Breakthrough Thoughts

Why Know-Who Trumps Know-How

A six-step guide to the promotion of corporate entrepreneurship and the exploitation of innovation.

by Sigvald J. Harryson

The innovation process is no longer limited to intracorporate know-how, but leverages instead global know-*who*. Know-how is the ability to solve problems efficiently based primarily on internally accumulated knowledge, experience, and skills. Know-who is the ability to acquire, transform, and apply that know-how.

Know-who based companies know who has the know-how; have the active empathy to rapidly establish the trustful relationship required to acquire that know-how; and have the multiple competencies required to transform and apply it in a new context so that innovation can occur.

To know who has the know-how gives new opportunities for corporate entrepreneurship through exploration and creation of new knowledge and invention. Know-who can also transform the results into practical processes for global exploitation of innovation.

Three Key Propositions
Know-who based companies attract and develop outward-oriented

entrepreneurs, and systematically develop multiple networks — not only for R&D and innovation, but also for the overall management of knowledge and skills within and beyond the company. In a highly holistic manner, these networks exploit external sources of creativity and technology to commercialize the knowledge acquired through external and internal networking.

The synergistic combination of external and internal networking is a process by which the acquisition of technology from outside sources enhances a company's ability to commercialize that technology, thus avoiding the "innovator's dilemma" identified by Professor Clayton Christensen of the Harvard Business School. "External networking" is the process of linking a firm with extracorporate sources of technology. "Internal networking" refers to the integration of the research, development, production, and marketing functions that make up the innovation process.

It's important to understand the mechanics of know-who based companies for three reasons:

• **Know-who based companies excel at product innovation** by

deliberately eschewing the reliance on internal technology development that is still characteristic of many firms, and instead focusing on identification, acquisition, and transformation of know-how, which is primarily tacit knowledge.

• **Knowing what we know is less powerful than knowing who knows what.** A next-generation knowledge and information (K&I) management structure needs to more purposefully address tacit knowledge, rather than deal primarily with explicit knowledge and databases. More often than not, the tacit dimension — deeply rooted in people's heads, but hard to codify — has the bigger business impact when managed correctly.

• **External sourcing of technologies and skills energizes and creates powerful synergies** in know-who based companies, networking tacit knowledge into innovation. It does not have to result in a hollowing out of internal research and development capabilities.

Measurement Myopia

A central challenge in moving from know-how to know-who is to break away from the performance measurement myopia that causes excessive compartmentalization and intracorporate competition.

Paradoxical as it may seem, many companies' efforts over the past decade to compartmentalize and maximize performance of strictly controlled individual units have resulted in sums smaller than the whole. Instead of being allowed the flexibility of moving in new directions, compartmentalized units have been isolated in a kind of decentralized bureaucracy that kills most networking capabilities and hits the brakes on most innovation activities.

Large companies must recognize the paradoxical organizational needs for exploration and exploitation. Instead of boxing themselves into decentralized bureaucracies, companies need to build up networking capabilities to combine and interlink small, organic creative networks, while exploiting the results through rapid transfer and transformation into process networks. As explained in more detail in the *s+b* article "The Organization vs. the Strategy: Solving the Alignment Paradox" (by Jeffrey W. Bennett, Thomas E. Pernsteiner, Paul F. Kocourek, and Steven B. Hedlund, Fourth Quarter 2000), this requires a good balance between adaptability and alignment in the organization.

External networking is good for business results, and a number of companies — including ABB, Canon, Ericsson, Hewlett-Packard, IBM, Philips, Sony, and Texas Instruments — are moving forcefully in this direction. Still, many companies are far from this level of excellence. Their inability to make effective use of an ever-increasing sea of knowledge prevents necessary self-renewal from taking place, and management may not discover that the company's products (or even its business model) are outdated until it is too late for corrective action.

Extracorporate networking can also free R&D personnel to focus more intensively on the requirements and tasks of successful product innovation. Gunnar Brock, former president and CEO of Tetra Pak Group, captures this well when he talks about overcoming critical barriers to innovation: "We need to foster a culture that does not expect everything to be developed inhouse, and we must focus more efforts on integrating the knowledge

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of others. Moreover, we should rotate our engineers out of R&D so that they better understand the needs of our customers instead of becoming too myopic in their own specialized fields."

Six Managerial Principles

Six fundamental managerial principles are required to implement know-who based management: open sharing and global diffusion of know-how; holistic and long-term-oriented performance measurement; the courage to perform creative destruction; multiple competencies and redundancy for cross-functional learning; the leveraging of extracorporate creativity and human know-how channels; and respect for the

choose to pursue it, global know-*who* ultimately will become more important to corporate success than specialized know-*how*.

1. **Open Sharing and Global Diffusion of Know-How.** Corporate infrastructures must resonate with the open sharing of ideas, technologies, and human resources, both within and between business units. At the Sony Corporation, promotion criteria explicitly include the sharing of mistakes, which helps secure open communication and sharing of know-how. In 1993, Sony's Akio Morita explained, "You can only be promoted to manager if you are known for a success and for a failure that you have committed so everybody can learn from it instead

The compartmentalized culture of isolation is particularly common in strong companies that allow — or even support — internal competition. Not only do such companies have strong cultural barriers between their isolated and deeply specialized functions, but individual performance is more valued than groupwide innovation. The narrow specialization and performance scope of each individual makes it difficult to turn creative ideas into product innovations responding to global market needs.

2. **Holistic and Long-Term-Oriented Performance Measurement.** For open sharing and collective learning to take place, incentive and performance measurement systems must consider holistic results and reward collective achievements instead of individual performance. Only then will the corporate-wide forums of interaction bring the intended benefits: Individual know-how will be continually enriched and applied throughout the company instead of remaining isolated in competing business units.

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primacy of customer needs and manufacturability in R&D.

Companies that have the courage to adapt these principles and develop a staff profile with multiple competencies will achieve a new dimension of innovation management. A new breed of outward-oriented engineers with an equally developed understanding of research, development, production, and marketing will secure seamless knowledge transfer throughout the innovation process. A skillfully managed shift from internal know-how to global know-who can actually tear down most organizational barriers that otherwise prevent great inventions from turning into breakthrough innovations. For those who

of possibly repeating the same mistake again that caused the failure."

Many know-how based companies are not even close to fulfilling this principle. A senior manager in a strongly compartmentalized multinational told me, "We have never learned to cooperate within this company. Instead, we build gardens of our own, and keep the knowledge in our own drawers." In a very different, yet also quite knowledge-based business, an R&D manager, responsible for one of the four business areas, observed, "I would rather throw all my R&D results out the window than share them with my colleagues in the other business areas. I would not allow them to borrow any of my people either."

Many global companies have launched programs to enhance worldwide sharing of best practices. So far, only a few companies recognize that for each best practice identified, pairs of givers and takers have to be explicitly assigned. Perhaps most important of all, the "knowledge taker" must receive at least as much positive recognition in the corporation as the giver does.

The Balanced Scorecard (BSC) is often proposed as the perfect solution to all problems. Mapping and translating important strategic objectives into individual goals and putting these on a scorecard for clarity and follow-up certainly has some merit, but the BSC needs to be both

well balanced between short-term and long-term objectives and intelligently applied to drive desired behaviors like knowledge sharing and entrepreneurship.

At Canon Inc., the BSC has been replaced by vision-driven holistic evaluation. The Corporate Strategy and Development Headquarters formulates corporate visions and ensures that business groups set goals in accordance with these visions. This headquarters also plays a key role in the evaluation of business group leaders and project leaders. The key evaluation criterion is the extent to which achieved goals correspond to the visions, not individual P&L results.

3. The Courage to Perform Creative Destruction. Lewis Platt, the former chairman and CEO of Hewlett-Packard Company, once said, "We have to be willing to cannibalize what we're doing today in order to ensure our leadership in the future. It's counter to human nature, but you have to kill your business while it is still working." It's the kind of creative destruction the economist Joseph A. Schumpeter described in 1951 as "dynamic disequilibrium" — a process that promotes creativity for further innovation. Creative destruction is an explicit business strategy of companies like Sony, Canon, and HP.

"Only the paranoid survive" is a key mantra at the Intel Corporation — another creative company with the courage to make its own products obsolete before others do so. Developing an entirely new product that competes with and kills other products offered by the same company is a difficult task that usually meets a lot of internal resistance, especially when there is no holistic performance measurement.

A senior project manager in a Western IT company says, "We need more entrepreneurial bosses who dare to take risks and expand the horizon." Similarly, a large number of middle managers in a large company complain, "No one in our global leadership team dares to back up a new concept until it is a proven success in the marketplace. This lack of courage and risk taking kills a lot of entrepreneurship." Clearly, entrepreneurship takes both visionary and challenging leadership, with a top management that actively shows interest and willingness to take calculated risk.

Excessive criticism of failure can also build strong barriers against entrepreneurship. A human resources director at a large insurance company blames top management for his company's lack of innovativeness: "The most critical problem of our company is that nobody was ever punished for a decision he did not make. In contrast, when someone actually makes a decision that turns out to be [a bad one], we take an unhealthy pleasure in punishing the poor guy. How can you expect anybody to be innovative and willing to take risks in such a culture?"

Conservative and anti-entrepreneurial managers often are lulled by their company's past success and are misguided by the lessons drawn from this success. Entrepreneurs who have the courage to let go of the old have better possibilities to catch Schumpeter's waves of dynamic disequilibrium and discover new oceans.

4. Multiple Competencies and Redundancy for Cross-Functional Learning. Excessive employee specialization and corporate fragmentation prevent both cross-functional learning and technology transfer

from taking place in a large number of companies. The lack of knowledge of where to find the relevant knowledge and technologies is a frequent cause of long lead times and expensive projects.

A division manager of a global telecommunications company observes, "There is good know-how around in our company, but very few people know where to get it. Our engineers only see their own limited parts without considering the whole." Two directors at a strongly compartmentalized company agree that, "Our company is like a Harrods department store without a directory — all you need is there, but you don't know where….Due to time restraints and lacking knowledge about where all experts are, we only use those sitting in the same office."

The best way to get around this knowledge isolation is to rotate people across functions and divisions. One common barrier to imple-

make sure that all knowledge is available everywhere through human know-who networks. Markus Bayegan, the chief technology officer of the ABB Group, drives multiple competencies all the way up to the department managers of the corporate labs: "We are constantly striving for a leaner and more flexible R&D organization so that we can get more results out of every dollar spent," he says. "The idea is that even department managers will be involved in R&D work and as little as possible in administrative tasks. This will give them a broader and more practice-oriented competence base."

5. The Leveraging of Extra-corporate Creativity and Human Know-How Channels. Many know-how based companies are reluctant to rely on external sources of technology. The head of development of a large global automotive company gives two reasons his company does not yet leverage alliances with part-

people to learn together and produce new ideas" than on its ability to raise capital. (See "The Thought Leader Interview: Arie de Geus," by Randall Rothenberg, *s+b*, Second Quarter 2001.) The former finance director of Royal Dutch/Shell Group of Companies and the author of *The Living Company* (Harvard Business School Press, 1997), Mr. de Geus clearly puts human interaction at the core of business performance: "I see more and more people from conventional business recognizing that the new business reality is a human-centered one," he says. "They see that their critical competitive success factor is producing more talented output than their competitors; and they recognize that they can only accomplish this by getting people to learn and to work together better, rather than to simply work more efficiently, as with machines."

6. Respect for the Primacy of Customer Needs and Manufacturability in R&D. Companies that commit to a high degree of rotation and transfer of researchers and engineers can be successful not so much because of individual motivation, but because of their commitment to a corporate-wide uniform rotational training program. This helps ensure that all researchers understand the importance of adding value to the company by sharing their R&D achievements openly and by bringing them directly to the manufacturing floor — a place of true value creation that is known and respected by the entire organization. This also helps researchers consider the value chain as a whole.

Weakness arises from a lack of market orientation on the part of R&D. A marketing section leader from a European company tried to

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menting multiple competencies and metaknowledge is that a transfer from one function to another is often perceived as a sign of individual failure. Instead of thinking of the value a person brings in from another function, we tend to think that this person must have failed in the old function.

Know-who based companies continually disperse their global knowledge base across functions, divisions, and geographic units to

ners or suppliers to a sufficient degree: "First of all, we think that we are far better than they are, and secondly, [we worry] that external suppliers may steal our innovations. This 'we-are-the-best' mentality unfortunately works very much against any type of innovation alliances or the acquisition of external innovation."

Arie de Geus argues convincingly that a company's success depends "more on the ability of its

bring some market feedback to the work his colleagues in R&D were doing. This R&D section had "developed" a technology that was already available on the market. The response: a total lack of interest. He remembers the reaction of the head of R&D: "We don't need those market observations! Our new product will have the best technology in the world. You'll just have to wait and see. In one year when it is ready you will understand. We'll just have to convince the customers that this is exactly what they need." The project continued, drawing resources away from more important product development projects — all of which suffered from massive delays. When the "new" technology was finally ready, no business unit wanted it. The CEO resigned.

Such problems are uncommon within know-who based companies. Because researchers and engineers are not allowed into a lab before they have completed an initial sales training — in addition to production training — their research activities are far more attuned to market needs than those of a researcher who does not want to discover these needs. Mutual insight into market needs is a valuable driver of teamwork.

Ultimately, creative K&I management processes are no longer limited to internal know-how, but draw instead on know-who and global sources of invention that continually nurture corporate learning. This is why know-who based companies can drive product innovation through collective cross-functional action that turns tacit knowledge into tangible and market-driven applications. ✦