

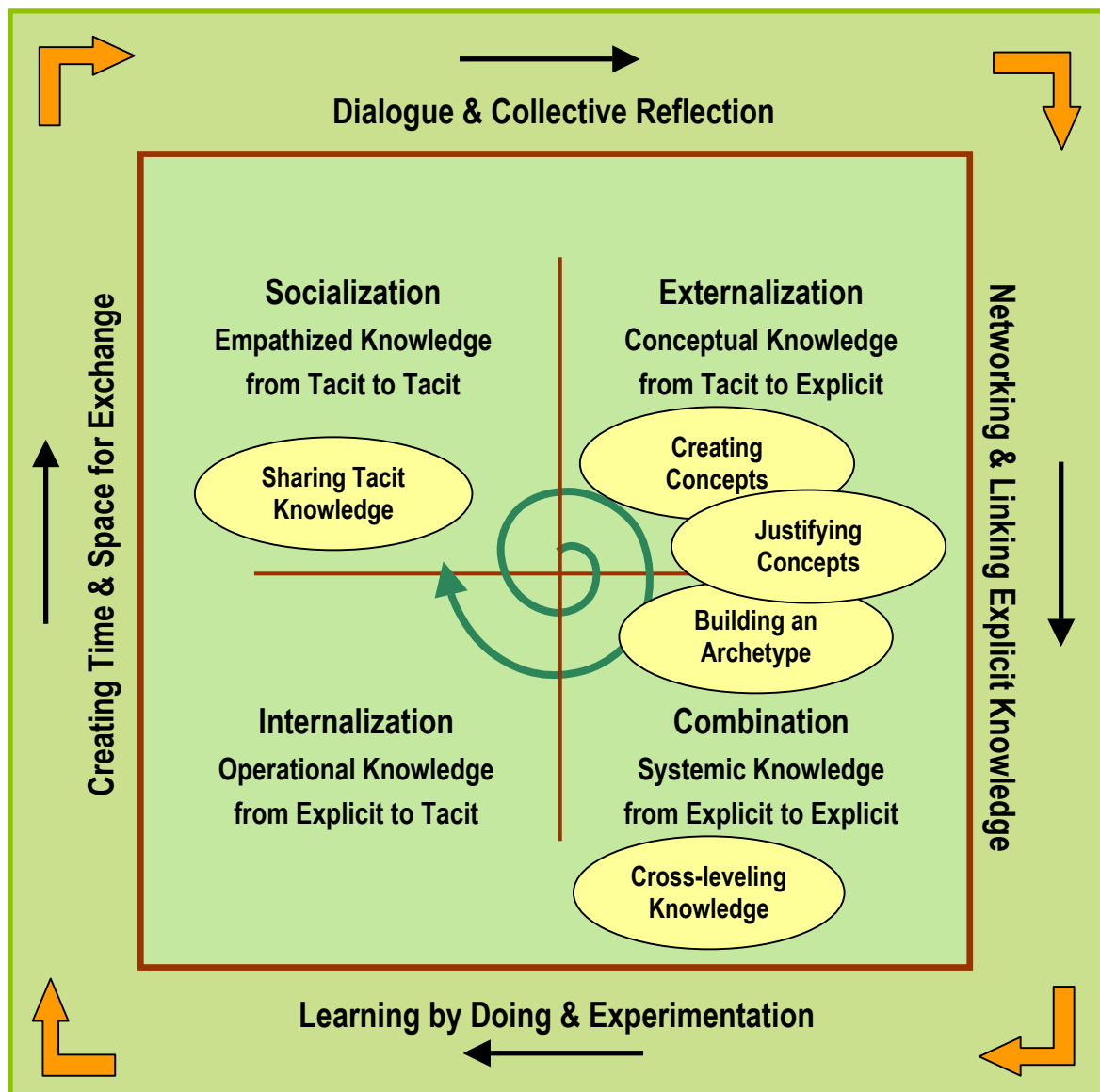
An Opening Note from the Book Reviewer:

This is the first time since around 1999, that I have sat and read a professional development related book from front to back in 2-3 days. The Christmas break from work certainly contributed to this opportunity, but I believe the commitment to share new, external insights with my *Leading with Impact* team members was probably the driving force behind my finding and taking the time to read for professional development. So... ..one conclusion we might draw in terms of the added value that *knowledge communities* can bring to CARE is the natural emergence of a collaborative commitment to contribute new information and knowledge which, in turn, helps to change members' work patterns – in this case, taking the time to read, interpret, synthesize and share new knowledge. An initial success of the LAC Region's *Leading with Impact* Project Team !! 😊

A Graphic Depiction of Nonaka's & Takeuchi's Theory on Knowledge Creation

Knowledge-Creation Enabling Conditions

Intention ~ Fluctuation & Creative Chaos ~ Autonomy ~ Redundancy ~ Requisite Variety



the "Spiral" dynamic: amplifying knowledge across organizational boundaries from the Individual to the Group to the Division/Unit to the Organization to Inter-Organizational

Overview

In this book Nonaka and Takeuchi present a new theory of organizational knowledge creation, an explanation of why certain Japanese companies have been successful at continuous innovation, and then present a universal management model that converges Western and Japanese management practices. The authors use several cases from Japanese companies to demonstrate how their theory of and management model for organizational knowledge creation plays out in real life.

Nonaka and Takeuchi describe how knowledge conversion takes place through an iterative and spiral process of socialization, externalization, combination and internalization – or SECI – as an effective means of making individuals' tacit knowledge available to the broader organization in order to create new knowledge and then apply this new knowledge within their business processes towards achieving the organization's vision, objectives and performance standards. The authors also present five critical enabling conditions - intention, fluctuation and creative chaos, autonomy, redundancy, requisite variety - as well as a five phase model - sharing tacit knowledge, creating concepts, justifying concepts, building an archetype, cross-leveling knowledge - for organizational knowledge creation.

Nonaka and Takeuchi then go on to describe a new management approach that combines and complements the best attributes of top-down and bottom-up management within what the authors refer to as "middle-up-down" management. The authors describe the key roles of top management, mid-level management and line staff as well as their respective qualifications for managing knowledge creation. The authors highlight the critical role that mid-level managers play as "knowledge engineers" – akin to what we refer to in the LAC Region as "knowledge promoters."

Nonaka and Takeuchi then go on to describe a new organizational structure – the "hypertext organization" – that blends the strengths of bureaucratic efficiency and standardization with those of task force flexibility and dynamism. The hypertext organization is comprised of the "business system layer" (where work gets done and where the bureaucratic model is most effective), the "project team layer" (where new ideas or products are developed and where the task force model is most effective), combined with a value-added feature of the hypertext organization called the "knowledge base layer" where information and knowledge are catalogued, categorized and synthesized in accordance with organizational priorities for the future. The authors also point out the challenge that the hypertext organizational structure presents – namely, that staff must be capable of moving between these three layers with relative ease and, for the most part, with the ability to clearly separate her/his mindset and business practice from one layer to the next.

The authors then posit that organizational knowledge creation is also possible on a global scale if the company is sensitive to and effective in socialization of tacit knowledge regarding the nuances and preferences found within the market (or context) to be expanded into and in externalization of the know-how required to develop the product that had success within its origin market (or context). Nonaka and Takeuchi also describe several key factors in the product development cycle that must be shared and negotiated between companies engaging in global organizational knowledge creation.

In closing, Nonaka and Takeuchi present what they believe are the critical managerial and theoretical implications that companies will face in attempting to transform themselves into a knowledge-creating company.

Related Readings (in suggested order of importance):

- ✓ Georg von Krogh's, Kazuo Ichijo's & Ikujiro Nonaka's ***Enabling Knowledge Creation***
 - ✓ Arie deGues' ***The Living Company***
 - ✓ Jurgen Klüger's et al ***Knowledge Unplugged***
 - ✓ Nancy Dixon's ***Common Knowledge***
 - ✓ Etienne Wenger's ***Communities of Practice – Learning, Meaning and Identity***
 - ✓ Etienne Wagner's, Richard McDermott's & William M. Snyder's ***Cultivating Communities of Practice***
 - ✓ Donald Schön's ***The Reflective Practitioner & Educating the Reflective Practitioner***
 - ✓ Peter Senge's ***The Fifth Discipline & The Fifth Discipline Fieldbook***
 - ✓ Chris Argyris' ***On Organizational Learning***, Argyris' & Donald Schön's ***Organizational Learning II – Theory, Method and Practice***, & Argyris' & Schön's ***Theory in Practice***
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Chapter-by-Chapter Review

Chapter 1 Introduction to Knowledge in Organizations

Nonaka and Takeuchi set the stage by defining *organizational knowledge creation* as "...the capability of a company as a whole to create knowledge, disseminate it throughout the organization, and embody it in products, services, and systems." They then claim that organizational knowledge creation often comes through crisis, forcing companies to break away from the past and move into new and untried territories of opportunity. They then posit that a company's true knowledge lies in its staff and their individual experiences but that this knowledge – or "know-how" – is predominantly tacit and that most companies have not discovered how to expose and explore this tacit, hidden knowledge and leverage it to its competitive advantage. Making tacit knowledge explicit so that it can be shared and then used by the organization to create new knowledge is what Nonaka and Takeuchi refer to as "knowledge conversion" – the focus of their book.

Chapter 2 Knowledge and Management

In this chapter, Nonaka and Takeuchi take us through a historical journey of how knowledge has been defined and perceived and how it has influenced both management and organizational theory. They explore various dichotomies – most notably, rationalism versus empiricism – of Western thinking and compare these with Japanese thinking – predominantly focused on the "oneness" of man and nature, body and mind, self and others.

Perhaps the most enlightening excerpt from this chapter is presented in a quote from Senge: "*At the heart of a learning organization is a shift of mind – from seeing ourselves as separate from the world to connected to the world, from seeing problems as caused by someone or something "out there" to seeing how our own actions create problems we experience. A learning organization is a place where people are continually discovering how they create their reality. And how they can change it.*" Perhaps Senge is suggesting that learning organizations need to consider and embody the Japanese philosophy of "oneness."

The authors conclude this chapter by claiming that while, the experts of modern management and organizational theory have gotten clearer on seeing knowledge as a resource, a process and an output critical to organizational competitive advantage, they have yet to give adequate attention to how knowledge is created within the organization.

The LAC Region's Concept of Knowledge

Through its "*Sharing Knowledge to Overcome Poverty*" strategy paper, the LAC Region is promoting and attempting to embrace the concept of knowledge as a value-adding resource and process for as well as an expected output of our core business and overall operations.

Chapter 3 Theory of Organizational Knowledge Creation

Here, Nonaka and Takeuchi present their theory – based on extensive research of Japanese companies – of how knowledge is created and put to use by successful companies. This theory posits that knowledge creation is a process of continual **Socialization**: sharing, of individual tacit knowledge; **Externalization** of tacit knowledge to explicit knowledge – that is, codifying tacit knowledge into metaphors, analogies, figures or stories in order to create new concepts, and then justify them in relation to corporate imperatives; **Combination** in which archetypes (or prototypes) of the new concept are developed and incorporated into the organization; and **Internalization** of this new knowledge through learning by doing and experimentation – thus rendering the new knowledge once again tacit. **SECI**, according to Nonaka and Takuechi, is the conversion process that brings the knowledge of individual staff members into the organization and puts this knowledge to effective use in achieving organizational vision, strategic objectives and performance expectations.

Nonaka and Takeuchi then present the five enabling conditions for organizational knowledge sharing. These are:

- **Intention:** Every organization must have a clear direction for the future, generally expressed in terms of its vision, its long-term objectives, and the critical principles or performance expectations. Organizational intention, then, is a combination of lofty aspirations and hard-nosed criteria and standards.
- **Fluctuation and Creative Choas:** Knowledge creation thrives in times of crisis – be it a crisis generated within the operating environment or a crisis generated by organizational intent. In other words, individuals and

organizations tend to be more creative when some external stimulus forces them to have to rethink the way they view the world - their mental models, their paradigms, their values – and the way they interact with that world – their attitudes, behaviors, routines.

- **Autonomy:** Effective knowledge creation takes place when individuals within the organization are given and embrace their freedom to act, to make decisions and to have an influence on the organization. In other words, individuals within the organization must sense that they will be called upon and will be able to answer the call to lead the organization into new territory and/or into the future. This autonomy is not meant to be synonymous with “independence.” Autonomy is always tempered by and framed within organizational intent.
- **Redundancy:** Here, the authors refer to the need for redundancy as the intentional overlapping of information about business activities, management responsibilities and the company as a whole. In other words, “there are no secrets” and “there is no privileged information” (beyond, perhaps, confidential personnel matters). This allows all individuals in the organization to invade each other’s functional boundaries and offer ideas, advise or provide new information from different perspectives. In a sense, redundancy promotes “learning by intrusion” as acceptable behavior and promotes “boundaryless” organizational dynamics.
- **Requisite Variety:** As one might expect, diversity enhances knowledge creation. Ideally, an organization’s internal diversity will match the variety and complexity of the environment within which it works. But maximizing variety also means that everyone in the organization should be assured of the fastest access to the broadest variety of necessary information going through the fewest steps. In short, the organization’s staff composition should allow them to say “we are our market” and everyone in the organization must have maximum “information at their finger tips” for effective knowledge creation.

Nonaka and Takeuchi then present a five phase model of how knowledge creation takes place within organizations. This five phase model includes:

- **Sharing Tacit Knowledge:** (Socialization) In order to share tacit knowledge the organization must create the time, space and expectation for individuals to come together to exchange experiences via a shared experience (i.e., coming together). These moments of exchange may be self-organized or company-organized, but successful Japanese companies tend to conduct these exchanges off-site and combine them with some sort of shared physical experience (embodying the “oneness of body and mind”). These exchanges tend to be fairly informal gatherings but with an expressed purpose of exchanging.
- **Creating New Concepts:** (Externalization) The exchange of tacit knowledge evolves into making the knowledge explicit – either through metaphors, analogies, or diagrams – and working this explicit knowledge towards the development of a new concept that has the potential of contributing to organizational intent (vision, objectives, performance expectations). This is a process of dialogue and collective reflection with the intention not of “buying into” one person’s experience or knowledge but rather coming up with something new and innovative.
- **Justifying Concepts:** (Externalization leading towards Combination) Successful companies do not just solicit random concepts from its people. Rather, it seeks to generate new ideas and concepts that align with and contribute to the organization’s intent. Therefore, every new concept must be justified in terms of its ability to meet organizational intent.
- **Building an Archetype:** (Combination) Each justified concept is then developed into an archetype – be it a product, process or system. Building an archetype requires networking across multiple functional units within the organization and linking a diverse array of explicit knowledge. The archetype allows the organization to engage with the new concept using its sensory capabilities – to see, feel, smell, hear, and even taste the new concept. Building an archetype also allows for more detailed analysis of what it will take to produce and market the new concept – always in keeping within the organizational intent.
- **Cross-leveling Knowledge:** (Combination) Once the archetype has been deemed to both fulfill organizational intent and be feasible to produce and market, it is then subjected to an intra- and inter-organizational socialization process. Cross-leveling not only contributes to possible enhancements of the archetype but it also contributes to socializing and externalizing the new knowledge that was generated throughout the process. That is, new value adding knowledge for the organization is not simply manifested in the end result (the product, process or system) but rather emerges and is captured all along the way.

Chapter 4 Creating Knowledge in Practice

In this chapter, Nonaka and Takeuchi describe the Matsushita company's process for developing – in 1987 – the first automated home bread baking machine as an example of how their theory of organizational knowledge creation plays out in real life. Of particular importance is how Matsushita was able to: 1) identify the type of new knowledge required by a changing competitive environment – in this case, low-cost, automated food processing and preparation in the home without sacrificing quality: and 2) constantly enhance their organizational enabling conditions for knowledge creation and ultimate success in penetrating a competitive market with a new, innovate product. In addition, the Matsushita case demonstrates that the five-phase knowledge creating model is most often not a “one time and through” process but rather often requires several iterations – albeit sometimes incomplete – of the model before the knowledge creation process results in achieving the organization's vision, objectives and performance expectations.

Chapter 5 Middle-Up-Down Management Process for Knowledge Creation

In the “middle-up-down” management model, Nonaka and Takeuchi attempt to meld the top-down and bottom-up approaches to organizational management but – unlike their peers of the 1990s – laud the mid-level managers as the key to successful organizational knowledge creation. For the authors, it is the mid-level manager who bridges top-level vision and ideals with the chaotic reality of front line staff. In this regard, the mid-level manager might be seen as managing the “creative tension” between “where we are” and “where we ought to be.” To do this, the mid-level manager must interpret and then develop mid-level concepts (e.g., business strategies, broad strokes of product lines, etc.) that reflect corporate vision and ideals but which allow enough flexibility for front-line experiences and creativity to flourish in terms of generating new knowledge.

Nonaka and Takeuchi then go on to describe what they refer to as a “Knowledge Crew” for guiding, promoting and generating new knowledge within the organization. This Crew consists of: “knowledge officers” (top-level managers), “knowledge engineers” (mid-level managers), and “knowledge practitioners” (front-line staff). Briefly, their respective roles are:

- **Knowledge Officers** – or top-level managers – give the company's knowledge-creating efforts a sense of direction by: articulating a vision or grand concepts of what the company ought to be; establishing a knowledge vision in the form of a corporate vision or policy statement; and setting the standards – or performance expectations – for justifying the value of the knowledge being created.
- **Knowledge Engineers** – or mid-level managers – take the lead facilitating the four modes of knowledge conversion: socialization; externalization; combination; internalization. In particular, Knowledge Engineers are particularly adept at externalization via developing mid-level concepts that align with but also interpret corporate vision and ideals within which front-line creativity and innovative ideas are brought to bear. Knowledge Engineers are also instrumental in amplifying knowledge across boundaries within and amongst organizations. In this sense, Nonaka and Takeuchi's Knowledge Engineer is synonymous with the LAC Region's “Knowledge Promoter.”
- **Knowledge Practitioners** – or front-line staff – are constantly in direct contact with the outside world and can obtain access to the latest information on developments in the market place, customer preferences, new technologies and competitors. Therefore, Knowledge Officers and Knowledge Engineers need to give them tasks that are as challenging and exploratory as possible. Nonaka and Takeuchi distinguish between two types of Knowledge Practitioners. *Knowledge Operators* accumulate and generate rich tacit knowledge in the form of experience-based skills and “know-how.” *Knowledge Specialists* mobilize well-structured explicit knowledge in the form of technologies, scientific and other quantifiable data.

“Middle-Up-Down” Management in the LAC Region

In 2000, the LAC RMU – a mid-level management unit in the corporate scheme of things – designed and facilitated a process for crafting the Management Framework (the LAC MF). The LAC MF is an example of a mid-level concept that responds to the question: “If we were a global force and a partner of choice (part of the corporate vision and ideal) what would we need to excel at?” The answer to this question – our five breakthrough organizational capabilities and the concept of taking on a more facilitative / enabling role” helps Country Offices make sense of one aspect of CARE's Vision.

In 2003-2004, CARE Guatemala – a mid-level management unit within the LAC Region scheme of things – has set out to explicitly define its “business strategy” for the future. This business strategy is an example of an emerging mid-level concept that responds to the question: “If we were to make a significant contribution to overcoming poverty in Guatemala, what would our core product line be comprised of and what value-adding approaches would we use?” The answer to this question will help CARE Guatemala program managers make sense both of CARE's Vision and the LAC MF.

Nonaka and Takeuchi also present the qualifications of each member of the “Knowledge Crew.” These include:

Knowledge Officers	Knowledge Engineers	Knowledge Practitioners
<ul style="list-style-type: none"> ○ ability to articulate a knowledge vision to give the company a sense of direction ○ capability to communicate the vision as well as the corporate culture on which it is based to project team members ○ capability to justify the quality of the created knowledge based on organizational criteria & standards ○ uncanny talent for selecting the right project leader ○ willingness to create chaos within the project team ○ skillfulness in interacting with team members on a hands-on basis and soliciting commitment from them ○ capability to direct and manage the total process of organizational knowledge creation 	<ul style="list-style-type: none"> ○ topnotch capabilities in project coordination and management ○ skilled at coming up with hypotheses in order to create new concepts ○ ability to integrate various methodologies for knowledge creation ○ communications skills to encourage dialogue among team members proficient at employing metaphors in order to help others generate and articulate imagination ○ engender trust among team members ○ ability to envision the future course of action based on an understanding of the past 	<ul style="list-style-type: none"> ○ high intellectual standards ○ strong sense of commitment to re-create the world according to their own perspective ○ wide variety of experiences inside and outside the company ○ skilled in carrying on a dialogue with customers as well as with colleagues within the company ○ open to carrying out candid discussions as well as debates with others

Chapter 6 A New Organizational Structure

Nonaka and Takeuchi posit that neither the bureaucratic model nor the task force model will suffice for organizational knowledge creation but rather an enhanced combination of the two. The authors put forth the notion of the “hypertext” (imagine your computer screen when you explore a web site where layers of text, graphics, pictures and videos are presented on your screen as you broaden and/or deepen your search for information on a particular subject matter) organizational structure. The hypertext organizational structure builds upon the efficiency of the bureaucracy model’s hierarchy, standardization and formalization combined with the creativity, flexibility and dynamic nature of the task force model. In other words, the hypertext organization facilitates a nonhierarchical, self-organizing structure working in tandem with its hierarchical formal structure. It then adds a structured knowledge base as well as a systematic attention to and capability for engaging with the outside (trends in the marketplace, customer preferences and ideas, competitors, potential collaborators, etc.).

Nonaka and Takeuchi describe the hypertext organizational structure as three layers – or contexts – within which individuals engage. These hypertext organization layers include:

- **the “Business-System” layer:** in which normal, routine operations are carried out. The business-system layer operates along the lines of the bureaucratic model. It is here that products and services are delivered and it is here where the vast majority of tacit knowledge is found within the organization. The business-system layer is that part of the organization that deals directly with the customer and with the organization’s operating environment – that is, where “the rubber meets the road” and where “reality” is felt full force.
- **the “Project-Team” layer:** where multiple project teams engage in knowledge-creating activities such as new product development. This layer operates along the lines of the task force model whereby individuals are drawn from their normal responsibilities to participate in a project team with a specific objective and time frame for completion. This is where knowledge conversion takes place, pulling tacit knowledge from individuals from the business-system layer and engaging this knowledge towards developing new concepts, ideas and products (processes or services). Once the project is completed, individuals return to their normal roles and responsibilities within the business-system layer.
- **the “Knowledge-Base” layer:** where knowledge generated in the above two layers is codified and stored to ensure accessibility to everyone in the organization. The most effective organizational knowledge base is structured around organizational intent – vision, long-term objectives, performance expectations – and/or critical but

broad categories of organizational expertise (in line with organizational intent). Within the knowledge-base layer, then, new knowledge is re-categorized and re-contextualized in an effort to make it accessible and of value to the widest range of individuals and business units as possible – thus, new “soft” knowledge – such as culture, interaction, enabling conditions, etc. – is just as valuable as new “hard” knowledge – such as technologies, production processes, etc.

The success of the hypertext organization is the ability of each individual in the company to move seamlessly “in” and “out” of each of these three layers. In other words, in knowledge-creating companies staff are encouraged and expected to – at some, if not any, point in their careers – to engage at all three layers of the hypertext organization.

Chapter 7 Global Organizational Knowledge Creation

Nonaka and Takeuchi provide evidence that organizational knowledge creation can go global – that is, it can span geographic and cultural boundaries as well as span multiple company boundaries. What would seem to make the critical difference to success is: a) effective socialization of tacit knowledge regarding the market and its customers' preferences to be expanded into to; and 2) effective externalization of the “know-how” – or inner workings (principles, processes, systems, etc.) of the product development process – of those who developed the concept to be exported into the new market. The authors point out five common obstacles in global organizational knowledge creation that need to be discussed openly and agreed upon (and/or a compromise reached), namely:

- understanding of (new) market preferences and cultural norms;
- common or compatible performance expectations (across company units &/or partner companies);
- who leads the product creation process (or will it be a genuine joint venture);
- prevailing product development processes (across company units &/or across partner companies); and
- design standardization (or not) across company units and/or partner companies.

Chapter 8 Managerial and Theoretical Implications

Nonaka and Takeuchi present seven guidelines a practitioner can adopt to implement an organizational knowledge-creating program within a company. These guidelines include:

1. create a knowledge vision;
2. develop a knowledge crew;
3. build a high-density field of interaction at the front-line;
4. piggyback on the new-product development process;
5. adopt middle-up-down management;
6. switch to a hypertext organization; and
7. construct a knowledge network with the outside world.

Nonaka and Takeuchi then encourage us to recognize and work through a number of “false dichotomies” that tend to limit our abilities to promote and leverage organizational knowledge creation. These false dichotomies – all of which are discussed throughout the book – include:

1. Tacit / Explicit;
2. Body / Mind;
3. Individual / Organization;
4. Top-Down / Bottom-Up;
5. Bureaucracy / Task Force;
6. Relay / Rugby; and
7. East / West.

The Art and Practice of Synthesis

Rather than debate the merits of one over the other...

...take the best of two worlds
and create something new
from their dynamic interaction.

As we might imagine, what Nonaka and Takeuchi are suggesting is that companies that embrace and foster “oneness” are much more likely to be knowledge-creating organizations that can sustain continuous innovation.

Applications & Implications for CARE in the LAC Region

The extent to which CARE in the LAC Region is willing and able to embrace and advance Nonaka's and Takeuchi's theory on organizational knowledge creation might best be examined by reflecting upon and exploring shared responses to a set of provocative questions. These might include, but certainly not be limited to:

In our desire and attempts to become a "learning" (CARE-speak) or "knowledge-creating" (Nonaka- and Takeuchi-speak) organization, to what extent do we...

- *...create the time, space and expectation that all staff actively engages in exchanging their tacit knowledge as a part of their everyday responsibilities and functions?*
 - *...define clear organizational performance standards or expectations against which new knowledge and ideas can be justified in terms of the value they bring to the organization and to society?*
 - *...develop mid-range concepts capable of bridging our organizational vision and ideals with the constantly changing chaotic reality that our front-line staff faces?*
 - *...recognize and make it be known publicly that the vast majority of tacit knowledge resides with our front-line staff and that they are the primary sources and drivers of generating new and innovative knowledge for the organization and for society?*
 - *...make all organizational information readily accessible to all staff?*
 - *...recruit for, recognize and promote, and demand from our mid-level managers that they fulfill the role of "Knowledge Engineers"/ "Knowledge Promoters"?*
 - *...provide task forces with the full backing and resources of the organization as well as with total receptivity to the value-adding knowledge and ideas they generate?*
 - *...effectively combine and leverage diverse explicit knowledge in order to create genuinely new and innovative knowledge and ideas for the organization and for society?*
 - *...integrate every new innovative idea into all facets of our organizational operations?*
 - *...encourage and enable "learning by intrusion" across and amongst our functional and institutional boundaries?*
 - *...find a balance between the need for control and standardization (bureaucracy model) and the need for dynamic flexibility and autonomy (task force model) focused towards embodying and achieving our organizational intent?*
 - *...exemplify a willingness to break with the past - without forgetting our past – to create new innovative knowledge and ideas as we engage with and influence the world around us?*
-