Knowledge creation: revisiting the 'ba' humbug

People and 'latent' knowledge in organizational learning

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Abstract: Knowledge management theory has struggled with the concept of "knowledge creation". Since the seminal article of Nonaka in 1991, an industry has grown up seeking to capture the knowledge in the heads and hearts of individuals so as to leverage them for organizational learning and growth. But the SECI process of socialization, externalization, combination and internalization outlined by Nonaka and his colleagues has dealt essentially with knowledge transfer rather than creation. This paper looks at attempts to fill the gap in the process – from Nonaka's own addition of the need for "ba" to Snowden's suggestion of that we consider "Cynefin" as a space for knowledge creation. Drawing upon a much older theoretical framework, the Johari Window developed in group dynamics, this paper suggests an alternative concept – latent knowledge – and introduces a different model for the process of knowledge creation.

Keywords: knowledge management, explicit knowledge, tacit knowledge, latent knowledge, organizational learning, Johari Window, group learning, group dynamics

Introduction

For the past ten years, companies have been making use of the insights of knowledge management – making significant gains and wishing, all the while, somehow, there was more in it. The concept of the "knowledge-creating company" advanced and subsequently developed by Ikujiro Nonaka and various colleagues spawned an industry of new consulting as companies sought to capture the promise in what Nonaka, building on the work of Polyani (1967 and 1974), had termed the conversion of "tacit" knowledge and into "explicit" knowledge. His insight – one of a handful of stunningly obvious advances in strategy in the last thirty years – was this: A fact, a process, a customer relationship known only to one individual, something as intangible as any corporate asset could be, may be made tangible and stored in a database, where – in the no-nonsense language of practical

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management – we could sweat it. It was a great revelation extracting the know-how, expertise, craftsmanship and accumulated uncommon sense and codifying it would give us a store of information that any fool could use. Sales of databases proliferated. Coupled with falling communications costs, off-shoring became a real possibility. Knowledge workers might well feel frightened that "giving up" their (tacit) knowledge to a massive (and explicit) database would erode their bargaining power. Many sales people keep their contact lists in address books and Rolodexes they purchased privately – to strengthen their case that the names, addresses and phone numbers – indeed, spouses' names, secretary's names and birthdays – were their property, not their employer's. When they voiced those concerns knowledge managers would just press a few buttons on the database and a study would appear showing how the net present value of knowledge assets crashed if the ideas were hoarded. Share them, however, and they produce an unending stream of innovations and more wealth than any one person could consume.

The idea was launched in Nonaka's article "The Knowledge-Creating Company" in *Harvard Business Review* in 1991, describing four types of knowledge transfer: tacit-to-tacit, as when a craftsman trains an apprentice; tacit-to-explicit, when that knowledge is written down so it can be learned by many; explicit-to-explicit, where someone combines bits of knowledge into something new; and explicit-to-tacit, where explicit knowledge is absorbed by the workforce into their own tacit knowledge. Nonaka called this a "spiral" of knowledge, but when the book came out (Nonaka and Takeuchi 1995), the graphic that explained what was now called the SECI model was solidly two-dimensional (see Figure 1.)

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Insert Figure 1 - The SECI model about here
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This model had provided valuable insights, especially about how to leverage the knowledge of the workforce. It helped to speed up product launches and improve the quality of customer service while at the same reducing the cost. It was – no question – a
Godsend to businesses around the world. And as with any other form of leverage there is considerable margin to be gained – until the competition catches up, as they undoubtedly would now that the source of competitive advantage is codified, digitized and made much more portable.

This lack of a strategic (rather than an incremental or cost-saving) benefit in knowledge management didn't matter as long as the gains from reducing the cost of everything from service to product development were being made. Knowledge management also helped to reduce the risks, especially in high-knowledge service industries like investment banking where the maxim of the time was that the main assets walk out the door every night – and sometimes arrive to work next door the next morning.

As client relationships found themselves more thoroughly articulated within information systems, it was easier for a new person to pick up and retain an account.

What hadn't happened, however, was the creation of knowledge. The big drawback of the SECI model was that it relied almost entirely on recycling knowledge. The explicit-to-explicit, or "Combination" phase in Nonaka – the C of the SECI model – assembled pieces of knowledge. But that was, almost by definition, derivative knowledge, not the sort of insight that would transform a business into something that would change the nature of the industry and the competition within it. Though it might bring about an incremental improvement in business processes, this wasn't the type of disruptive technology¹ that might transform a business or give rise to what Clayton Christensen and colleagues would write about (Bower and Christensen 1995, Christensen 1997, Christensen and Raynor 2003). Indeed, the benefits of tacit-to-explicit knowledge transfer looked like little more than efficiencies gains, albeit in areas that had confounded efficiency experts for most of the 20th Century. Harvard's Michael Porter, in the hotly debated article "What is Strategy?", proclaimed: "operational effectiveness is not strategy" (1996: p. 61). While Porter's contention had its critics, including notably Mintzberg et al. (1998), it is fair to say that these
types of improvements reflect something short of what we might legitimately expect from the "knowledge creation" that Nonaka promised. Indeed, Snowden (2002a) argued that "the focus on tacit-explicit knowledge conversion that has dominated knowledge management practice since 1995 provides a limited, but useful set of models and tools".

On the theoretical side, there were growing doubts, too, especially about the concept of tacit knowledge. The concept has its roots in the work of Polyani (1974), where tacit knowledge was part of a dialectic, the flip-side-of-the-coin of explicit knowledge, not the distinct entity of a different type and scale as it appears in Nonaka. Snowden (2005) says:

... the distinction between tacit and explicit knowledge, while it provided utility as a means of making knowledge a less problematic word, is no longer useful, since the concept of tacit knowledge has become problematic in turn.

He went on to urge a greater attention to what he termed "narrative" and "concrete" knowledge:

{W}e always know more than we can say and we will always say more than we can write down. Learning communities act as critical mechanisms for the transfer of concrete knowledge through imitation and mentoring, but also define and are defined by their narratives.

Others (among them Moondrian 2005) have questioned the distinction between tacit and explicit knowledge at the stage in the SECI model when we turn the first ("socializing") and second ("externalizing") corners. How is talking or showing someone something qualitatively different from writing it down?

In Nonaka's support, that a tact-to-tacit knowledge transfer is still possible, albeit with a brief, undocumented explicit phase as the master instructs the apprentice. That intermediate phase is not one of strategic importance, however, because the learning remains one-to-one or at best one-to-few. To achieve what Lele (1992) in another context calls "strategic leverage" requires the learning is possible without the presence of the teacher. In tacit-to-tacit transfers, the resource that forms the constraint to leverage is the
teacher. If they go undocumented, the teacher can never cease to be a constraint. It is precisely this issue that lies behind the case of the low-cost airline People Express, documented in a business simulation exercise widely used in teaching systems thinking in business schools. Developed at the Sloan School of Management at the Massachusetts Institute of Technology, it shows graphically how the rapid growth of the company brought with it a growth in the training requirement that in turn reduced the stock of available personnel to fly the planes and deal with passengers. Moreover, this system-thinking based approach also leads us to consider the implications of incomplete tacit-to-tacit knowledge transfers and the effort required to recover "forgotten" knowledge from such teacher-dependent learning. Kim Warren's description makes clear how the nonlinear effects of such imperfections in learning can destabilize a business otherwise headed for growth (Warren 2002: pp. 122-26).

Accepting that Nonaka's tacit-to-tacit transfers are possible if perhaps somewhat more complex than the SECI model suggests, it is still unclear how knowledge is created. Perhaps in part as a result of this difficulty, Nonaka and Konno (1998) introduced the concept to "ba" – a Japanese word, they said, with no adequate translation into English. It was in some way a "shared space for emerging relationships". It might take a real form, as in the meeting of master and apprentice, or a virtual one, using collaborative technologies. They said: "The four modes of knowledge creation [as in SECI] allow us to conceptualize the actualization of knowledge within social institutions through a series of self-transcendental processes. Ba offers an integrating conceptual metaphor for the SECI model of dynamic knowledge conversions. Within ba, real-time knowledge creation is achieved through self-transcendence."

That concept proved perhaps a bit self-transcendental even for devotees on the intellectual underpinnings of knowledge management. Snowden (2002a) notes that by the time Nonaka and colleagues added "ba" to the architecture of their theory of knowledge
creation, "the simple two by two of the SECI model was too well established in business plans, software brochures and the structured methods of consultants to be restored to its original intent". Knowledge management had indeed become an industry based mainly around achieving the cost-reducing benefits of the leverage in tacit-to-explicit knowledge transfer.

Snowden, however, shares the view that knowledge creation requires something more databases and search technology. The former IBM knowledge specialist takes a decidedly humanist approach, seeing knowledge creation arising from the interaction of people, and offers an even more abstract framework than "ba" to solve the problem of new knowledge. Snowden (2005) proposes a model called Cynefin, a Welsh word "whose literal translation into English as habitat or place fails to do it justice". According to the website of Snowden's Cynefin Centre (Cynefin 2006):

"It is more properly understood as the place of our multiple belongings; the sense that we all, individually and collectively, have many roots: cultural, religious, geographic, tribal etc. We can never be fully aware of the nature of those belongings, but they profoundly influence what we are. The name seeks to remind us that all human interactions are strongly influenced and frequently determined by the patterns of our multiple experiences, both through the direct influence of personal experience and through collective experience expressed as stories."

Both "ba" and "Cynefin" seem to be striving for the designation of a "place" – a physical space that may perhaps be replicated in software where individuals can somehow interact is a way that elevates the essentially flat cycle of knowledge transfer in SECI into the upward spiral of knowledge that Nonaka promised in his original article (1991) and visualized only when introducing the "ba" concept several years later.

**Knowledge and group dynamics**

Providing a place for knowledge creation, though, still falls short of explaining how it is achieved. This paper doesn't attempt to summarize thinking about how ideas are formed,
rather to note a long history of effort to explain the "Eureka" moments when individuals
discover some hidden notion. For organizational learning more important is the concept of
how groups create new knowledge. Discussions between individuals stimulate thinking
that pushes the boundaries of the knowledge of any of the individuals. It is more fitting
together the pieces of a jigsaw puzzle: through their social interaction groups discover ideas
none of the participants, as individuals, had previously known in any tacit or explicit sense.
In an attempt to demystify the process and keep closer to the language and spirit of the
roots of the discussions about the role of knowledge in strategy, we might call this "latent
knowledge", sitting in the space, waiting to be discovered.

We see this happening, occasionally, in business meeting, interdisciplinary project
teams, online bulletin boards and video conferences, even in classrooms. It might not
happen every time a group meets, and it isn't the only way knowledge is created. Newton
probably sat alone under the apple tree. Einstein probably didn't sit alone in the patent
office in Zurich, but it is hard to imagine a conversation with other patent clerks working
out the finer points of the Special Theory of Relativity. But group processes occasionally
lead to something that goes beyond the collective knowledge of group members, where the
whole is greater than the sum of parts.

This notion of latent knowledge has parallels and perhaps even roots our
understanding of group dynamics. Graphically, it has been waiting to be discovered in
Quadrant 4 – the Unknown quadrant – of the Johari Window, first articulated by Luft and
Ingram (1955) and subsequently used in various transformations (Luft 1984, Marsick and

Another simple, two-by-two matrix, the Johari Window plots what is known and
unknown to the individual against what is known and unknown to the group. The
resulting cells, show in Figure 2, describe graphically how wary individuals in groups
might constrain how much of their knowledge they contribute to a group, how much other
group members might find from an individual.

Insert Figure 2 - The Johari Window about here

In groups, improving communications means expanding the "open area" in the Johari
Window, named from a combination of first names of its two inventors, Joseph Luft and
Harrington Ingham, in the 1950s. According to the account Luft (1984), the four quadrants
of the matrix have the following characteristics:

- Quadrant 1: called the free or open area, it involves behaviour known to self and to
  others.
- Quadrant 2: the blind area refers to things about us that others can see but of which
  we are unaware.
- Quadrant 3: the avoided or hidden area indicates things we prefer to keep to ourselves
  – hidden agendas or personal feelings.
- Quadrant 4: the unknown activity represents the sort of things that are accessible
  neither to us nor to others, but which may eventually be reveals. "Such behaviours
  and motives could have affected our relationships, without our knowing it, all
  along."

This model of behaviour and disclosure in groups has analogies to knowledge theory.
The open area is similar explicit knowledge. Both the blind and hidden areas relate to the tacit
knowledge of self and other selves in the group.

Through openness and disclosure, however, the barriers can be pushed back, bringing
into play the known but unshared knowledge of both the individual and the group. Despite
the way this diagram is represented and modified in discussions on group learning by other
writers (see Marsick and Watkins 1990, Drejer 2000), how either individuals or groups saw
into the area of knowledge creation – what Luft and Ingham (1955) called the "unknown"
quadrant – remains largely unexplained. Indeed, the psychiatrist Dorothea Ritter-Röhr
(2005) breaks with the conventions of others and maintains the unknown quadrant at its full
size whatever actions individuals or groups take to open or constrain their knowledge sharing.

Luft suggests that the initial condition of any group process has a relatively small first quadrant, where knowledge is shared openly by all participants (See Figure 3). The objective of group work is to expand the open area of Quadrant 1, by pushing into Quadrant 2 and 3. He admits the possibility of penetrating Quadrant 4 as well, accepting that it isn't easy. He then adds: "At any rate, Q4 is undoubtedly larger and more influential in an individual's relationships..." (Luft 1984: p. 72), producing a diagram like that in Figure 4.

This area of the "unknown" in the Johari window – information or knowledge that "is presumed to exist only by inference or in retrospect" (Luft 1984: p. 68) – is unknown to all participants in the group. It suggests, therefore, that Quadrants 1, 2 and 3 are something like the tip of the iceberg of known, and that something larger lurks discovered but not undiscoverable despite the limited knowledge of group participants. This is what we might call "latent knowledge".

The links to group dynamics are also echoed in the attempts by Nonaka and colleagues to explain the need for the mysterious "ba", but again with language that suggests this phase it still quite difficult to explain. The phase of socialisation – tacit-to-tacit knowledge transfer – emphasises "the importance of joint activity in the process of converting new tacit knowledge through shared experiences" (Nonaka et al. 2001: p.14).

Similarly:
Since tacit knowledge is context specific and difficult to formalize, transferring tacit knowledge requires sharing the same experience through joint activities such as being together, spending time, or living in the same environment (pp. 14-16).

Building or finding ba is not enough:

Ba should be "energized" so that the individuals or the organization can create and amplify knowledge through the SECI process… (p. 26).

"Necessary conditions" to energize ba include: "autonomy; creative chaos; redundancy; requisite variety; and love, care, trust, and commitment" (p. 26), an extension of the criteria Nonaka and Takeuchi (1995) found necessary to get the SECI process working.

Claus Otto Scharmer has identified the same shortcoming in the getting to real knowledge creation. Tacit knowledge usually denotes knowledge that is embedded and embodied in everyday practices. "However, there is a second type tacit knowledge, which can to thought of as 'not-yet-embodied' or 'self-transcending' knowledge". Citing Hamel's notion of a "hierarchy of imagination" (Hamel 1998), Scharmer says "imagination holds images of not-yet-fully-embodied realities" (Scharmer 2000: p. 37). He posits a double spiral of SECI processes: Nonaka's familiar process, of shared reflection on tacit-embodied knowledge, and a second, intersecting one of involving a "shared formation of will" pulling not-yet-embodied knowledge into the cycle.

**Latent knowledge and the knowledge creation iceberg**

The processes of discovery, innovation, imagination, indeed of knowledge creation are indeed complex, even mysterious. This is not the stuff of knowledge management as we have known it, which has been mainly concerned with capturing knowledge held by individual members of the workforce and management, and then codifying it for use by others.
The concept of latent knowledge helps us to recognise that there is knowledge that may be "unknown" to each individual and to the organization as a whole, but nonetheless knowable, there to be discovered. That might happen through a "Eureka" moment of an individual or through the interaction of members of a group. Pulling that latent knowledge into Nonaka's SECI process helps to bring the large underbelly of the knowledge iceberg into the process of organizational learning (see Figure 5). This is how knowledge is created for the benefit of the organization.

While still mysterious, the concept of latent knowledge draws on the well-established model of the Johari Window and gives those interested in capture knowledge for organizational learning some additional guidance about how to find where knowledge is being created. It might be is a place called "ba", or "Cynefin" or even just where people meet and talk. It won't be a place called "humbug".

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1 In the Bower and Christensen article (1995) the word "knowledge" doesn't appear at all; the combination of letters only once, in the phrase: "If knowledgeable technologists believe the new technology might progress faster than the market's demand…” Their knowledge would appear to be 1) tacit, and 2) rather too tentative (“believe”) to be called "knowledge" at all.
2 This model is used at MIT, London Business School and elsewhere. See the website of Global Strategy Dynamics Ltd., a publishing company owned by LBS faculty member Kim Warren for details: http://www.strategydynamics.com/products/PeopleExpress2000.asp (accessed 01jan06). See also Warren (2002).
3 The Johari Window was rediscovered by the general public in 2004 when US Secretary of Defense Donald Rumsfeld evoked its memory when he spoke of the known knowns, the known unknowns, unknown knowns and the unknown unknowns in the Iraq conflict. Though initially mocked for his comments, Rumsfeld’s remarks helped many people to new insights about the nature of knowledge.
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Nonaka’s SECI model

Socialization  Externalization

empathising  articulating

embodying  connecting

Internalization  Combination

tacit tacit explicit explicit

tacit tacit explicit explicit

How groups grow – the Johari Window

Known to self  Not known to self

Known to others

The open area  The blind area

disclosure

Not known to others

The hidden area  The unknown area


Figure 1 - The SECI model

Figure 2 - The Johari Window
### Figure 3 - Johari Window: initial condition

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### Figure 4 - Johari Window: relative size of Q4

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Figure 5 - Knowledge creation iceberg