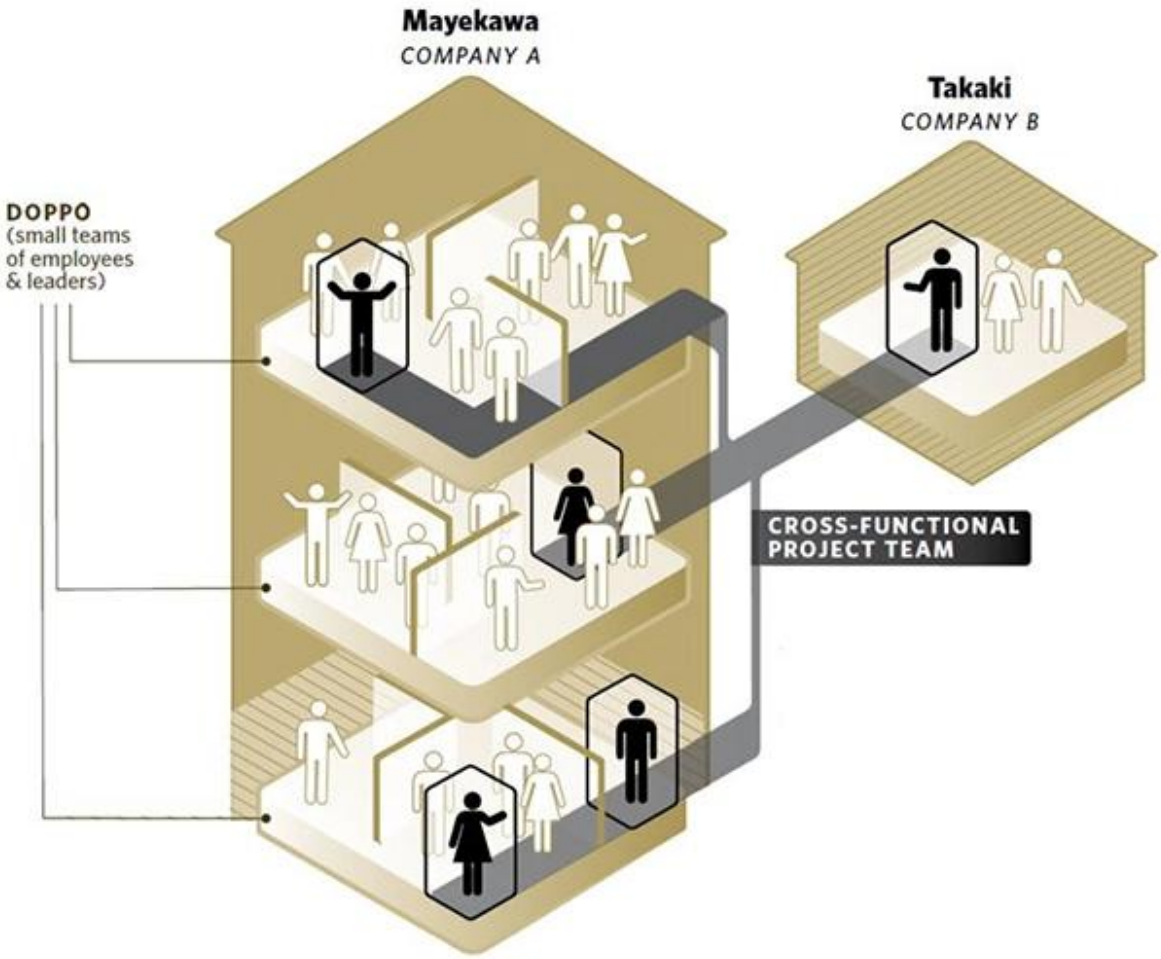
The idea behind this structure is to locate decision-making where the relevant knowledge and information resides. Environmental sensitivity and entrepreneurial innovation are increased by creating an organization that leverages the knowledge and ideas of all employees, not just those of senior management.

Each *doppo* is responsible for its own business and is self-sufficient. It handles all its own

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functions, such as design, installation, sales, marketing, maintenance, accounting and personnel, and produces its own financial statements.

Being autonomous and self-sufficient does not mean that each *doppo* is isolated from the other. Far from it: the *doppos* often work together and sometimes form blocks, by industry or region, via which they share information and technologies, supplementing each other's work on a project that is too large for just one, while each retains its uniqueness.



Losing the self to find the self

Mayekawa describes *ba* as a world that appears when the relevant people "open themselves to each other to deepen their relationship … To open oneself means to lose oneself, and the more you do so, the more you will be able to grasp *ba*."

This philosophical notion of "losing the self to find the self " is not simply the shedding of

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preconceptions and biases to perceive reality more clearly. It is about overcoming one's self-centered worldview and seeing oneself in terms of one's relationships with others, particularly clients and customers.

This approach has helped transform Mayekawa from a simple supplier of physical products and parts, to a provider of total solutions — innovations created through a process of close interaction with both the client and the wider environment.

All Mayekawa employees are encouraged to spend time out of the office and on the factory floor. After all, customer needs and solutions to their problems are often not clear and can be difficult to articulate. As one manager noted, "Customers themselves don't know what they want … Only after we talk to them many times, or dwell in and around their shop floor, do we come to understand (their problems)."

This "indwelling" approach is essential to be able to discern appropriate answers from the blurred, complex reality.

Globalizing Japanese knowledge-creation practices

Mayekawa is just one of many Japanese companies exporting *ba*-based practices through their dealings with European and North American customers. Seven-Eleven Japan and the design store Muji are two examples whose global expansions have been characterized by constant dialogue and close collaboration with partners, along with the sharing and synthesis of knowledge about production, the market and customers.

In addition, much of the success of Canon and Toyota can be put down to their leaders' abilities to tear down divisional walls and create *ba* where new ideas and knowledge can flourish.

Encouraging cross-divisional communication and collaboration, and fostering open environments where opinions and ideas can be freely expressed, exchanged and followed up on, is certainly familiar business practice in the West, as companies increasingly seek to acquire, utilize and build knowledge resources.

In general, European and North American companies have been quick to embrace knowledge management as an essential element of business. Particularly companies in fast-changing sectors that demand constant innovation, like technology, show a greater appreciation of the

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value of tacit knowledge and take a more holistic view of knowledge management.

However, there is a tendency among Western firms to focus on explicit knowledge, that which is already out in the open and available for shared use or consumption. Western firms also tend to centralize the knowledge-creation process, which misses out on the spontaneous side of creativity.

6 essential features for knowledge creation

What can companies and their leaders do to nurture a fast-flowing, knowledge-friendly environment? How can they build organic structures of *ba* that allow people to interact with each other and optimize their knowledge creation potential?

Ba does not materialize simply because someone has provided the space and gathered the people. There are six main features that companies must put in place in order for *ba* to be an effective place for knowledge creation.

1. Self-organization capabilities

Ba must be self-organized and possess its own intention, direction and mission. A firm's knowledge vision can set the direction, but each *ba* must establish work objectives and clarify its own purpose. Only then will individual intentions synthesize and the intention of the *ba* become the intention of each participant.

For this to happen, middle management must be at the center of the whole process, ensuring that each *ba* for which they are responsible is sufficiently self-organized.

Without a sufficient degree of autonomy and self-organization capabilities, business units, or the *ba*, become wholly dependent on the direction of top management. The result: a significant reduction or complete loss of the company's knowledge creation potential.

2. A shared sense of purpose

The sharing of subjective, tacit knowledge and values helps create a common sense of

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purpose. Relationships are open-minded and empathetic, and participants create a space of shared meaning that transcends individual subjectivity.

This is a crucial point: Unless contexts are shared in motion in *ba*, individuals continue to observe developments from a self-centered standpoint, instead of repositioning themselves in terms of their relationships with others.

3. Synthesis of different types of knowledge

Just bringing it all together is not enough to trigger the creation of new knowledge. New knowledge emergence can only be realized in *ba* that actively supports simultaneous and spontaneous interaction of the parts and the whole. New knowledge is created in the synthesis of subjective viewpoints, and is enriched by a mixing pot of contexts and perspectives.

4. Commitment of participants

Knowledge is formed when *ba* participants are both committed to the objectives and willingly engage in its events and activities, even contributing their own personal time and energy. For this, *ba* needs a process of mutual understanding, trust and respect, as well as shared perceptions and active empathy.

This commitment is similar to what the Hungarian-British professor Michael Polanyi famously articulated in his book *Personal Knowledge* (1958). The basis of knowledge creation, he argued, was through human interaction and activity, which is also the source of the energy driving *ba*.

If the tacit knowledge embedded in each individual is the source of an organization’s sustained competitive advantage, then this accumulated knowledge becomes highly valuable. However, sometimes people choose not to share their exclusive know-how with others.

To countervail this tendency, it is necessary to cultivate a sense of security among

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participants. The more that trust, caring relationships and shared commitment are developed, the more that *ba* can be generated for the benefit of the organization.

5. Open boundaries

Since the possibilities for expanding contexts are limitless, meaningful context sharing requires some boundaries. Leaders should protect *ba* from external contexts, so that it can develop its own context, especially when creating the kind of knowledge that is outside the current norms of the organization.

The boundaries must, however, be permeable, in keeping with the dynamic nature of *ba*, where shared context is in continuous change as individual participants come and go, and so that each *ba* can interact with other *ba*.

A case in point: When Toyota launched the development stage of its Prius hybrid car in 1993, it appointed a small study group called G21, short for Generation 21st century. It appointed a project leader who had a strong social network connecting him to people with the knowledge and skills the project needed.

At the same time, it was decided that the vehicle would be developed completely in-house, meaning that there was virtually no interaction with external parties. This enhanced the core group's focus and commitment to making full utilization of internal knowledge resources, while strong support from top management ensured the team had relatively free access to those resources.

This latter point is crucial, for it is the responsibility of the senior managers outside *ba* to find and build connections among the various *ba*. This brings us to our final requirement for *ba*.

6. Phronetic leadership

Leadership in a knowledge-creating company is not about fixed administrative control. Rather, it needs to be flexible, distributed leadership, where the leader is conditioned by the context.

For knowledge leadership to work, the mechanism of "middle-up-down" is key. Middle

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managers break down the vision or driving objective into concrete plans, build *ba*, and lead dialogue and practice. They are also the tipping points in “small world” networks.

Based on exhaustive studies of leaders in Japan and elsewhere over the past two decades, I have found that to function effectively in *ba*, one needs an ability to read a situation and adapt to it quickly — what Aristotle referred to as *phronesis*, akin to practical wisdom or prudent character.

To foster this character, it helps to have a wide range of human experiences drawn from every aspect of life. Especially important are aesthetic experiences and a culture of philosophy, history, literature and the arts, which foster insights into historical and social situations.

Organizations can cultivate phronetic leadership by providing a diversity of high-quality experiences as a mechanism for learning. The goal for both individuals and organizations must be the relentless pursuit of excellence.

The qualities and abilities required to be a phronetic leader

Empathy

Being able to understand and empathize with others is necessary in order to be able to mobilize employees, as well as anticipate what customers value. Phronetic leaders are adept at imagining others’ emotions and the consequences of their own and others’ actions. This is essential for building and managing ever-changing contexts.

Generosity

The ability to engage with and cultivate a spirit of sharing among employees and fellow managers is vital. Social capital such as caring, loving, trusting and feeling secure has to be cultivated to form *ba*.

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Adaptability

A knowledge-creating firm must be capable of immediate action in response to the various *ba* that emerge and disappear over time, both inside and outside the company. This would be impossible in a fixed-leadership company. Since knowledge is created through dynamic interactions with the environment, the leader must be capable of fostering and managing these interactions according to each given situation.

Ability to see the big picture

By recognizing a given situation and grasping its essence, a leader can envision the future and decide on the right action to be taken to realize that future. To do this, one must have the ability to see at the micro and macro levels simultaneously. A keen sensitivity to daily change, and the ability to see the implications of that change in the bigger picture, are other essential attributes of phronesis.

Political power to drive positive change

It’s not enough just to identify the essence, share it and communicate it. One must also be able to bring people together and spur them to action, combining and synthesizing everyone’s knowledge and efforts in pursuit of the goal. Fujio Mitarai at Canon exercised such political power to transform the company’s operations. By maintaining close communication with the front line and keeping the labor union on board, he was able to break down the barriers between divisions, reduce inventory, synchronize R&D with production and sales, and withdraw the company from several unprofitable businesses.

Phronesis, in this sense, is less a kind of knowledge than a way of knowing and acting that is essential for effective leadership. By cultivating phronesis at every level of the organization, the firm fosters distributed leadership in people and processes, which accelerates knowledge creation.

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Toward a new way of perceiving management

Ultimately, management is a process whereby individuals, with their unique accumulation of experiences, envision a future, and then take the necessary decisions and actions to realize that future.

“In this process, it is important to leap to an image of how we want ourselves to be in the future,” remarked the head of Mayekawa’s research lab. “To leap means to be free of the conventional way of seeing and thinking, and the existing way of the organization, its system and rules.”

From this perspective, the firm, as an entity, exists in the flow of constant change and transcends itself to create a future. Contrary to what traditional knowledge-based theories of the firm hold, human beings do not exist independently of each other and the environment, but are the accumulation of their unique experiences.

Rather than *being*, firms are in the constant state of *becoming*. The firms mentioned in this article regarded this heightened state of change as an ordinary process of business operations. Driving this change is the strong culture of phronetic leadership and *ba*-based operational structures that these companies have built.

Looking to the future, the major question is to what extent managers of companies outside Japan are able to learn from the experience of these Japanese firms, to build their own *ba* and ignite the spark that creates new ideas and knowledge for their own companies.

Companies around the world are increasingly coming to the realization that their long-term survival and success will depend on their capacity to create, share and put new knowledge to use. Whether they achieve that will, in the end, hinge on the ability of top management to design and establish organizational structures and goals that foster the creation and transfer of knowledge.

And that calls for nothing less than a completely new way of perceiving and executing the role of management. Welcome to the new stream of management thinking known as “the School of Knowledge.”

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