

Tacit Knowledge And The Work Of Ikujiro Nonaka: Adaptations of Polanyi in a Business Context

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ABSTRACT Key Words: Polanyi, Michael; Nonaka, Ikujiro; knowledge creation; tacit knowledge; business organization

Ikujiro Nonaka, whose formative experience is Japanese, is an established scholar who has written about large business organizations. He sees knowledge at the heart of the organization and its products and aims to develop Michael Polanyi's conception of tacit knowledge in a practical direction to enhance organizational "knowledge creation.." For Nonaka, what matters is the practice, the doing, the embodiment of knowledge. An organization can amplify and crystallize individuals' tacit knowledge in a process that allows them to experience deeper understanding. Nonaka holds that it is important to explore the potential that knowledge holds. His spiral process describes disciplined practices that make tacit knowledge independent and available to restructure the organizational knowledge context.

For close to twenty years, Ikujiro Nonaka has been writing for people in large-scale business organizations. He tells stories about companies that successfully bring innovations to the marketplace. He advises managers of international business how to build their organizations around the core process of creating knowledge. His central concern is thus "knowledge creation" in and for the organization.

From his basic assumption that an organization is a living entity, Nonaka understands that for a business to continue its liveliness (its attraction to employees and customers, indeed its very survival), it must carry on continuous self-organizing. He sees knowledge at the heart of the organization and its products. Most businesses are organized to process information in an orderly way, but what they really need is to dissolve existing structural and cognitive orders and create new order out of the "chaos" of knowledge and information. (Nonaka, 1988b)

Nonaka's concepts and practices are grounded in Japanese culture, a domain primarily known and honored tacitly (Nonaka and Konno, 1998). His approach has less to do with representational ideas and more to do with a constructivist understanding of knowledge (von Krogh, 1998). Nonaka does cite Michael Polanyi's conception of tacit knowledge, and says he aims to take Polanyi's notion in a more practical direction. To do this, he outlines an approach that works with many colleagues, borrowing ideas, modifying, inventing, fitting, and trying them out. Working thus in social interaction is the very process Nonaka recommends for people to develop knowledge within their organizations. "Knowledge is alive because it changes continuously... transferred through human interaction" (Nonaka, 1994).

From his experience of profound East-West differences in styles of business activity, Nonaka suggests that tacit and explicit knowledge are best epistemologically understood as two distinct types. Tacit knowledge is characterized by "analogue" qualities – parallel processing of continuous complex variables – while explicit knowledge shows the discrete discontinuities characteristic of "digital" processing (Nonaka, 1994). This heuristic makes a dualism of tacit knowledge and explicit knowledge. Focusing on the tacit, (which for Polanyi is subsidiary) Nonaka contends that he gains further access to the knowledge resources of the person.

The creation of organizational knowledge begins with subjective tacit knowledge, that flow of information which individuals have created and proven in their own committed, effective, embodied actions. Nonaka understands an individual's tacit knowledge as "pure experience," an intentional self-involvement in the object and situation that transcends subject-object separation. Knowledge is personal, a "justified true belief." Nonaka wants to facilitate the justification of each individual's true beliefs within a wider community.

In Nonaka's vision, an organization can amplify and crystallize individuals' tacit knowledge by allowing them to experience deeper understanding of any knowledge they may receive, and importantly, the potential that knowledge holds. He believes that business "problems" (and something of their solution) are originally known tacitly by an individual (Nonaka, 1991). He offers a "spiral" process towards solution that begins in part-time, problem-focused work teams, which he calls "microcommunities of knowledge." Members engage in "dialogues" between the tacit and explicit ways they hold knowledge; they engage in practices which first dis-embodiment and then re-embodiment tacit knowledge. The spiral describes stages in a process by which knowledge is converted first, among various tacit forms, second, from tacit to explicit states, third, among competing explicit possibilities, and, finally, from explicit existence back to tacit knowledge. Each knowledge conversion stage is distinct; each involves a different self-transcending experience for participants, and each calls for differing styles of personnel management. Organizational knowledge is created by the completion of all four conversations/conversions.

In Socialization, the first stage, each person's tacit knowledge is converted to tacit knowledge now also held by other members in the microcommunity. Let's say our problem is to build a table. During the Socialization stage, each team member (and sometimes people from outside the core staff) acquaints herself and the others with her experiences with existing tables. Our meetings may take place in various settings, at different times in our daily rhythms, experiencing different tables. This is how we gained our tacit knowledge in the first place, that is, through informal relationships with people who live by means of their own tacit knowledge.

In the next stage, Externalization, tacit knowledge is converted to explicit knowledge comprehensible to others. Particularly through the contradictions found in metaphor, and later, the harmonies understood in analogy, team members work with one another to articulate out of tacit familiarity what each has known about tables. Our ways of accommodating to and being accommodated by tables becomes knowledge we can share with others who have not gone through our group experience.

During Combination, the third stage, this newly explicit knowledge becomes widely disseminated, discussed, redesigned and modified. Our team's ideas about tables and possible new table-like entities are talked about, built into models, criticized in every aspect from appearance, to use, to design, to market acceptance. Potential customers, potential suppliers, the company CEO may all get involved.

The final stage is Internalization. People all over the organization use and live with tables made to our new designs in their daily activities. Internalization converts the changed, explicit knowledge again to a tacit form, this time held by many people. It then becomes clear how knowledge thus built into a product or a service, actively solves perceived problems. (see von Krogh, Ichijo, and Nonaka, 2000).

A successful product or service, Nonaka contends, will touch the tacit knowledge of customers, some of whom may have been part of the team. Customers will be moved to purchase because the now built-in tacit knowledge appeals to their own sensual participation and matches their own embodied grasp of the nature of

things (Nonaka, 1994). Without the practice of Internalization, some appealing products may have unwanted tacit implications. In an example from industrial creative designer Jerry Hirshberg, a company not involved with Nonaka sold an aesthetic and clever vehicle, which could be changed by owners back and forth between automobile and truck. But few who bought it actually used this feature; few accommodated the vehicle metamorphosis process into their behavioral habits. (Hirshberg, 1998:220).

While one may associate creativity with productively playful experiences, knowledge creation is work. By including many participants' experience, by understanding through trial and error, by expanding and accepting overabundant, equipotential information, the teams create a chaos they then try to bring into order. Collective action is achieved only if individuals assert themselves at each stage. Important also are different styles of management at different stages. Freedom, redundancy, and uncertainty, for example, are amplified by open and loose facilitation during the Externalization (second) stage. At the Combination (third) stage, in contrast, the facilitative discipline will be very focused, even rigid, and feature criticism, rigorous justification, and mutual intrusion into one another's expertise. As practiced in Japan, this process can be quite stressful and exhausting. It requires individuals to keep options active and in opposition and in communication, it requires people to invite diversity and emotional vulnerability, it requires participants to arrive at justified true belief with their colleagues. It re-organizes and re-news the organization.

By nurturing and facilitating numerous long-term communities of interaction, Nonaka believes that an organization can keep alive those creative features employees value in their work experience. He lists the features as commitment to an active, real result, autonomy to motivate oneself and absorb knowledge, and stimulus to reconsider through breakdowns in comfort and habit. The company continually reorganizes and develops itself in reference to its newly emerging knowledge and continually produces innovative products and services. All employees—not only a creative elite or a few experts—are paid to engage their creative capacities. Customers are not only offered (presumably) better products and services, but participate in the process as well. Nonaka believes he is advancing “a basic theory for building a truly humanistic knowledge society beyond the limitations of mere economic rationality” (Nonaka, 1994).

I see in Nonaka's work—concerned as it is with creativity, knowledge, and interpersonal dynamics—a potential for radically changing how we work together. Surely Nonaka's process remakes not only an organization as he claims, but also the selves of the organization's members. Social creativity and change functions that way. All our institutions (not only businesses) would clearly be different were we participants committed to their self-organizing renewal. The experiential, tacit dimension exposed and utilized in experiential learning might indeed serve as a means to such an end.

Perhaps Nonaka's epistemological distinction between tacit and explicit knowledge does irreparable violence to the wholeness implicit in Michael Polanyi's beautiful subtlety. Polanyi would probably decry the destruction of a person's personal knowledge by the kind of objectifying particulate examination of tacit knowledge that Nonaka recommends. Yet Nonaka's cross-cultural perspective provides opportunity to open ourselves to different perceptions and a new way of understanding the tacit. For Nonaka, a person whose formative experience is Japanese, what matters is the practice, the doing, the embodiment of knowledge. Intangible knowledge has no value until it gains organic concentration and focus in people immersed in situations of living and doing. Nonaka's spiral process describes disciplined practices that make an embodied argument for the independence and availability of tacit knowledge. The disciplines suggest ways we in the West might experience tacit knowledge newly, and conceptualize it differently.

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Polanyi Society Membership

Tradition and Discovery is distributed to members of the Polanyi Society. This periodical supercedes a newsletter and earlier mini-journal published (with some gaps) by the Polanyi Society since the mid seventies. The Polanyi Society has members in thirteen different countries though most live in North America and the United Kingdom. The Society includes those formerly affiliated with the Polanyi group centered in the United Kingdom which published *Convivium: The United Kingdom Review of Post-critical Thought*. There are normally three issues of *TAD* each year.

Annual membership in the Polanyi Society is \$25 (\$10 for students) beginning in the fall of 2002. The membership cycle follows the academic year; subscriptions are due September 1 to Phil Mullins, Missouri Western State College, St. Joseph, MO 64507 (fax: 816-271-5680, e-mail: mullins@mWSC.edu). Please make checks payable to the Polanyi Society. Dues can be paid by credit card by providing the card holder's name as it appears on the card, the card number and expiration date. Changes of address and inquiries should be sent to Mullins. New members should provide the following subscription information: complete mailing address, telephone (work and home), e-mail address and/or fax number. Institutional members should identify a department to contact for billing. The Polanyi Society attempts to maintain a data base identifying persons interested in or working with Polanyi's philosophical writing. New members can contribute to this effort by writing a short description of their particular interests in Polanyi's work and any publications and /or theses/dissertations related to Polanyi's thought. Please provide complete bibliographic information. Those renewing membership are invited to include information on recent work.

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A Memorial Project: An Invitation to Contribute

Appraisal, with the cooperation of *Tradition and Discovery* and *Polanyiana*, is organizing a special feature on Drusilla Scott (who died in February, 2003) and Robin Hodgkin (who died in August, 2003), two close friends of Michael Polanyi, who were inspired by him and wrote about him, and were, successively, the chairmen of the old Convivium Group, the UK Polanyi group that was several years ago united with the Polanyi Society. Anyone interested in contributing an article to this feature should contact Richard Allen, *Appraisal* editor, (rt.allen@ntlworld.com) with an outline and estimate of length. Allen needs to know what will be offered as soon as possible. To avoid duplication and to make this memorial project easier, Allen has suggested that contributions should be on particular publications or specific aspects of Scott and Hodgkin's books and articles. Additionally, Allen will provide general summaries of the life and work of Scott and Hodgkin. Plans are to include this material in the March 2004 issue of *Appraisal*. *Tradition and Discovery* and *Polanyiana* will post this material at the same time on their websites.