

## JAPANESE WAY, WESTERN WAY: TWO NARRATIVES OF KNOWLEDGE MANAGEMENT

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### **Abstract:**

The paper is based on a study of the KM literature. It looks at Nonaka's, Takeuchi's, and Konno's notions about knowledge creation, BA, and the SECI model as grounded in Zen Buddhism. The paper discusses Polanyi's idea of tacit knowledge, central to the Japanese way and to the Western way of understanding knowledge management. The paper also discusses Davenport's and Prusak's concepts of knowledge and knowledge markets. The paper argues that both the Japanese way and the Western way are grounded in, present deep themes of the nature of knowledge and knowing.

*Keywords: tacit knowledge, explicit knowledge, personal knowing, organizational knowing, Japanese narrative, Western narrative.*

## 1. INTRODUCTION

The origins of the paper come from a study of the knowledge management (KM) literature while preparing to teach about knowledge management at the undergraduate level, and graduate level. The subject-matter is quite complex. The subject-matter, the KM literature, consists of two major narratives (for this essay), the Japanese Way and the Western Way, which incorporate multiple views and a vocabulary for discussing knowledge and its use in situations of decision-making and problem-solving in everyday organizational operations. Knowledge management is itself a view that corporations organize, order, and use knowledge to be competitive in the world of business.

### 1.1. The problematic

The problematic for this paper is a description of the Western and Japanese narratives (ontologies) framing ideas about personal and organizational knowing, gleaned from Davenport & Prusak (2000) and Nonaka & Takeuchi (1995), in whose writings the major concepts of the narratives (ontologies) are presented.

### 1.2. Two grand narratives

There are, for this paper, two grand narratives or framings (see Sontag, 2009, pp. 212-249 for Barthes' conceptualization) of knowledge management (this is not to say that there are only two narratives). One narrative in use is the Western Way (as named in this paper) is exemplified by Davenport's and Prusak's *Working knowledge* (2000) which is a continuation of a discussion started by Davenport with Prusak in *Information ecology* (1997).

A second grand narrative is the Japanese Way (as named in this paper) is exemplified by Nonaka's and Takeuchi's *The knowledge-creating company* (1995) which is primarily a response to Peter Senge's *The fifth discipline* (1990). Both are narratives about how corporations use knowledge to sustain their competitive advantage in the local and global marketplaces. Nonaka and Takeuchi (1995) especially point out that it is "organizational knowledge creation" (p. 3) which they are arguing makes Japanese companies globally competitive.

One narrative is decidedly Western; the other is specifically Japanese. Both narratives make use of a vocabulary (in English) which appears to share a common narrative or ontology, an understanding, or view of knowledge, both tacit and explicit, as well as an assumed rationale for KM for sustaining a corporation's competitive advantage.

The Western narrative of KM consists of several subnarratives (making the description and analysis quite complex) about the locus of knowledge: in the heads of individuals, in the social reality, or in the organizational realities. The paper explores how the vocabularies, which are used within the subnarratives and are similar on the surface, express denotatively and connotatively differing conceptions of tacit knowledge and explicit knowledge, its generation and codification, the relation of data and information to knowledge, and the use of knowledge in action, and of knowledge as a firm's assets.

Within this narrative, the paper analyzes Davenport's and Prusak's conception of knowledge which "...is a fluid mix of framed experience, values, contextual information, and expert insight that provides a framework for evaluating and incorporating new experiences and information. It originates and is applied in the minds of knowers. In organizations, it often

becomes embedded not only in documents or repositories but also in organizational routines, processes, practices, and norms” (Davenport & Prusak, 2000, p. 5) or “...knowledge is information with the most value...” (Davenport, 1997, p. 9), as the archetypical definition of the Western narrative.

The Japanese narrative of KM discusses knowledge as “justified beliefs” (Nonaka & Takeuchi, 1995, p. 58) as the archetypical conception of the Japanese narrative, and frames the discussion within a larger narrative of Zen Buddhism (Nonaka & Takeuchi, 1995, pp. 27–32). This paper explores what this framing narrative does to the use and understanding of vocabulary and concepts such as tacit and explicit knowledge, organizational knowledge, knowledge creation, and knowledge as a productive resource for a company. The paper also explores the knowledge-creating model or knowledge spiral (Nonaka & Takeuchi, 1995, pp. 62–69, 71–72) as a heuristic consisting of the concepts of socialization as a “...process of sharing experience...” (Nonaka & Takeuchi, 1995, p. 62), externalization as a “...process of articulating tacit knowledge...” (Nonaka & Takeuchi, 1995, p. 64), combination as a process of developing a system of knowing (Nonaka & Takeuchi, 1995, p. 67), and internalization as a “...process of embodying explicit knowledge...” (Nonaka & Takeuchi, 1995, p. 69).

Because both narratives reference and use Polanyi’s concept of tacit knowledge, the paper also explores his conception of tacit knowledge (Polanyi, 1962; Polanyi, 1966; Polanyi, 1969; Polanyi & Prosch, 1975).

The paper concludes by suggesting that the two narratives shape different construals of the vocabulary and concepts of KM, therefore different social-cultural, or ontological, applications.

### **1.3. Knowledge management**

Knowledge management is about the knowledge needed to manage a business and to maintain competitive advantage in the market (Nonaka, 1998; Nonaka & Takeuchi, 1995; Davenport & Prusak, 2000). Knowledge management is also about the creation of explicit knowledge bases and the identification of existing repositories of formalized business knowledge at work in a firm. Ordinarily, the KM literature has a vocabulary which includes words such as ontology, taxonomy, mapping, data, information, and knowledge.

### **1.4. Ontology**

For this essay, ontology is what and how people know in their situations. Ontology, consisting of one or more domains, frames, which are constituted in taxonomies, is a basic analytic category and deals with language affairs, social affairs, and action affairs. These are habits of action and language and styles of doing things and saying things; they are models of thinking and feeling in and about situations which are interactive and transactional habits. Ontology is a system or conceptualization (Gruber, 1993) of terms, meanings, and practices which categorizes the situations and affairs of experience. Ontology structures and organizes experience and makes practices sensible (Holsapple & Josli, 2004). Ontology is a view of how things work logically to define situations and affairs.

### 1.5. Taxonomy

A conceptualization of an affair, of any kind, is a taxonomy. A taxonomy expresses a pattern, person or social, or a habit of interaction. A taxonomy may be partially expressed in personal conceptual maps which may be a partial enumeration and elaboration of a domain used situationally. Taxonomies are expressive of the key concepts or categories of a domain (Lamont, 2003). They present a semantic structure. A taxonomy is a specified set of categories which name and organize experience. A taxonomy may set out a conceptualization (Gruber, 1993) of an event world, or the ontology of the event world (Becker, 1999; Edgington et al., 2004; Holsapple & Josli, 2004; Fonseca & Marin, 2005; Fonseca, 2007).

### 1.6. Knowledge mappings

An organizational knowledge map consists of local and personal knowledge maps (overlooks of knowledge or information landscape.) Organizational terrains (Glass & Skovira, 2007) may have two dimensions. One is the situation consisting of formal and informal relationships among people, acting for themselves, for a department, capacity, role; action, as a representation of, a sign of, some function, role, task. The second dimension is the functional or activity of an ordered formal or informal situation, roles, and action as a representative of, a sign of, some relationship, objective and task focused personal doings (this is what I do for a living) or personal, individual, work.

### 1.7. Understandings of being socialized into the tacit

The use of the terms: everydayness, tacit knowledge, explicit knowledge, is opaque in initial use and meaning; nothing is intuitive about these words, although most people act as if it is. But we should not be too worried about this lack of intuitive understanding. My conception of tacit knowledge is a result in the first place of a long genealogical socializing into the body of literature, produced by the KM community of discourse and practice, concerning the idea of tacit knowledge and, therefore, its meanings and appropriate uses of the word. It is, even as personal, a symbol of a system of meanings.

This social and public understanding is found in the body of literature which has to be traversed, and includes much more than the specific KM literature (there are other communities as stakeholders). This public understanding has to be explored and mapped explicitly in its genealogy; the public and shared understanding must be reconstructed overtly in social situations referenced and inferred by the literature, which must be mapped to the diverse communities of discourse using the word/idea to describe or carve-up reality, or the experience of reality. This description is to be organized explicitly and then combined in other uses, ways that pull sources (other literatures) together in compatible ways. This consequential understanding of what and how tacit knowledge is, for example, must be further personally understood, internalized, in other words, lived or experienced from the native's point of view. This term is known from the emic view as a bit of vocabulary, of a language, part of a language-culture situation; one has to own the word and idea and way of life (being in the cultural matrix (Dewey, 1956, p. 28) which shapes the terrain of the word's use. One comes to an enlightenment or understanding, *satori*, *verstehen*, *rozumiet'*, in order to use the term to apply the idea to describe or analyze an experiencing of an affair, or to speak or write (communicate) about the nature of reality.

## 2. A WESTERN NARRATIVE OF KM

### 2.1. Polanyi and tacit knowing

According to Polanyi, all knowing is tacit knowing. And, tacit knowing is a relationship from the details to the coherence, or informative concept, in situations. Tacit knowledge is a relationship of A (the particulars) to B (the coherence, information); the relationship can be from B to A also. The relationship works or functions logically to note the relation of A to B (Polanyi, 1966, pp. 9–10; Polanyi & Prosch, 1975, p. 34). The noted phenomenon structures, as a phenomenon, the relationship observed from A to B (Polanyi, 1966, pp. 10–11). The relationship of A (details) to B (concept) creates, or makes B the meaning, sense of A in that B is a consequence, or result of A (Polanyi, 1966, pp. 12–13; Polanyi & Prosch, 1975, p. 35). The object known or attended to, B, is understood as an existential object referred to by A (the details), the relationship infers an ontological What – gestalt – something (as an interpretant) (Polanyi, 1966, pp. 13–16; Polanyi & Prosch, 1975, pp. 37–39). Polanyi uses the term “indwelling” (Polanyi, 1966, p.30; Polanyi & Prosch, 1975, p. 45) to describe his sense, understanding of the tacit relationship [from – to relation] as the ground of how we know things and reality (Polanyi, 1966, pp. 16–17). “[...]an object] is known by understanding its particulars *from which* we attend *to it* [the object] as an object” (Polanyi, 1966, p. 31; Polanyi & Prosch, 1975, p. 37). Tacit knowing is in reference to this from-to relation. From the details to an understanding of the affairs as a coherent field pulling the details together, as a horizon of an infoscape (Skovira, 2004) to which the particulars are inferred as a grounding of their meaning.

### 2.2. Davenport and Prusak on knowledge, information, data

Knowledge is fundamentally experience in the sense of learned expertise acquired situationally overtime (Davenport & Prusak, 2000, p. xviii). Knowing, as experiences, or knowledge shows up in the competent doing of tasks and the proficient handling of affairs situationally (Davenport & Prusak, 2000, p. 2).

A real problem is how and what Davenport and Prusak write about as the key notions (in their world and, perhaps, the KM world of data, information, and knowledge. In an earlier work, Davenport with Prusak (Davenport, 1997) presents a view of a continuum of data-information-knowledge, and consequently a puzzle as to how data becomes information becomes knowledge. This puzzle is posed even as everything exists within an “information environment” (Davenport, 1997, p. 8), and information is taken also as the cover term for whatever data and knowledge refers to (Davenport, 1997, p. 8). Information is a “message” (Davenport & Prusak, 2000, p. 3) conveyed by documents or other forms of communicating.

The upshot is that data, even when factual and objective (and when aren’t they), changes to information with addition of meaning (Davenport & Prusak, 2000, pp. 2, 4). And what is added is some kind of situated use or application (Davenport & Prusak, 2000, p. 4). Knowledge sequentially is something derivative from information (Davenport & Prusak, 2000, p. 6).

Knowledge is defined as a “fluid mix” constitutive of a “framework for evaluating and incorporating new experience and information” (Davenport & Prusak, 2000, p. 5). This fluid mix, a slippery complexity, consists of “framed experience, values, contextualized information, and expert insight” (Davenport & Prusak, 2000, p. 5). This complex smash-up is

a mental state-of-affairs, as knowledge “...originates and is applied in the minds of knowers” (Davenport & Prusak, 2000, p. 5). However, organizationally, knowledge is “...embedded not only in documents and repositories but also in organizational routines, processes, practices, and norms” (Davenport & Prusak, 2000, p. 5). As Norman (1988) writes, there is knowledge “in the head” and “in the world”. On one hand, knowledge is a cognitive, subjective, intuitive affair, empirical in its construction, an experiential expertise grounded in situations, and corresponding to the information of the “ground truth” (Davenport & Prusak, 2000, pp. 8–9). On the other hand, knowledge is a realized affair, in the world, in artifacts in use in the organization representing in various forms its ground truth.

Knowledge, for Davenport and Prusak, consists of several components or aspects: “experience,” “ground truth,” “complexity,” “judgment,” “rules of thumb and intuition,” and “values and beliefs” (Davenport & Prusak, 2000, pp. 7–12). Experience is an empirical, inductive, and historical affair generating learned insights into (now) familiar situations and problems. Ground truth, as an idea borrowed from after-mission debriefings, is the “I-was-there” notion validating what-I-know, and provides the objective factual basis in the form of authentic experience in real-situations. Because of the insightful nature of knowledge and what it is about, it is complicated. Knowledge is also about the capacity for decision making, for expert judgment. It is subjective, that is, intuitive, and as such, makes use of heuristics as an empirical strategy of gaining situational insight. This aspect of knowledge shows up as “scripts” (Davenport & Prusak, 2000, p. 11), which are tacit habits of action (Davenport and Prusak call then “patterns of internalized experience” (Davenport & Prusak, 2000, p. 11). By stretching the point, we can suggest a kind of relationship of concept to Nonaka and Takeuchi’s fourth aspect of knowledge creation. (Davenport and Prusak, however, do not make this connection.) A final aspect is the shaping of experience by a person’s value and belief frame, or mental, cognitive model of the world. “Values and beliefs are integral to knowledge determining ... what the knower sees, absorbs, and concludes from his observations” (Davenport & Prusak, 2000, p. 12). These personal values and beliefs condition action and decision making, and they, collectively, constitute an organization’s set of values and beliefs (Davenport & Prusak, 2000, p. 12).

### **2.3. Knowledge markets and the organizational use of knowing**

Personal knowledge, experience or expertise, is bought and sold in organizational marketplaces. In meetings and other situations, people bring what they know to the table. Personal knowing is uncertain when judged by organizational criteria of use. Organizational living and knowledge is rife with uncertainty, a scarcity of information, and a local focus of generation and use (Davenport & Prusak, 2000, pp. 40–41). Business meetings and situations become the places where personal knowing is organized to organizational end, or made rational for the organization. Knowledge markets organize, or rationalize, personal knowledge. Knowledge markets are how organizations manage knowledge. Organizational situations are metaphorically markets where buyers, sellers, and brokers of knowledge buy and sell knowledge where its value (utility) is set according to the ends-to-be-achieved organizationally.

The market metaphor brings to the discussion a scent of rationality; because the metaphor takes the reader to the land of economic theory, and to the concept of market. The market is a way of organizing individual experience, expertise (intuitions) into a structural manifestation of experiential interests, into a coherent use organizationally (within the various work spaces of the organization) for achieving organizational goals. The market organizes the subjective



(that is, the intuitive and heuristic experiences) into a consciousness or a rationalistic use of personal knowings or understandings. The market is a place of exchange, or sharing, of cognitive, subjective, knowledge as an objective process, making the subjective rational, i.e., objective, and adding utility (use-value) for the organization.. The market metaphor obliges us to understand that personal expertise to be useful must be represented or codified according to the needs of the organizational market. The marketplace calibrates or objectifies personal knowledge according to the logic of the market; that is, the market makes knowledge valueable only in terms of use (utility) for the profits of the firm.

#### **2.4. Deep themes of the Western way**

Although Davenport and Prusak begin with a deep frame of empiricism, that is, knowledge is a result of personal experience (inductive), but is subjective as this knowledge remains intuitive and heuristic, this form of knowing is quite useless within an organizational landscape. Thus the need to set up a situation wherein idiosyncratic rules of thumb are constrained to the affordances of the organization; this is where the metaphorical use of markets of knowledge allows knowledge to be rationalized, codified into meaningful wholes, representations of the world of the organization. The deep theme here seems to be the Platonic world of forms (the knowledge market structures personal understandings objectively). The real world (and its ground truth) is constituted by the knowledge market (which is any informal or formal situation a person finds himself or herself organizationally) which structures the experiences (as appearances) into coherent actions, and documents, in the real world (as the rationality of the knowledge market).

### **3. AN JAPANESE (EASTERN) NARRATIVE OF KM**

#### **3.1. Japanese way according to Nonaka**

Knowledge, within the Japanese narrative, generally can be understood to be made up of beliefs which are warranted and thus considered to be true about reality (Nonaka & Takeuchi, 1995, p. 58). This marks a boundary between ways of understanding knowledge, and thus knowledge management. From the West, knowledge entails warranted belief if a claim is true; from the Japanese, knowledge implies a belief and a claim to be warranted (Nonaka & Takeuchi, 1995, p. 58).

The Japanese way favors the idea that tacit knowledge (see Polanyi) is the style, or manner best considered as the mode of creating knowledge; it is a direct experiencing or understanding of affairs in acting within situations. This way of knowing, as Nonaka repeatedly writes, is based in Zen Buddhism (Nonaka, 1994, p. 16; Nonaka & Takeuchi, 1995, pp. 9–10; Nonaka & Konno, 1998, p. 42).

#### **3.2. Nonaka's SECI model and spiral**

Nonaka's SECI model (Nonaka & Takeuchi, 1995; Hawryszkiewicz, 2002, p. 222) is a heuristic, descriptive and analytic, of the social-cultural way by which knowledge comes about, is created (in the Japanese Way, tacit knowledge); there is nothing psychological about this affair; it is Dewey's (1986) pragmatic situational inquiry where the results of the use of an idea (a word) shape the actions and form the meaning of a situation, where the activity occurs interactively (socially), and where the transactional nature of the consequences settles one situation only to open further inquiry into another situation.

The stages of the SECI model present a conception of how individuals participate in a public, common space, a BA (Nonaka & Konno, 1998). What a person knows, and how he or she knows, become public, shareable through socializing; this knowing becomes more public, another BA, by being settled, externalized in more accessible forms of knowing, to be combined in another way, another BA, of a public (information) system, which opens up another situation, BA, where the knowledge is known and used (practiced), interiorized, within organizational situations and practices (Nonaka, 1994, pp. 18–19; Nonaka & Takeuchi, 1995, pp. 62, 64, 67, 69; Nonaka & Konno, 1998, pp. 2–43).

### **3.3. Nonaka's notion of BA**

“BA” (Nonaka & Konno, 1998) is a word denoting a conception of place or space which frames experience and is shaped interactively by events and activities happening in a location; experiencing is always some place or somewhere. BA is constituted in any social network (Glass & Skovira, 2007). Analogous words (of the Western Way) are context, situation, environment, gestalt.

“BA” as an interactive, transactional place (Hawryszkiewicz, 2002) or situation, or the cultural matrix (Dewey, 1986. P. 28) which is constituted by the possible organization of meanings to be actualized (Suzuki, 1999, p. 34; Suzuki, 2002, p. 44). This place is where individuals are being social (the socialization mode of the SECI model), where individuals participate in conjunctive work (to use a Deweyan notion), and are being in empathy with others (Nonaka & Konno, 1998, pp. 42–43). An extension of this being social is the explicit realization (Nonaka & Konno, 1998, p. 43) and participation via discussion in a group's experiential space, BA, and in the forms of being social, of participating in the multiple shared vocabularies (Nonaka & Konno, 1998, pp. 43–44). Another place, BA, of participating with others, of being social, is the generation of complex forms of making what is known explicit, by combining multiple views into a complex and coherent whole (Nonaka & Konno, 1998, pp. 44–45) as an organizational place. A fourth place, BA, consists of the integration of the known, the realized into being social at the organizational level of practicing what the firm does, of internalizing the known into the social being which constitutes organizational life (Nonaka & Konno, 1998, pp. 45–51).

### **3.4. Zen Buddhism as deep theme**

Zen Buddhism is a process, a way of enlightenment (Eliot, 1969; Heine, 2002) based in a routine of meditation, of becoming one conjointly with a situation, of realizing a personal unity with the social-cultural environment (a point of empathy). We are the social-cultural; the social-cultural is us (Suzuki, 1989, pp. 64, 77, 82–83). It is a process of realizing personal unity with others in a social setting. The practice of Zen is “learning by doing” (Suzuki, 1959, p. 9) by realizing a concrete manner of acting, or being, in everyday habitual situations, a way of being aware of the habits of acting, based in the tacit knowing (Suzuki, 2002, pp. 75, 86).

“Direct experience” means being completely in tune with what is going on; you are in “the zone” (Suzuki, 1959, p. 5; Suzuki, 2002, p. 100). A person acts without awareness of the actings, or even what the actions are about; a person simply is one with the situation. One is always an actor in a place and a time (Eliot, 1969). For example, one does not experience “every” crow, but the one now flying overhead; this flying crow is the one seen and known



(recognized). There is a oneness in the experience. Later, in writing about the experience, the experience, as expressed in English, becomes dualistic. Later, a person reflects, perhaps, on both the act and the situation (Sekida, 1985, pp. 108–109, 114).

#### 4. CONCLUDING REMARKS

The paper has presented a possible way of understanding the complex ideas found in the knowledge management literature. This attempt of understanding is a result of the realization that the vocabulary of Nonaka (with Takeuchi or with Konno) and Davenport (with Prusak) even as they used English terms (as a taxonomy) are referencing different ontologies. Nonaka is more explicit about his ontology because he overtly points to Zen Buddhism as the ground of meaning for his sense of knowing (he likes Polany's notions of tacit knowing and indwelling as ways of explaining his Zen Buddhist ground) and knowledge management. Davenport is not as explicit, although he overtly bases his sense of knowing and knowledge management in personal experience (empiricism) and overtly uses the economic metaphor of market, as knowledge market, as a way of suggesting that the markets (informal and formal situations) in place in organizations are the instruments of organizing and thus rationalizing (and managing) personal idiosyncratic knowledge to the ends or purposes of the organization.

#### REFERENCES

1. Becker, G. (1999). Knowledge discovery. In J. Liebowitz (Ed.), *Knowledge management handbook*, (pp. 13-1--13-17). Boca Raton, FL: CRC Press LLC.
2. Davenport, T. H., & Prusak, L. (1997). *Information ecology: Mastering the information and knowledge environment*. Oxford: Oxford University Press.
3. Davenport, T. H., & Prusak, L. (2000). *Working knowledge: how organizations manage what they know*. Boston MA: Harvard Business School Press.
4. Dewey, J. (1986). Logic: The theory of inquiry. In J. A. Boydston (Ed.), *John Dewey: The later works, 1925–1953* (Vol. 12: 1938). Carbondale and Edwardsville: Southern Illinois University Press. (Original work published 1938).
5. Edgington, T., Choi, B., Henson, K., Raghu, T. S., & Vinze, A. (2004). Adopting ontology to facilitate knowledge sharing. *Communications of the ACM*, 47(11), 85–95.
6. Fonseca, F. T., & Martin, J. E. (2005). Toward an alternative notion of information systems ontologies: Information engineering as a hermeneutic enterprise. *Journal of the American Society for Information Science and Technology*, 56(1), 46–57.
7. Fonseca, F. (2007). The double role of ontologies in information science research. *The Journal of the American Society for Information Science and Technology*, 58(6), 786–793.
8. Glass, M., & Skovira, R. J. (2007). A description of ba and knowledge use in an organization. *Issues in information systems VIII-2*, 252–257.
9. Gruber, T. R. (1993). A translation approach to portable ontologies. *Knowledge Acquisition*, 5(2), 199–220.
10. Guldenberg, S., & Helting, H. (2007). Bridging 'the great divide': Nonaka's synthesis of 'Western' and 'Eastern' knowledge concepts reassessed. *Organization*, 14(1), pp. 101–122.
11. Hawryszkiewicz, I. T. (2002). Supporting knowledge creation: Combining place, community, and process. . In D. White (Ed.), *Knowledge mapping and management* (pp. 217–224). Hershey, PA: IRM Press.

12. Holsapple, C. W., & Joshi, K. D. (2004). A formal knowledge management ontology: Conduct, activities, resources, and influences. *Journal of the American Society for Information Science and Technology*, 55(7), 593–612.
13. Lamont, J. (2003, May). Dynamic taxonomies: keeping up with changing content. *KMWorld*, 12(5), 8–9.
14. Nonaka, I. (1994). A dynamic theory of organizational knowledge creation. *Organization science*, 5(1), 14–37.
15. Nonaka, I., & Takeuchi, H. (1995). *The knowledge-creating company*. Boston MA: Harvard Business School Press.
16. Nonaka, I. (1998). The knowledge-creating company. In *Harvard business review on knowledge management*. Boston: Harvard Business School Press.
17. Nonaka, I., & Konno, N. (1998). The concept of “ba”: Building a foundation for knowledge creation. *California management review*, 40(3), 40–54.
18. Norman, D. A. (1988). *The design of everyday things*. New York: Currency Doubleday.
19. Polanyi, M. (1966). *The tacit dimension*. London: Routledge Kegan Paul.
20. Polanyi, M. (1962). *Personal knowledge: Towards a post-critical philosophy*. Chicago: University of Chicago Press.
21. Polanyi, M. (1969). *Knowing and being*. (M. Greene, Ed., Introduction). Chicago: The University of Chicago Press.
22. Polanyi, M. & Prosch, H. (1975). *Meaning*. Chicago: The University of Chicago Press.
23. Sekida, K. (1985). *Zen training: Methods and philosophy*. (A. V. Grimstone, ed. & Introduction). Boston: Shambhala Publications.
24. Senge, P. M. (1990). *The fifth discipline: The art and practice of the learning organization*. Currency Doubleday, New York.
25. Skovira, R. J. (2004). Using informational landscape as a model to understand information use and design within organizations. *Issues in information Systems*, V(1): 308–314.
26. Smith, J. (2000). *The beginner's guide to Zen Buddhism*. New York: Three Rivers Press.
27. Sontag, S. (Ed.) (2009). *A Barthes reader*. Introduction by S. Sontag. New York: Barnes & Noble. (Originally published 1982).
28. Suzuki, S. (1999). *Zen mind, beginner's mind*. (T. Dixon, ed., H. Smith, Preace; R. Baker, Introduction). Boston: Shambhala Publications.
29. Suzuki, S. (2002). *Not always so: Practicing the true spirit of Zen*. (E. E. Brown, ed.). New York: HarperCollins.
30. Tzu, L. (1990). *Tao te ching*. (V. H. Mair, trans., 1990). New York: Bantam Books.