A Tri-Partite View of Tacit Knowledge Sharing Behavior

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ABSTRACT

Most studies that investigate the intrinsic antecedents of tacit knowledge sharing behavior tend to focus on the cognitive aspects of individual behavior. Arguably, in order to gain a more comprehensive understanding of the intrinsic antecedents to individual behavior, one should take a holistic approach. Here, we suggest that Dewey's tri-partite view of human nature might provide a more complete understanding of the factors that influence tacit knowledge sharing behavior. Such understanding could provide leadership with a fuller range of options to motivate and engage their most important organizational resource, their workforce, in contributing to the firm's dynamic capabilities.

Keywords: tacit knowledge, tri-partite model, organizational learning, unconscious cognition

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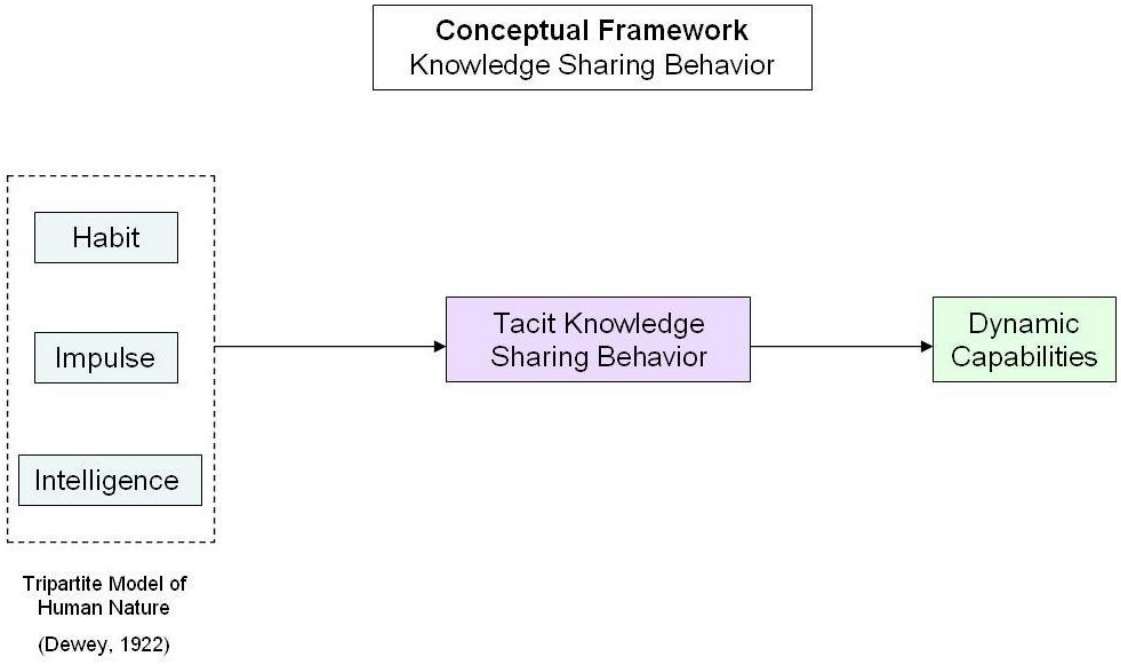
The topic of knowledge—its creation, retention and transfer—has taken center stage in this modern age of the so-called knowledge economy (Argote, McEvily & Reagans, 2003; Kankanhalli, Tan & Wei, 2005; Nonaka, 1994; Tsoukas, 2003). In fact, the ability to share knowledge among organizational members is argued to be a key driver for organizational learning, innovation, and competitive performance (see, for example, Kim & Lee, 2006; Lin, 2007; Nonaka, 1994; Zollo & Winter, 2002). Yet despite the apparent agreement on the importance of knowledge sharing within an organizational setting, there is a corresponding lack of consensus on how to best accomplish this objective. This is particularly true for tacit knowledge sharing. Whereas the mechanisms for explicit knowledge sharing have been widely explored (e.g. Argote, McEvily & Reagans, 2003), the processes for tacit knowledge sharing are less well understood.

Scholars have invested years of research into exploring what motivates knowledge sharing behavior, looking at extrinsic factors such as organizational rewards and reciprocal benefits, and intrinsic factors such as enjoyment in helping others (altruism), knowledge self-efficacy, reciprocal social benefits and sense of self-worth (Kankanhalli, et al., 2005; Lin, 2007). Most studies of the intrinsic factors tend to focus on the cognitive aspects of individual and organizational behavior. For instance, the Carnegie School emphasized cognition (decision making processes) and incorporated habit (routines), but did not account for the role of emotion in the creative search process of exploration (Adler & Obstfeld, 2007).

Because tacit knowledge sharing is argued to occur through inter-personal interaction (Tsoukas, 2003), social context and the emotion that stems from it should be considered in the examination of tacit knowledge sharing motivators. Arguably then, in order to gain a more comprehensive understanding of the intrinsic antecedents to individual behavior, one should take a holistic approach that considers cognitive, habitual, and emotional factors (Adler & Obstfeld, 2007; Cohen, 2007). Dewey's (1922/2002) tripartite model of habit, impulse and intelligence provides just such an approach. This paper builds on the work done in Adler & Obstfeld (2007) using Dewey's tri-partite view of human nature to provide a more complete understanding of the factors that influence tacit knowledge sharing behavior. Such understanding could then provide leadership with a more comprehensive range of options to motivate and engage their most important organizational resource, their workforce, in contributing to the firm's dynamic capabilities (see Figure 1 below).

Figure 1.



Tacit Knowledge Sharing

Tacit knowledge is knowledge that occurs through a process of indwelling and includes ". . . far more than we can tell" (Polanyi, 1961 p. 467). The ubiquitous nature of tacit knowledge and all that it influences suggests that, "all knowledge is either tacit or rooted in tacit knowledge (Polanyi, 1961, p. 7)." Tsoukas (2003) interprets Polanyi's description of tacit knowledge in the context of organizations, suggesting that tacit knowledge is not transferable in the commonly understood sense of the term. In fact, Tsoukas states that Nonaka's (1994) characterization of tacit knowledge as being convertible is fundamentally erroneous. On the contrary, Tsoukas claims that Polanyi (1966) describes the ineffable nature of tacit knowledge, explaining how our tacit knowledge is manifested in our actions. Thus, the actual transferability of such knowledge is only possible to the degree that it is shared and taught to another. If Tsoukas' interpretation is correct, then the sharing of tacit knowledge would of necessity occur primarily through interpersonal interactions.

One stream of literature examines different types of interpersonal interactions, conceptualized as strong versus weak ties, and how the type of tie influences the sharing of tacit versus explicit knowledge. For example, Hansen (1999) demonstrates that knowledge sharing is a complex process that varies according to the type of knowledge, tacit or explicit, and the strength of ties between the knowledge sharing agents. Hansen draws on the theory advanced by Granovetter (1983) to examine whether indeed weak ties are more beneficial in disseminating new knowledge. Hansen's empirical study shows that weak ties are most useful in locating useful knowledge across subunits, but that strong ties are needed in order to transfer complex, tacit knowledge. He summarizes

that weak and strong ties both have their relative advantages, primarily dependent on the level of complexity of the knowledge to be transferred.

At first glance, Levin and Cross (2004) appear to be investigating the same issue as Hansen (1999), namely the influence of strong or weak ties on knowledge transfer. Levin and Cross give the term "structural" to the nature of relationship between the units. In addition, they include two more constructs, the property of knowledge as tacit or explicit, and the relational dimension of competence-based or benevolence-based trust. Similar to Hansen, Levin and Cross find that weak ties provide structural benefit due to the propensity for providing nonredundant information. Additionally, their research demonstrated that strong ties mediated by competence and benevolence-based trust provided useful knowledge. In investigating the impact of the type of knowledge to be transferred, their results showed that the transfer of tacit knowledge required competence-based trust.

Intrinsic Motivation: Cognition, Emotion & Unconscious Cognition

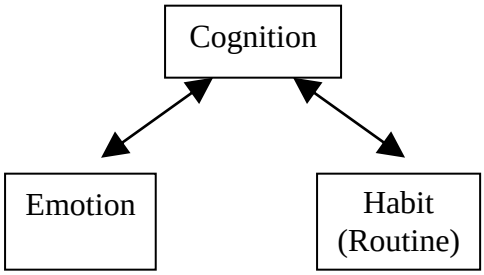
A comprehensive understanding of the intrinsic antecedents to individual behavior, considers cognitive, habitual, and emotional factors (Adler & Obstfeld, 2007; Cohen, 2007). Here, we discuss cognition (intelligence), emotion (impulse) and unconscious cognition (habit) with a particular focus on the latter.

1.1 Cognition

Psychologists have long linked cognition and behavior. Ryle (1949) debunks the dualism of mind and matter propounded by Descartes, stating that the confusion about the mind's relationship to the body is the result of a "category mistake" (p. 18). Ryle contends that there is not a "ghost in the machine" (p. 15). Rather, the mind's activity is revealed in behavior. Ryle also distinguishes between types of cognitive knowledge as indicated by his terms of "knowing how" and "knowing that" (pp. 25-61). As adopted by later scholars, "knowing how" is akin to tacit knowledge and "knowing that" is equated with explicit knowledge. Ryle also emphasizes the importance of observing behavior as the most direct means of understanding underlying implicit beliefs.

Cognition (intelligence) has received a considerable amount of attention in the knowledge sharing literature (e.g. March and Simon, 1993). The tradition of the Carnegie School, led by Simon and March, has shown that deliberate choice and habitual routines provide tremendous explanatory power when investigating individual exploratory behavior (e.g., Levinthal & Rerup, 2006). Note the distinction between 'habitual routine' as manifested through the work of the Carnegie School and 'habit' as used by Dewey (1922/2002). Habitual routine is the almost mindless automatic behavior, whereas habit for Dewey is quite the opposite. As Cohen (2007) notes, the Simon view presents cognition as the top of the pyramid; where emotion helps to determine the value of the resulting actions and habits or routines are the embodiment of the actions (see Figure 2). On the other hand, the Dewey view emphasizes habit and the interplay between the elements of the tri-partite structure.

Figure 2.



1.2 Emotion

Emotion has not received the amount of attention given to cognition in the knowledge sharing literature. In one recent exception, Fiol and O'Connor (2002) state their purpose to integrate resistance to radical change in terms of 'hot' emotional responses and 'cold' cognitive perspectives into a single model of radical change processes. They adopt Huy's definition of radical change as that which threatens an individual or group's ". . . fundamentally held beliefs and assumptions" (p. 532), resulting in a hot response. This response may be ameliorated by an approach that emphasizes the addition of new beliefs and assumptions that are congruent with existing identity beliefs.

In comparing lessons learned from radical changes in the field of community development as well as radical changes in the corporate environment, Fiol and O'Connor (2002) contribute to theory by means of their proposal of a coevolutionary change model that acknowledges the interaction and coevolution of both hot (emotional) and cold (cognitive) aspects of the change process. The authors' theoretical propositions concerning radical change relates to the notion of behavior in several ways. First, they emphasize the role of personal as well as group identity in resisting or supporting radical

change. Their framing of hot and cold responses to change highlights the importance of considering both the emotional and cognitive aspects of the change process. For Dewey (1922/2002), emotion enacted with habitual actions is insufficient to address current needs. In this sense, emotion drives the use of cognition.

1.3 Unconscious Cognition

Cognitive scientists agree that roughly 95 percent of all thought is unconscious, with conscious thought simply the tip of a massive iceberg (Greenwald, 1992; Lakoff & Johnson, 1999; Reber, 1992, 1993; Restak, 2006). According to Lakoff and Johnson, the unconscious cognition below the surface ". . . includes not only all our automatic cognitive operations, but also all our implicit knowledge . . . [thus it] shapes and structures all conscious thought" (p. 13). Hence it appears that unseen, unconscious cognitive processes may direct an individual's behavior.

Academicians and researchers from several disciplines have described these unconscious processes in a variety of ways over the years. Following his pioneering studies on the psychological aspects of implicit learning in the early 1960s, Reber (1989, 1992, 1993) expanded his terminology and research of the topic to include unconscious cognition and tacit knowledge. He concurs with Lewicki that "unconscious cognition lies at the very heart of knowledge acquisition and representation" (1992, p. 99). Furthermore, he examines the cognitive unconscious from an evolutionary perspective and notes that the neurological system of implicit cognition precedes that of the explicit, conscious system, stating that "The unconscious mental processes are the epistemic foundations upon which emerging conscious operations are laid" (1993, p. 88).

Dewey (1922/2002) uses the term "habit" to describe the type of unconscious cognition that directs conscious thought and behavior, explaining how such habits are formed in early years and continue to influence individuals as mature adults. He seems to agree with Reber (1993) on the primacy of unconscious cognition in his emphasis on the influence of habit on both conscious cognition as well as emotion, asserting that

> . . . all habits are affections, . . . all have projectile power, and . . . a predisposition formed by a number of specific acts is an immensely more intimate and fundamental part of ourselves than are vague, general, conscious choices. . . [Habits] form our effective desires and they furnish us with our working capacities. They rule our thoughts, determining which shall appear and be strong and which shall pass from light into obscurity (p. 25).

Barnard (1938/1968) addresses the construct of unconscious cognition, or non-conscious processes, from a management perspective. He uses the terms non-conscious and non-logical processes to describe what he considered the pervasive influence of the unconscious on individuals and their interactions within an organizational setting. According to Barnard, "non-logical processes" are those ". . . not capable of being expressed in words or as reasoning, which are only made known by a judgment, decision or action." (p. 302). Novicevic, Hench and Wren (2002) believe that Barnard's prescient views on non-logical processes presage current management theories in terms of:

- tacit knowledge and organizational learning;
- system dynamics and the knowledge-based view of the firm; and
- problem-framing, pattern recognition and emergent self-organization (p. 992)

Argyris and Schön (1996) discuss the influence of unconscious processes within the organizational learning framework in their description of double-loop learning which they define as "learning that results in a change in the values of theory-in-use, as well as in its strategies and assumptions" (p. 21). Their definition of "theory-in-use" is the "theory of action which is implicit in the performance of that pattern of activity" (p. 13). The embeddedness and tacit nature of an individual's or organization's theory-in-use links this concept to that of unconscious cognition.

An overview of just the last several decades of research turns up a wealth of literature into unconscious cognition (Greenwald, 1992; Reber, 1989) and its related terms of implicit and/or tacit knowledge (Dane & Pratt, 2007; Polanyi, 1966; Tsoukas, 2003), cognitive unconscious (Lakoff & Johnson, 1999; Reber, 1992), implicit learning (Reber, 1989, 1993; Dane & Pratt, 2007), nonconscious learning (Lewicki, Hill & Czyzewska, 1992), non-conscious or non-logical processes (Barnard, 1938/1968; Novicevic, Hench & Wren, 2002), and "knowing-how" (Ryle, 1949; Reber, 1992). Appendix I provides succinct definitions of the constructs in this paper, including unconscious cognition and its related terms.

Despite this continued interest in unconscious cognition, tacit knowledge and related constructs, none of the literature truly addresses the thorny issue of how one might actually bring unconscious cognition, core values or beliefs to a conscious level of awareness, offering individuals the opportunity to consciously transform implicit beliefs and subsequent behavior as desired. There remains a gap both in terms of researching this phenomenon as it relates to organizational behavior such as tacit knowledge sharing, as well as in understanding how to utilize the theoretical knowledge about unconscious

cognition in a practical manner. The following section describes how Dewey's (1922/2002) tripartite model of habit, impulse and intelligence relates to the organizational learning literature on unconscious cognition (tacit knowledge), emotion and cognition (explicit knowledge).

Dewey's Tri-partite Model of Human Nature

According to Dewey (1922/2002), habit is acquired through interactions in a social environment and can be remade via the environment. Habit is the foundation of thought and action with impulse secondary to and dependent on habits. Similar to habit, impulse is dynamically interdependent with the social environment and can serve as a means of adaptation, change and growth by giving direction to habits. Intelligence, which Dewey views as subject to both habit and impulse, is enlivened by impulse and as its "clarifier and liberator" (p. 255) is used to "modify the environment and change habits" (p. 302). By providing a holistic model of the intertwining relationship of habit, impulse and intelligence, Dewey offers a comprehensive means of better understanding the individual's dynamic relationship within a social context. In the following sections, Dewey's constructs are related to those in the cognition (individual learning) and knowledge management (organizational learning) literature.

Habit – Unconscious Cognition – Tacit Knowledge

Dewey (1922/2002) explains that habit is developed recursively and reciprocally within the context of a social environment. He sees habit as the foundation of thought and action in addition to manifesting as artistic skills or abilities. While Dewey equates habit with the type of automaticity or

"mechanization" (p. 70) inherent in learned skills, he distinguishes between action performed as rote, or routine habit, and action commingled with both deliberate thought and emotion. Dewey also makes clear that habits are typically beneath the level of conscious awareness, both acting as a filter and continuing to evolve by means of continued experiences.

Nelson and Winter (1982) agree with the tacit nature of habitual behavior, emphasizing the importance of habits in terms of organizational routines. Further, they equate their construct of skills in terms of organizational capabilities with Polanyi's famous quote, "We know more than we can tell" (cited by Nelson & Winter, 1982, p. 77). In describing tacit knowing, Polanyi (1966) further explains that tacit knowledge is the foundation of all knowledge, stating "Tacit knowing is the fundamental power of the mind which creates explicit knowing, lends meaning to it and controls its uses" (p. 18). In a recent lecture, Winter (2008) emphasized the importance of tacit knowledge to the understanding of evolutionary economic theory, comparing tacit knowledge with Dewey's (1922/2002) explanation of habit. Empirical study of the constructs of habit, unconscious cognition (Greenwald, 1992; Reber, 1992, 2993; Restak, 2006) and tacit knowledge (Gourlay, 2006; Nonaka, 1994; Polanyi, 1966; Tsoukas, 2003) may illuminate the role of habit in the process of tacit knowledge sharing behavior.

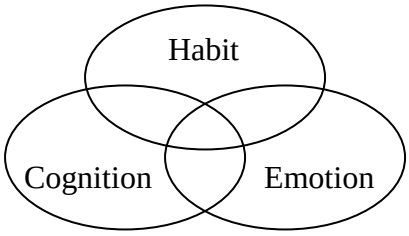
1.4 Impulse – Emotion

If habit is the foundation of human nature, Dewey (1922/2002) maintains that impulse is secondary to and dependent on habits. Similar to habit, he construes impulse as dynamically interdependent with the social environment. Impulse, he states, can serve

as a means of adaptation, change and growth by giving direction to habits. In modern scholarly literature, impulse is referred to alternatively as affect or as emotion.

Emotions are engaged when a task requires more than established habits to accomplish it. In this instance, cognition is used to adjust capabilities and address the challenge. For Dewey (1922/2002), the dynamic interplay of cognition, habit and emotion is essential to explain human behavior. Thus, unlike the Simon view where cognition drives behavior, the Dewey view is a dynamic interplay led by habit (see Figure 3).

Figure 3.



1.5 Intelligence – Cognition – Explicit Knowledge

The final aspect of the tripartite model is intelligence which Dewey (1922/2002) views as subject to both habit and impulse. At the same time, he sees intelligence as both enlivened by impulse and as its "clarifier and liberator" (p. 255). He recommends that intelligence be used to "modify the environment and change habits" (p. 302). As Dewey explains, the first step in the process of change is to perceive the need for change:

> Perception of things as they are is but a stage in the process of making them different. They have already begun to be different in being known, for by that fact they enter into a different context, a context of foresight and judgment of better

> and worse. . . Intelligent action is not concerned with the bare consequences of the thing known, but with consequences *to be* brought into existence by action conditioned on the knowledge (p**.** 298).

While Dewey's (1922/2002) emphasis on the role of social context and individual learning through experience places him in the constructivist learning tradition (Merriam, Caffarella, & Baumgartner, (2007), Bandura (2001) is the key proponent of the social cognitive orientation. He describes the learning process as resulting from the interaction of the individual with others in a social context. Unlike the cognitivist orientation which focuses on conscious cognitive processes, Bandura acknowledges the phenomenon of unconscious, or implicit, learning. However, he asserts that learning is primarily the result of conscious reflection, thereby claiming the primacy of reason over unconscious processes.

2 Implications/Conclusion

Implied in the discussion thus far is the need for both individual and organizational learning in order to institutionalize new forms of behavior such as tacit knowledge sharing. This leads to the implication for organizations that learning and change may be required at both the individual and organizational units of analysis. In order to address the core beliefs and values that are often below the level of conscious awareness, such learning must address the transformation of habit (Dewey, 1922/2002), alternatively described as unconscious cognition.

Argyris and Schön (1996) have spent decades helping organizations learn by striving to identify the individual and organizational theories-in-use, defined as the "theory of action which is implicit in the performance of that pattern of activity" (p. 13).

They note that an organization's espoused theory is the explicit statement of norms and values, and yet this espousal is often not in alignment with the actual behavior that occurs. In order to address this lack of congruence, Argyris and Schön advocate double-loop learning to surface tacit assumptions and values driving behavior. This approach addresses the embedded nature of unconscious cognitive processes, facilitating "learning that results in a change in the values of theory-in-use, as well as in its strategies and assumptions" (p. 21).

In his description of the frequent gap between theories-of-action (espoused values) and theories-in-use (enacted values), Argyris (1991) asserts that ". . . people consistently act inconsistently, unaware of the contradiction between their espoused theory and their theory-in-use, between the way they think they are acting and the way they really act" (p. 103). How should this gap be closed? Argyris recommends that organizations teach their members to "reason productively" (p. 106). While Argyris contributes to adult and organizational learning literature by proposing a theory of action to better explain the frequent gap between espoused theory and theory-in-action, once again critical self-reflection is presented as the path to change with no acknowledgement of the supporting role of emotions or unconscious cognition in sustaining the process of transformative learning.

Macintosh and Maclean (1999) indirectly address the role of unconscious cognition in their framework for managing organizational transformation, particularly as it pertains to strategic change, business process reengineering and organizational learning. They base their prescriptive 3-part recommendations on lessons learned from the dissipative structures approach in complexity theory, namely 1) desired outcomes should be

conditioned by articulating rules relating to a firm's deep structures; 2) the organization must be moved from a state of equilibrium; and 3) a combination of positive and negative feedback loops should be used to reinforce the desired learning and transformation.

Macintosh and Maclean (1999) define transformation as a ". . . relatively rapid transition from one archetype to another" (p. 297). In their usage, an organizational archetype is a ". . . set of structures and systems that reflects a single interpretive scheme" (p. 299). They base their notion of transformation on Prigogine's description of how a state of nonequilibrium can lead to the emergence of new structures. Macintosh and Maclean stress the importance of understanding a firm's deep structure to facilitate the emergence of a desired outcome. In their linkage of the transformation of deep structure, defined as ". . . a quasi-permanent, invisible structure which remains largely intact whilst manifest observable structures break down" (p. 303) to the efficacy of double-loop learning, they concur with Argyris and Schön (1996) in the recommendation of this organizational learning strategy.

Sterman (1994) makes the case that learning in and about a complex environment requires a complex learning process, both at the individual and organizational unit of analysis. In order to cope with this complexity as well as overcome barriers to learning, he recommends a three-pronged approach: 1) Elicit and articulate underlying knowledge, assumptions, beliefs and mental models; 2) Use simulations or modeling to improve the speed and accuracy of the learning process; and 3) Improve the ability for the individual or organization to restructure its theory-of-use. Once again, these recommendations address tacit knowledge, or unconscious cognition, as an integral part of the organizational learning process.

Sterman (1994) asserts that feedback is the most critical component of learning. He cites Powers in stating that feedback is "such an all-pervasive and fundamental aspect of behavior that it is as invisible as the air we breathe. . . we know nothing of our own behavior but the feedback effects of our own outputs" (p. 293). While feedback is crucial to learning, Sterman also highlights the influence of implicit mental models that filter the feedback received. In order to learn effectively and overcome barriers of reductionism, Sterman contends that it is necessary to use systems thinking which he equates with a double-loop learning process.

The various scholars cited above seem to concur on the importance of addressing values or core assumptions that tend to become embedded or internalized at an unconscious level of awareness. Empirical study of the process of both learning about, as well as changing, embedded values and assumptions might follow one of the recommendations above by Argyris and Schön (1996), Macintosh and Maclean (1999) or Sterman (1994). Alternatively, transformative learning theory (Mezirow, 2000) highlights the importance of critical self-reflection, dialogue within community and emotion in producing substantive changes in an individual's perspective and subsequent behavior.

We suggest that future empirical investigations focus on ways in which to surface underlying assumptions and values regarding knowledge sharing. This could begin with a knowledge environment assessment or similar instrument. Subsequent to a baseline understanding of an individual's or group's orientation to knowledge sharing, change interventions could use one of the methodologies introduced above. Critical aspects of tacit knowledge sharing as described in the above review include the importance of interpersonal relations where strong ties appear to be most efficacious in the transfer of

tacit knowledge, as well as the establishment and maintenance of trust between knowledge sharing partners. Change interventions intended to influence these knowledge sharing factors may want to consider social network venues such as communities of practice, particularly when these communities convene periodically in person in addition to the virtual communities so prevalent in organizations today.

Knowledge Sharing and Dynamic Capabilities

The emphasis on knowledge sharing as a key resource is described by Winter, both in his seminal work (Nelson & Winter, 1982) on an evolutionary view of economic change as well as in his descriptions of an organization's learning mechanisms (Dosi, Nelson, & Winter, 2000; Zollo & Winter, 2002). In both texts, the authors describe the influence of knowledge, whether deliberate, conscious and explicit, or tacit, as a driving force in the ability of the organization to learn and adapt to a changing environment. Zollo and Winter state their proposition as follows, "Dynamic capabilities emerge from the coevolution of tacit experience accumulation processes with explicit knowledge articulation and codification activities" (p. 344). Considering the previous discussion relating the constructs of habit, unconscious cognition and tacit knowledge, it follows that in fact habit, whether conceptualized as organizational routines (Nelson & Winter, 1982), unconscious cognition (Reber, 1993) or tacit knowledge (Polanyi, 1966) is crucial to a firm's dynamic capabilities.

In conclusion, this paper contributes to the literature on tacit knowledge sharing thought its use of Dewey's (1922/2002) tri-partite model. Use of this model provides a more comprehensive treatment of tacit knowledge sharing behavior because it expands our understanding of the unseen role of unconscious cognition, described by Dewey as

habit. Dynamically interdependent with habit in guiding behavior are both impulse (emotion) and intelligence (cognition). Considering the theoretical and research gap in understanding the influence of unconscious cognition, organizational learning efforts aimed at improving tacit knowledge sharing behavior should incorporate all aspects of Dewey's tri-partite model of human nature. Such a comprehensive approach may be more successful in addressing intrinsic motivational factors of the desired behavior of tacit knowledge sharing.

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APPENDIX 1

Definitions of Constructs

Source	Constructs and Definitions
	Cognitive Unconscious
Lakoff & Johnson (1999: 13)	Includes not only all our automatic cognitive operations, but also our tacit knowledge and beliefs. Without our awareness, the cognitive unconscious shapes and structures all conscious thought.
	Dynamic Capabilities
Dosi et al. (2000: 4, 6)	'Dynamic capabilities' are the firm's ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments. Capabilities involve organized activity and the exercise of capability is repetitious in substantial part. 'Routines are the building blocks of capabilities.'
Zollo & Winter (2002: 340)	A dynamic capability is a learned and stable pattern of collective activity through which the organization systematically generates and modifies its operating routines in pursuit of improved effectiveness.
	Implicit Learning
Reber (1989: 219)	How one develops intuitive knowledge about the underlying structure of a complex stimulus environment. . . Implicit learning is characterized by two critical features: (a) It is an unconscious process and (b) it yields abstract knowledge. . . Implicit acquisition of complex knowledge is taken as a foundation process for the development of abstract, tacit knowledge of all kinds.
Dane & Pratt (2007: 35)	The process by which one acquires—outside of one's conscious awareness—knowledge about the structure or pattern underlying a complex stimulus environment.
	Nonconscious Learning
Lewicki et al. (1992: 796)	The acquired information is not accessible to the perceiver's conscious control. . . because it involves a more advanced and structurally more complex organization than could be handled by consciously controlled thinking.

	Non-logical processes
Barnard (1938/68: 302)	Not capable of being expressed in words or as reasoning, which are only made known by a judgment, decision or action. . . We could not do any work without this mental process.
	Tacit Knowledge
Nelson & Winter (1982: 77)	Polanyi's description of tacit knowledge, "We know more than we can tell," is analogous to the construct of skills in terms of organizational capabilities. Skills may be habitual, such as routines. They may also be evidenced through behavioral patterns resulting from tacit knowledge.
Polanyi (1966: 4, 18)	Tacit knowing contains an *actual knowledge* that is indeterminate, in the sense that its content *cannot be explicitly stated*. . . Tacit knowing is the fundamental power of the mind which creates explicit knowing, lends meaning to it and controls its uses.
Polanyi (1967: 314)	All knowledge falls into one of these two classes: it is either tacit or rooted in tacit knowledge.
Tsoukas (2001: 425)	Tacit and explicit knowledge are not the two ends of a continuum but the two sides of the same coin: even the most explicit kind of knowledge is underlain by tacit knowledge.
Zollo & Winter (2002: 341)	. . . tacitness arises when learning is experiential.
Zollo & Winter (2002: 342)	. . . only a small fraction of articulable knowledge is actually articulated . . . organizations differ substantially on the degree to which they transform potentially articulable knowledge into articulated statements.
Zollo & Winter (2002: 344)	Dynamic capabilities emerge from the coevolution of tacit experience accumulation processes with explicit knowledge articulation and codification activities.
	Unconscious Cognition
Reber (1992: 99)	Unconscious cognition lies at the very heart of knowledge acquisition and representation.