

BEYOND KNOWLEDGE, TOWARDS KNOWING: THE PRACTICE-BASED APPROACH TO SUPPORT KNOWLEDGE CREATION, COMMUNICATION, AND USE FOR INNOVATION

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ABSTRACT

The purpose of the current conceptual article is to discuss the practice-based approach (*Practice-Based Studies*, PBS) to knowledge and knowing, and how its adoption enables the design of approaches to support knowledge creation, communication, and use in organizational contexts, in a way that is close to what matters to workers' practices and that acknowledges the situatedness and in-betweenness of knowing and knowledge. The excessive focus on knowledge as an object detached from the situated knowing actions in which such knowledge is needed, created, and used has guided most of those supportive approaches, particularly in supporting the knowing work. The rationalistic approaches to knowledge are reviewed and their limitations are explained. The practice-based approach and the two ways of engaging practice in research are detailed. In designing PBS-oriented supportive approaches to the creation, communication, and use of knowledge, gaps in communicating existing knowledge can be reduced, enabling the effective use of workers' time and efforts and reducing complexity in using existing knowledge to create new knowledge. The article systematizes and differentiates the approaches to knowledge and knowing, and explains the value of a practice-based approach to support knowledge creation, communication, and use. The article contributes to deepen the understanding of the different approaches to study knowledge, the impacts of adopting one or another, and the advantages of a practice-based approach to understand and support knowledge creation, communication and use in consonance with their dynamics, complexities, and nature.

Keywords: Knowing; Knowledge creation; Knowledge communication; Practice-based-studies; Epistemology of practice.

1 INTRODUCTION

The work of creating knowledge to ground and drive business innovation and strategies, i.e. the knowing workⁱ, is essentially a meaning creation practice. The creation of knowledge is one of the most unstructured and difficult work practices to be facilitated and supported. The knowing work presents a particular nature and dynamics that is marked by emergent, unplanned and situational sense-making, demanding different approaches to communicate knowledge as inputs to and products of such practice. The distinct nature of the knowing work needs to be accounted for when existing knowledge is communicated to support it. So far, prior research has not considered how such knowledge is situationally needed and used for creating new knowledge, for the meaning creation in practice. Thus, there has been a disconnection between how knowledge is needed and used for knowingⁱⁱ (or knowledge creation) and how knowledge is communicated for such creative practice.

Contemporary research and managerial approaches to knowledgeⁱⁱⁱ in organizations have remained focused on considering knowledge detached from the human actions and interpretive acts in which it is needed, mobilized, communicated, and used, and to which it should contribute. The disconnection between the understanding of knowledge and knowing, knowledge communication and use practices^{iv} has been aggravated by typical knowledge management approaches. This is justified by the fact that “knowledge management tends to treat knowledge as a tangible thing, as a stock or a quantity, and therefore separates knowledge as some *thing* from the use of that thing” (Pfeffer & Sutton, 2000, p. 22). Similar concerns were pointed out by Tsoukas and Mylonopoulos (2004), Tsoukas and Vladimirou (2001), and Cook and Brown (1999). Tsoukas and Mylonopoulos (2004) discussed one central problem of current approaches to the uses of knowledge in organizations:

“...one of the common fallacies concerning organizational knowledge is what we may call the apple-tree fallacy: the knowledge individuals make use of in their work is considered to be a collection of freestanding items waiting out there to be plucked from the tree of organizational knowledge (Gates, 1999; Stewart, 1997). The problem with this view, largely influenced by the emergence of, and the discourse on, the ‘digital economy’, is that *it tends to ignore, among other things, the constructed nature of knowledge: whatever knowledge is, the form as well as the*

content it takes depends on what questions are asked, how they are answered and how the answers are made to fit together.” (Tsoukas & Mylonopoulos, 2004, p. S3) (Emphasis added)

Yet, there is accumulating evidence of how investments in facilitating and supporting knowledge creation, communication, and use in organizational context are missing the mark. The detachment of such approaches from knowing or knowledge creation practices was explained in detail by Souto (2010). The distance of supportive approaches from individuals’ work practices was also evidenced by a study about the knowledge management programs in 423 organizations (in UK, mainland Europe, and USA), accomplished by KPMG (2000). The findings showed that users saw the Knowledge management (KM) programs as not sufficiently integrated into their everyday working practices and as providing too little personal benefit. Users also challenged that there was (a) lack of user uptake owing to insufficient communication (20%); failure to integrate KM into everyday working practices (19%); lack of time to learn how to use the system or a sense that the system was too complicated (18%) (KPMG, 2000, p. 2). Users’ critiques reflect the distance between KM approaches and their work practices, with a focus on how useful and usable such programs were to them in their everyday work activities.

In the studies and approaches conducted so far, knowledge in organizational context has been considered disconnected from its users’ knowledge creation, communication, and use practices. Studies and approaches have been fundamentally based on knowledge as an entity with meaning in itself that can be transferred, converted, or transmitted^v. Consequently, supportive approaches for knowledge creation, communication, and use have been mostly designed without been adapted to how and why knowers need a specific knowledge to contribute and support their meaning creation in their knowing work. Particularly in knowledge intensive work, this lack of adaptation may lead to a squandering of time, engagement, and resources (of all kinds, including psychological) in accessing what one knows in relation to another’s knowing needs^{vi}.

Underpinning the ways knowledge has been approached there is a conceptual framework that predominantly emphasizes the object created, communicated, and used over the knowledge creation practices. The emphasis has been on the object, on the product, on the outcome of knowing, that is, on the ‘*whats*’ of *knowledge*, and on characteristics of the object and its pure content (e.g. a document or what one knows), over the connections this ‘object’ potentially has with users’ knowing actions, with how such existing knowledge can help its users create meaning. However, it was evidenced that in interacting and using complex existing knowledge for creating new knowledge to nourish innovation and business strategies, users need and seek others’ knowledge not by the content itself, or by *what one knows*, but rather by how such content can help users understand some issue, answer some

question, or create meaning in a specific knowing situation (Souto, 2010). This is a knowledge-knower-in-knowing connection long explained by Polanyi Tacit Knowing Theory and Dervin's Sense-Making Methodology^{vii} (from the field of Communications), and empirically studied by Souto (2010).

A non practice-based perspective to study and facilitate knowledge creation, communication, and use mostly tend to understand knowledge without appropriate connection to its users' needs, context, and perspectives in knowing situations, thus, limiting the design of supportive approaches to such knowledge practices in organizations. Individuals in dynamic business contexts, who continuously need and use complex knowledge (e.g. of market, trends) cannot rely on supportive approaches for their knowledge creation, communication and use practices that are based solely on *what knowledge is*: on *what* knowledge is needed, *what* knowledge is used, *what* one knows. Rather, such supportive approaches should also be based on knowledge connections with users' sense-making practices, they should also contemplate *how and why users need specific knowledge to create meanings in specific knowing situations*. The '*whats*' of knowledge is not the unique aspect contemplated in needing and using complex knowledge to help fulfilling one's knowing needs. Understanding and accounting for the '*hows*' and '*whys*' are equally important. How and why users need and use knowledge can mostly be understood if looking at the micro moments of knowledge-knowers interactions and co-constructions, by focusing on knowers acting in their and for their knowing or sense-making. There should be connections between the ways existing complex knowledge is communicated and made accessible to users, with users' knowing actions and their needs in such actions. It is by understanding such knowing actions that existing knowledge can be made more accessible by specific supportive approaches. In complex knowing work practices (e.g. analysis of sociocultural changes to identify hidden opportunities for innovation), when supportive and supportive approaches for knowledge creation, communication, and use occur in an adaptive way to its users' needs and knowing practices, it can increase knowledge accessibility^{viii} - i.e. the intellectual access, the extent that an individual can access others' knowledge – and swift recognition of its pertinence to users' sense-making. Knowledge accessibility can be facilitated if it is considered attached to users' work practices, in consonance with such practices, connected to how and why users need and use knowledge for creating new knowledge. The understanding of the knowledge-knowing connection and the design of supportive approached oriented to this knowledge-knowing connection are enabled by the use of a practice-based methodology and of research methods such as those of Dervin's Sense-Making Methodology.

Regarding knowledge and knowing, two lines of thought still dominate the literature, which consider knowledge as an object with meaning in itself, detached from human action and disconnected from users' sense-making (for more details see Souto, 2010). However it is believed that a practice-based view would add a much richer perspective that is more closely aligned to individuals' actual work practices and needs. The practice-based epistemology (or epistemology of practice) interconnects multiple perspectives, connects knowledge and practice or doing, considers practice as the generative source of knowledge, and it defines knowledge as practical, and as constructive and situational practices. It is defined as a *way of seeing or a point of view to study* the experiences of individual in the organizational context as these experiences are, as 'situated doing', emphasizing the collective, situated and provisional nature of knowledge, in contrast to a rational-cognitive view of knowledge, and simultaneously considering *the situated sense-making or knowing practice, and its productⁱⁱⁱ (sense, information, or knowledge) in this practice*. The practice-based epistemology has seen increasing adoption in academia.

Considering the above, the aim of the current paper is to explore, from the perspective of a practice-based epistemology and particularly in work focused on creating knowledge for innovation and business strategies, *how the creation, communication, and the use of such knowledge can be potentiated by the design of supportive approaches that is connected to such practices in work context*. The objective of the current article is to point out the most salient aspects of practice as used as a lens, i.e. an epistemology, the differences from the common approaches to understand knowledge, and the implications of adopting a practice-based approach. This article is divided in two main parts. In the first part, section 2 will review the dominant perspectives and section 3 will present the practice-based approach. Subsequently, the advantages and implications of using a practice-based approach to understand knowledge and facilitate knowledge creation, communication, and use are briefly discussed.

2 THE MISSING PRACTICE

The knowledge-knower-in-knowing chasm has been generated by an excessive focus on an object-based, taxonomic, and objectivistic mindset in understanding knowledge and in designing supportive approaches for knowledge creation, communication, and use intra and inter-organizations. This rationalistic or objectivistic idea of knowledge considers it as objective, detached from human action, and as some *thing* that can be transmitted or transferred from here to there, converted one in

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another; rationalistic idea of knowledge has a dichotomized view of knowledge (two different and independent types of knowledge, such as tacit and explicit). Such rationalistic view of knowledge neglects the knowing processes in which existing knowledge is needed, used, communicated, and created, leading the design of supportive approaches for knowledge creation, communication, and use to be considerably *distant from how and why* sense-makers need and use a specific knowledge, and *from how and why* they need it to help them in their creation of meanings, i.e. distant from what matters to users in their knowing or sense-making. On top of this, rationalistic views of knowledge *do not acknowledge differences in knowing* because such differences can only be understand when the focus turn to be on interpretive actions, where individuals differ in and between themselves in how and why they need and use knowledge to create new one (for more details see Souto, 2010).

The assumption that knowledge has meaning by itself and that it is a self-contained ‘object’ has been dominant in rationalistic approaches to facilitate the access, creation, communication, and use of knowledge in organizations (Souto, 2010). This is because it is assumed that “the expert messages incorporate self-evident value” (Dervin, 2010/2007). This conceptual framework is *rooted in a model of communication that is focused on transmission processes* (sender-channel-receiver) – linear and transmission models of communication (Shannon and Weaver, 1949) – rather than on a communication perspective or communicative/dialogic models. The transmission models consider that what is transmitted has meaning by itself, and the meaning creation or sense-making^{ix} processes in which knowledge is needed, used and constructed are not contemplated. Dervin (2003/1999) highlighted that the transmission model of communication is the one which is dominant in the approaches supporting knowledge practices. Dervin (2003/1999) highlighted that the transmission model of communication is the one which is dominant in knowledge and communication practices. Conversely, the communicative or dialogic models of communication (Phillips, 2011; Phillips et al., 2013a; Souto, in press), which are strongly present in the practice-based perspective, consider that knowledge is constructed by knowers in social and multidirectional interactions, in communication, in dialogue in time and space. “Dialogic ideas about communication position communication as dialogue, as a dynamic and complex process through which people create, change, and re-create sense, meaning, and understanding in their interactions with others, media, events, and experiences” (Dervin and Huesca, 2003/2001, p. 310). Reinforcing this, Maturana and Varela (1987) explained communication and its distinction from ‘transmission’ (transmission models of communication, which are not adopted here), “from the perspective of an observer, there is always ambiguity in a communicative interaction.

The phenomenon of communication *depends on what happens to the person who receives it. This is very different from ‘transmitting information’*” (p. 196) (Emphasis added).

Contrasting views regarding the practice-based approach to knowing and knowledge are the ‘cognitive’ and the ‘economic’ or ‘structural’ perspectives (Gherardi, 2000, 2006; Empson, 2001; Gherardi & Nicolini, 2003; Patriotta, 2003). Both perspectives are based on a rationalistic and objectivistic idea of knowledge, in which knowledge is considered as detached from human action, and that consider knowledge as a ‘thing’ that can be transmitted or transferred. Their disciplinary foundations are mainly Economics and Management. Their main level of analysis is the organization, its knowledge base and systems, and the purpose of research is to identify knowledge that is valuable and to develop effective ways to manage it (Empson, 2001). Rooted on such rationalistic perspective are the representationalist ideas of knowledge (Gherardi & Nicolini, 2003). Based on this rationalistic or functionalist paradigm, the main contrasting perspectives of knowledge to the practice-based approach (explained further) are the following (Figure 1): (a) The cognitive or taxonomic perspective and (b) The economic, finance or structural perspective (Gherardi, 2006, 2000; Empson, 2001; Gherardi & Nicolini, 2003; Nicolini et al. 2003; Patriotta, 2003).

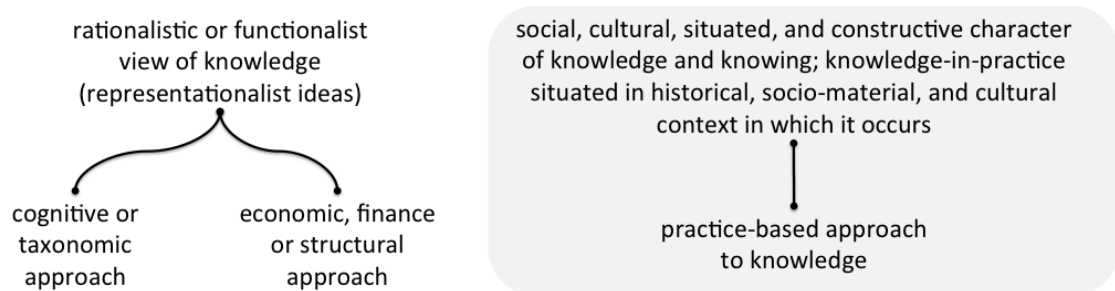


Figure 1 : The rationalistic view of knowledge and its approaches, which markedly contrast with the practice-based approach.

The *cognitive or taxonomic perspective* considers knowledge as a “codification of experience in some form of cognitive structure” (Nicolini et al. 2003, pp. 5-6), and it has a dichotomized view of knowledge. It has a focus on knowledge as rational cognitivism, or symbolic cognition, and it considers that all action is inside individuals’ heads. Gherardi (2006, p. xv) explained that in this perspective *“knowledge resides in the heads of persons, and that it is appropriated, transmitted and stored by means of mentalistic processes”* (Emphasis added). As a consequence, the cognitive mindset generates the dichotomies mind-body, thought-action, individual-organization, the distinction of knowledge in two forms and the commonly combination of these two dimensions generating a four

fielder (Alvesson, 2001). Human action and behavior are always oriented to a goal, and thus, actions and organizations are decision-making mechanisms (Patriotta, 2003; Gherardi, 2006). The cognitive perspective reflects what Cook and Brown (1999, p. 384) described as the “epistemology of possession”, which is based on the cartesianism and privileges the analytic reasoning. The epistemology of possession has a focus on knowledge as a thing that is possessed by individuals, and the idea that knowledge is “something that is held in the head of an individual and is acquired, modeled, and expressed most accurately in the most objective and explicit terms possible” (p. 384). The catchphrases mostly used in the cognitive perspective include the following: organizational learning, cognitive framework or ‘traditional cognitive learning theory’ (Gherardi, 2006).

The main limitations of the cognitive approaches include the consideration of knowledge as a static and standalone object that is independent of human interpretation and action, and the restriction of knowledge as something located only in individuals’ minds and objectified in some sort of artifact. The cognitive perspective “relegates the complexity of knowledge-making dynamics to a fixed and static image” (Patriotta, 2003, pp. 24-25). Nicolini et al. (2003, p. 6) highlighted that “the conceptualization of knowledge as an object instead of a process – that is, as a mental substance mainly located in individual minds and manifested in written texts, representations and routinized behaviors – is needlessly and, in our view, erroneously restrictive”. Such limitations lead to myopic approaches to facilitate and support individuals’ knowledge creation, communication and use, because these approaches focus solely on knowledge by knowledge, on the ‘whats’ of knowledge, on content and characteristics of knowledge, neglecting all the potential connections between existing knowledge and users’ sense-making practices, between knowledge and the ‘hows’ and ‘whys’ it is used in specific knowing process. The cognitive perspective misses the fact that people interact with knowledge and act on it, and mainly, that they differ on these knowing actions.

In addition to the cognitive perspective, *the economic, finance or structural perspective* has been also often used. *It is based on the Resource-Based View or Knowledge-Based Theory of the Firm*^x and it considers knowledge as an intangible asset, as an asset in the form of intellectual capital, commodity, or as an object that can be taken out of its context, codified, recorded, classified, measured, and distributed by the use of communication technologies. It focuses on the functional or causal link between knowledge and performance. The economic perspective contemplates knowledge in a causal link with competitive performance, as an independent variable. Approaches within this

strand consolidated the knowledge-based view of the firm, such as the one adopted by Nonaka and Takeuchi (1995).

Similar to the cognitive perspective explained previously, the knowledge-based perspective (economic, finance or structural perspective) tends to generate a content theory, to “*gloss over the processual aspects of knowledge creation*” (Emphasis added), and learning is enabled by efficient allocation of resources (Patriotta, 2003, p. 33). Patriotta (2003) pointed out that *the resource-based approach is focused on outcomes, rather than on the processes that lead to such outcomes*. For example, an often cited work in knowledge creation is Nonaka and Takeuchi’s (1995) approach and their SECI model (Socialization, Externalization, Combination, Internalization), which are based on the Resource-Based View or Knowledge-Based Theory of the firm, and as such, their approach hides the sense-making dynamics and the interpretation processes that guide knowledge creation. Such approach stresses the ways in which “resources are transformed into core capabilities within a structuralist, static view of the firm; Nonaka and Takeuchi see knowledge as being generated through a dynamic interaction (conversion) between tacit and explicit knowledge; for Nelson and Winter the evolution of the firm from a process whereby knowledge is stored and memorized in organizational routines” (Patriotta, 2003, p. 33). One of the limitations of Nonaka and Takeuchi’s model is that it does not make clear how individuals first create knowledge to consequently share and have it incorporated or considered as organizational knowledge. The SECI Model does not explain how individuals create tacit knowledge, and how problems related to human agency are solved (Levina, 1999; Spender, 1996; Patriotta, 2003). Spender (1996b, p. 51) pointed out that “their theory of the firm, in the sense of explaining (a) how individuals generate tacit knowledge, and (b) how the obvious agency problems are resolved, remains unexplained”. Nonaka and Takeuchi “focus on the way individual creativity contributes to the growth of collective knowledge” (p. 52). Further, the focus of the SECI model is clearly on cognitive aspects of ‘converting’ explicit to tacit and vice-versa. Nonaka and Takeuchi were only focused on the cognitive and rational perspectives of knowledge. Even when they talk about non-cognitive aspects such as “emotions, passions and bodily experiences” they are “always in the service of rational, cognitive knowledge” (Zhu, 2006, p. 108). In addition, the perspective underlying Nonaka and Takeuchi’s approach to knowledge creation is based on the *transmission model or the conduit metaphor of communication* (Tsoukas, 2005, p. 154), reducing “practical knowledge to technical knowledge”. This is an opposite perspective to knowledge creation in relation to the one adopted in the present research – the practice-based approach.

Under the economic or knowledge-based perspective, knowledge is also focused and harnessed in static epistemological categories, and there is a focus on routinization of activities where knowledge

is a factor of production. In addition, the main concern is to make knowledge available by converting tacit to explicit, and the predominant value of knowledge is instrumental and performative. Knowledge here circulates in “canned packages” (Patriotta, 2003, p. 9). Little attention is paid to knowing (Gherardi, 2003; Patriotta, 2003), and knowledge is reified as transferable commodity (Gherardi, 2006, p. xv). Patriotta (2003, p. 9) clearly explained that “the facticity of knowledge – its matter-of-factness – is taken for granted, while little attention is paid to the highly interactive, provisional, and contentious nature of knowledge making”. Core competencies, core capabilities, knowledge management, intellectual capital, conversion, transfer, transmission, conversion, resources, store, memory, and routines are some of the key catchwords under the economic, finance, structural or knowledge-based perspective (Gherardi & Nicolini, 2003; Gherardi, 2006).

In the economic or knowledge-based perspective, knowledge creation is to reflect reality, which is objective. Individuals do not act on reality, they only observe, contemplate and reproduce it. The essence of knowledge creation is on the capacity of an individual to establish maximum correspondence between reality and language, between reality and words, names and things, events and representations, maps and territories. To create knowledge is a matter of referencing, it is a matter of exactness or precision: the precision in which experiences are codified, reality is reflected and represented.

Despite largely adopted, the economic, finance, structural or knowledge-based perspective present some weakness that should be highlighted. Among the above weaknesses of this perspective, the claimed link between knowledge and competitive performance is an interrelationship that is difficult to measure, because knowledge is not easy to be framed and performance is affected by varied factors that are also difficult to be isolated (Patriotta, 2003). Organizations performance depends on varied and complex factors – e.g. market movements, trends, sociocultural changes, competition, technologies, regulations, and economy – and on complex interconnections between them. Scarbrough (1998) called attention to other weaknesses of the Resource-Based-Theory of the Firm or the Knowledge-Based perspective to analyze knowledge. These weaknesses included the objectification of knowledge, and the fact that this perspective lead to interpretation that rests on “too linear a view of the causal relationships between organizational knowledge and competitive performance”, treating other influential aspects on the creation of knowledge superficially, such as the broader institutional and strategic context (Scarbrough, 1998, p. 220).

Functionalist perspectives of knowledge as those outlined above focus on knowledge as inert, lifeless material that can be fixed, controlled, transmitted, converted, and that is “based on the fixity of structure and on the control of form” as in the analogy to a ‘house architecture’ explained by Gherardi (2006, p. 14). However, knowledge is alive. It is a human construction that happens in doing, in working, in innovating, in strategizing. Gherardi insightfully pointed out that “the concept of knowing in practice enables us to focus on the fact that, in everyday practices, learning and knowing are not separate activities, they instead *take place on the flow of experience*, with or without our being aware of it” (Gherardi, 2006, p. 14) (Emphasis added). In both approaches of the functionalist perspective – cognitive and economic – the model of communication that underpins the assumptions is the transmission model^{xi}.

In sum, the above rationalistic-based perspectives to understand knowledge in organizations have nourished the focus on ‘managing’ knowledge, as it would be manageable. They have also been mostly used in the design of approaches to facilitate the creation, communication, and use of knowledge for business strategies and innovation in organizations (see Souto, 2010). They have been detached from characteristics of the knowing practices in which existing knowledge is needed, accessed, communicated, and used, and in which such knowledge should be useful to sense-makers. Given this, if the aim is to serve knowledge workers’ needs in a closer manner to the way they create knowledge for innovation and strategies, a more practice-based perspective should be incorporated to the design of supportive approaches for such work.

3 INCORPORATING THE PRACTICE-BASED PERSPECTIVE

The term Practice-Based Studies (PBS) is an umbrella-term (Gherardi, 2011) and it is imbued with diverse traditions, such as phenomenological, Wittgenstein and Marxism (Gherardi, 2006). The convergence of intellectual traditions in the study of knowing-in-practice was explained by Gherardi (2001). The concept of practice as practice lens, approach, perspective or epistemology interconnects multiple perspectives and negotiations, addressing the link between knowledge and practice, and practice as the generative source of knowledge. The practice lens is an “original and distinctive critique of the modernist conceptions of knowledge” (Gherardi, 2009, p. 115). It has a *constructive ontology* and disagrees with cognitivism and rationalism because it defines *knowledge as a practical and situated activity*, rather than “transcendental account of a decontextualized reality (Gherardi, 2009, p. 124). Knowing is not separated from doing and the practice-based perspective connects both.

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Knowledge is the situated product of work practices. The practice-based perspective contemplates knowledge as constructive and situational practices, a perspective ingrained on Polanyi's Tacit Knowing Theory and also Dervin's Sense-Making Methodology, which were used in Souto (2010) to study a work practice – the knowing work practice or the creation and communication of knowledge for strategies and innovation – from a practice-base epistemology.

The influence of practice theorists in understanding organizational knowledge has been most important as an epistemology that is used to study working practices (Gherardi, 2009). Corradi et al. (2010) highlighted that the interdisciplinarity of the practice-based perspective includes varied authors who have differently used the practice dimension to study organizational phenomena in a non-rational, non-functionalist and non-cognitive manner.

One of the common aspects across authors and studies with a practice-based orientation is that the practice^{xii} dimension is used in two ways (Gherardi, 2011; Corradi et al., 2010) (Figure 2): (a) as an epistemology and (b) as object of study or empirical object. First, it can be used as a *way of seeing or a point of view to study a context, and therefore, an epistemology*. The practice-based epistemological position approaches the experiences of individual in the organizational context as these experiences are, as 'situated doing'. The practice perspective is the one that "emphasizes the collective, situated and provisional nature of knowledge, in contrast to a rational-cognitive view of knowledge" (Sole & Edmondson, 2002, p. S18). The epistemology of practice takes on an ecological model "in which agency is distributed between humans and non-humans and in which rationality between the social world and materiality can be subjected to inquiry" (Gherardi, 2011, p. 51). Additionally, Gherardi (2011, p. 52) explained that one of the main characteristic of practice as relational epistemology is "its focus on the emergence of relations through ongoing interaction and their normative stabilization". Importantly, a practice-based approach enables to simultaneously consider and study *the situated sense-making or knowing practice, and its productⁱⁱⁱ, i.e. knowledge in this knowing practice*, as situated social practices.

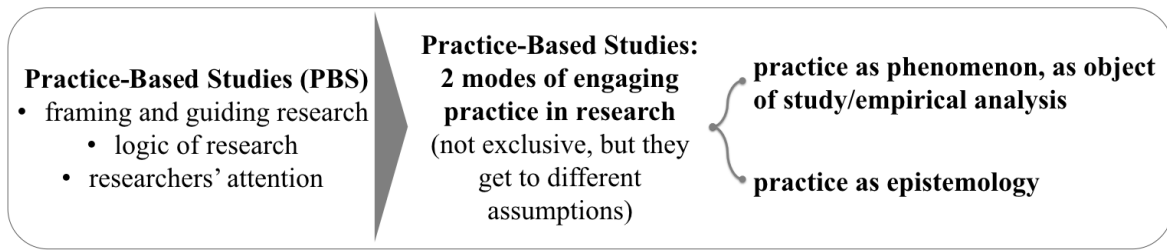


Figure 2 : The Practice-Based Studies approach and the two ways that practice can be engaged in research (Corradi et al., 2010; Gherardi, 2011).

The practice-based perspective to study knowledge and knowing complements the cognitive and structural perspectives, rather than substitutes them (Orlikowski, 2002, p. 251). The understanding of knowledge oriented by the epistemology of practice *brings the human action into the scenario*, together with different ontological and epistemological assumptions. *Individuals' actions are part of a whole*. Knowledge is analyzed as created, mobilized, communicated and used in situated practices, rather than isolated from or as a self-contained product or 'thing' detached from such practices. Under the practice-based epistemology, knowing as a practice has been characterized as relational, situated, rooted in context and in action, as dynamic, provisional, and considered as not being limited to cognitive aspects, but rather as a social construction (Polanyi, 1969; Polanyi & Prosch, 1975; Suchman, 1987; Cook & Brown, 1999; Gherardi & Nicolini, 2003; Nicolini et al., 2003; Carlsen et al., 2004). In addition, the practice-based epistemology predominantly adopts a social perspective, historicity and heterogeneity, and knowing has a situated nature, i.e. a "spatio-temporal localized nature" (Nicolini et al. 2003, p. 23). Importantly, inconsistencies, incoherencies, conflicts, tensions, and paradoxes are considered as fundamental components of a practice, and individuals' differences in knowing are situationally accounted for.

From a practice-based perspective of knowledge (practice as epistemology), the creation of meaning or knowledge, i.e. knowing, is an inherently situated practice, and it is studied as a situational practice. Lave (1988, pp. 180-181) defined knowledge as "a situated knowing constituted by a person acting in a particular setting and engaging aspects of the self, the body, and the physical and social worlds". As explained by Nicolini et al. (2003, p. 27) "the adjective 'situated' also denotes that, from a practice-base perspective, knowing as well as knowledge and the world of accomplishments, transient effects, temporary alignments that bear within themselves the seeds of their demise". Tsoukas and Mylonopoulos (2004, p.3) explained that "the locus of individual understanding is not so much in the head as in situated practice". Therefore, the work of creating knowledge for strategies and innovation is a practice that is situated, the actions within this practice are emergent and thus, dependent on a

variety of interdependent factors that occur in the moment of knowing and of fulfilling knowing needs. The knowings that happen in other kind of work activities are also situated practices. From a practice-based perspective, activities and knowing always have a 'where' and a 'when'; they are always situated (Nicolini et al., 2003, p. 27). In practice-thinking, 'situated' means that "knowing as well as knowledges and the world are accomplishments, transient effects, temporary alignments that bear within themselves the seeds of the demise" (Nicolini et al., 2003, p. 27). The situationality of knowing or the term 'situated' in the practice-based perspective "*indicates that knowledge and its subjects and objects must be understood as produced together within a temporally, geographically, or relationally situated practice*" Nicolini et al. (2003, p. 23) (Emphasis added). For more details about the situatedness of knowing as a sense-making practice, see the empirical work developed by Souto (2010).

In addition, the possibility of articulating spatiality and facticity are some of the values of the concept of practice (Gherardi, 2001, 2006). Spatiality refers to work practices as the locus of knowledge, knowledge creation or knowing, knowledge communication, and its use. Facticity is related to the fact that a practice-based epistemology connects knowing with doing, knowledge with knowing. In this sense, knowledge "does not arise from scientific 'discoveries'; rather, *it is fabricated by situated practices of knowledge production and reproduction*, using the technologies of representation and mobilization employed by scientists" (Gherardi, 2001, p. 136).

Gherardi (2003, p. 357, 2006, p. 39, 2011, pp. 51-52) and Gherardi and Nicolini (2003, pp. 204-208) summarized the core aspects of a practice-based epistemology to knowing and knowledge as being the following:

(a) Knowledge is constructed by situated practices of knowledge creation, and by the use of technologies for representing and mobilizing knowledge by human and non-human agents.

(b) Knowledge is an emergent process, rather than a given one. It is a "bricolage of material, mental, social and cultural resources".

(c) Knowledge is "embedded in the world of the sensible and corporeal", meaning that knowing and knowledge is not limited to cognitive and mind aspects.

(d) Adopting a practice-based approach is to go beyond dualisms (e.g. mind/body, human/non-human) and considering that "in practicing of a practice all these elements are simply present".

(e) View “actions as taking place or happening as being performed through a network of connections-in-action, as life-worlds and dwelling ... whilst theories of action start from individuals and their intentionality in pursuing courses of action”.

(f) Besides the specific practices that can be studied and the relationships a researcher chooses to focus on, “the main feature of practice as relational epistemology is its focus on the emergence of relations through ongoing interaction and their normative stabilization”.

(g) Organizational knowledge is relational, situated in the system of ongoing practices, and rooted in a context of interaction. It is continually reproduced and negotiated.

The other common use is *the practice dimension as the empirical object of study* (Figure 2). In this case, practices are the locus of the study (Gherardi, 2011; Corradi et al., 2010). “Research fields like strategy-as-practice^{xiii} or science-as-practice underline the existence of a specific empirical object. In this case, the practices (or the process within a practice) become the locus in which scholars study the activities of the practitioners” (Corradi et al., 2010, p. 268). By considering practices as the object of study, according to Schultze and Orlikowski (2004, p. 88), the practice perspective “focuses on people’s everyday activities as the unit of analysis, and examines the structural and interpersonal elements that produce and are produced by those activities”. As highlighted by Cook and Brown (1999, p. 386), practice denotes “‘real work’ itself”. It aims to understand the work activity *as it is actually done*, “the way in which work gets done” (Brown & Duguid, 1991, p. 200). In this sense, in the present article and in the research that grounds it (Souto, 2010), the use of the term ‘practice’ is used as an epistemology and also as an object of study, the latter meaning doing real work, practice means how the work of creating knowledge for innovation and strategy is done, i.e. the knowing workⁱ; the term reflects the actions that knowledge workers perform to get their work done. This knowing work practice was studied by Souto (2010) based on an epistemology of practice. Thus, knowing work and knowledge was looked and studied (i.e. practice as an empirical object) from the perspective of epistemology of practice, rather than the epistemology of possession (Cook & Brown, 1999). Thus, an exemplar study of both uses of practice in research was developed by Souto (2010), who used practice as an epistemology and as an object of study. She conducted a sense-making study from a practice epistemology, and she studied a specific work practice, which was the work of knowledge creation for innovation and strategy (i.e. the knowing work) in knowledge-intensive organizations.

Consistent to the assumptions and vocabulary used in practice-based epistemology or approaches, knowing^{xiv} is used as a verb, because “*knowledge and actions are never complete* – they

are verbs, not nouns” (Nicolini et al. 2003, p. 23) (Emphasis added). The practice-based approaches have a vocabulary that is mainly verbs in the form of gerund, indicating the constructive and process-orientation, and translating “a world always in the making, one which ‘doing’ more than ‘being’ is at the center of attention” (Nicolini et al. 2003, p. 21). Other vocabularies that surround the term practice and the practice-based perspective include the following: ‘situated knowledge’, ‘situated learning’, situationality, in-betweenness, sense-making, context, situated context, ‘epistemic objects’, ‘shared understanding’, ‘aesthetical understanding’, ‘cultural practices’ (Gherardi 2006; Souto, 2010).

As an example, the seminal work of Michael Polanyi (Polanyi, 1958, 1959, 1966, 1968, 1969; Polanyi & Prosch, 1975) in tacit knowing – Polanyi’s Tacit Knowing Theory – has also a practice-based perspective, since his focus was entirely on *knowing*, the process, rather than on knowledge, the product or outcome. Sense-Making Methodology – as developed by Brenda Dervin – also reflects a practice-based approach to study how individuals situationally make sense of things. Souto (2010) used both Polanyi’s Tacit Knowing Theory and Sense-Making Methodology to study the knowing work practice – the work of creating knowledge for innovation and strategies in knowledge-intensive organizations – as sense-making phenomena. Both thematize the issues of practice-based approaches in detail. The major voices in the debate regarding knowing from a practice-based perspective include scholars and social scientists that have incorporated the discourse of knowing in organizations, including Maturana and Varela (1987), Tsoukas (1996, 2005), Cook and Brown (1999), Strati (1999, 2003), Gherardi (2000, 2001, 2006, 2008, 2013), Orlikowski (2000, 2002), Bjørkeng and Hydle (2002), Skaret et al. (2002), Gomez et al. (2003), Carlsen et al. (2004). Scholars who have used the practice-based perspective include Lave (1988), Chaiklin and Lave (1996), Spender (1996), Von Krogh (1998), Cook and Brown (1999), Tsoukas (1996, 2005), Strati (1999, 2003), Gherardi (2000, 2001, 2006, 2008), Gherardi and Nicolini (2000, 2003), Orlikowski (2000), Schultze and Boland (2000), Gomez et al. (2003), Nicolini et al. (2003), Schultze and Orlikowski (2004), Corradi et al. (2010), and Gherardi and Strati (2013).

Several reasons lead to the use of a practice-based perspective or epistemology. A practice-based perspective can provide contributive and unique insights for designing supportive approaches for knowledge creation, communication and use that aims innovation. This is because a practice-based approach enables understanding how knowledge is created, and how and why knowledge is differently needed and used for it. In addition, it enables gaining a deep understanding of how knowledge is situationally constructed, activated, transformed, emerged, mobilized and how it contributes to

knowledge creation and its institutionalization. It is a non-rationalist, a non-positivist, and a non-cognitivist way to understand knowing and knowledge as constructed, activated, mobilized and used in situated knowing and in situated work practices. It helps understanding the complexity of knowing and knowledge, and the richness and significance of what is tacit, familiar and taken-for-granted in the knowing process. Most importantly, a practice epistemology incorporate the creative and interpretative actions in which existing knowledge is needed, used, and communicated. A practice-based perspective to the study of knowing and knowledge enables the workers' actions and their influence in the construction and use of knowledge to be accounted for. If the aim is to facilitate these processes and to potentiate the accessibility of knowledge and an innovative behavior, the design of the supportive approaches should account for the aspects of knowing and knowledge, and the users' differences in such knowing process.

The design of approaches to support and facilitate knowledge creation, communication and use based on a practice-based epistemology can increase knowledge (as a result of and as an input to knowing) accessibility, because this facilitation is based on aspects that are relevant for knowers and for their knowing practices. The design of the supportive approaches can be made *more in consonance with what matters to knowledge users in their knowing practices*, also increasing the chances to get the richness of such knowledge creation for innovation and strategies. Such advantage is because it is in the moments of actions and interactions with existing knowledge that the value of knowledge for users mostly emerges, enliven, and is assessed by them. The use of a practice-based perspective and related methodologies and research methods enable focusing on the moment of action in which individuals use knowledge and create meaning, in which individuals access, interact, and use existing knowledge to create new knowledge. This focus allows identifying the manifestation of context (e.g. history, power, existing systems and culture) in sense-making situations (see Souto, 2010). Consequently, conjointly with a practice epistemology, the more focused on moment of action is the understanding of knowledge uses, the closer it is possible to get to the moment in which individuals differ in how and why they need and use existing knowledge. What follows is that narrower analytics are identified and used to explain knowing and the differences in it. On top and on the core of this, the practice-based principles enable an interpretive and phenomenological understanding of human sense-making behavior to be applied to organizational knowledge, *accounting for the maximum of human diversity, complexity and incompleteness within and between individuals*, without 'babeling'^{xv}.

Importantly, a practice perspective brings a "non rational-cognitive view of knowledge" (Corradi et al., 2010, p. 267), through which the focus turns to the work practice that produces knowledge, and in which existing knowledge is used for the creation of new knowledge. A practice-

based perspective enables the study of knowledge as mobilized and used in work practices, shifting the concern from knowledge as an object with meaning by itself. The focus is on *knowledge as an aspect of knowing*. In addition, a practice perspective also allows seeing the connections knowledge workers may construct with and between existing knowledge, other individuals, institutions, practices and artifacts and their construction of new knowledge.

At the bottom line, it is the human actions that enliven the utility and helpfulness of what has been traditionally organized and stored as standalone objects of ‘knowledge’. Knowledge is a human construction and as such, demands alternative perspectives to support and facilitate its creation, communication, access and use. Thus, when trying to understand knowledge and design approaches to support and facilitate its creation, communication and use in organizations, the closer this understanding is to knowers’ knowing practices, i.e. to knowers’ actions with knowledge, the closer the design of supportive approaches can be adapted to what matters to users in their practices. The use of a practice-based epistemology and related methodologies and research methods enable such plasticity of organizational approaches to facilitate knowing, innovating and strategizing, fueling such adaptation with aspects that matters to users in their knowing and meaning creation practices.

The practice-perspective immediately leads to specific theoretical and methodological considerations, which are mainly focused on knowing and knowledge as constructive, relational, social, cultural, and situated actions, on the constructive character of knowledge and knowing, on knowledge-in-practice as situated in historical, socio-material, and cultural context in which it occurs (Figure 2). Empirically, knowledge is studied as activated in practice and the level of analysis become situations or situated practices, rather than individuals. Undoubtedly, the main challenge in adopting a practice-based perspective is to keep consistency throughout the whole study, between epistemology, the methodology, and the research methods.

3.1 Advantages of a Practice-Based perspective to Study Knowledge and Knowing and Design Supportive Approaches

Empirically, Souto (2010) employed a practice-based epistemology and underlying communicative models to study the work practice of creating complex knowledge that informs innovation and strategies in knowledge-intensive organizations (a work practice as an empirical object). Souto (2010) deeply studied the knowledge creation as a work practice (the practice as the

objet of inquiry) with an epistemology of practice, and proposed an approach that incorporates knowing, i.e. the meaning creation practices, into the communication of knowledge that supports the creation of new knowledge. Methodologically, her study evidenced the value created by using a practice-based approach by showing how knowing, how the situated meaning creation practice can be incorporated in the communication of complex knowledge. The study employed Polanyi's Theory of Tacit Knowing and Dervin's Sense-Making Methodology^{vii} and its research methods. Both engrain the practice-based epistemology.

Based on Sense-Making Methodology and Polanyi's Tacit Knowing Theory, the main advantage of adopting a practice-based epistemology and coherent research methods to study knowledge and knowing, and then, to design approaches to support knowledge creation, communication and use in the context of knowledge-intensive work and for-profit organizations is *plasticity*. Supportive approaches to knowledge creation, communication, and use can be designed simultaneously acknowledging and incorporating the patterns and differences in using and mobilizing existing knowledge. This brings plasticity to supportive approaches, creating more adaptive and responsive ways to support situational knowledge creation, communication and use, such as the Knowing Interactions^{xvi} or Tacit<ing> Conversations (Souto, 2010). The result of such situational plasticity is that users access others' knowledge in a more focused, structured and contributive way in relation to the questions they need to answer with that knowledge, and in consonance to how and why they need to be helped by existing knowledge. At the bottom line, this enables more productivity to their knowing interactions, and reduces losses of time and efforts in trying to access and use what others know. The contributions of the knowing interactions become more appropriate to the knowers' needs in their knowing situations. Another significant advantage is that supportive approaches get situational, instead of based only on the 'whats' of knowledge. The knowing interactions can be constructed and focused also on the 'hows' and 'whys' knowers need others' knowledge, instead of being based only on content, on 'what' one knows and on 'what' one needs to know from another.

Illustratively, possible methods to study knowledge and knowing that are practice-based include all those which focus on understanding the creation, communication and use of knowledge in work activities acknowledging aspects of situated context, collective or social interactive processes, and the interplay of both dimensions of knowledge, i.e. tacit and explicit. For example, in Souto (2010) the data collection method was a complex in-depth interview method from Dervin's Sense-Making Methodology. All interviews were focused on the knowing work experiences that were seen as real to informants, which were explored situationally. *Importantly, it is not the method that makes a study to be practice-based, but mainly the fact that it is methodologically designed and applied.*

Some research questions that could be addressed in better ways using a practice-based perspective would be, for example, ‘How innovation teams create knowledge about movements, changes, and weak signals in sociocultural contexts?’; ‘How innovation teams access and use experts’ complex knowledge of sociocultural and technological changes?’^{xvii}. Approaching these research questions with a practice-based views means to focus on understanding how this knowledge is created and mobilized in teams’ work activities, in practice, in doing, in interacting with other individuals and experts, considering contextual, social, and cultural aspects in situation, i.e. situationally. In addition, by emphasizing the understanding of knowledge in practice, in knowing, it is possible to identify the in-betweenness of knowledge creation: the fact that in creating knowledge, individuals can employ both habitual and creative ways to make sense. A practice-based approach enable identifying the different ways of creating meaning, the patterns and the differences within each knowing situation (see Souto, 2010), i.e. the in-between assumption of Dervin’s Sense-Making Methodology, which is related to the fact that while creating meaning, individuals can employ habitual actions and new ways of using knowledge and make sense (Dervin, 1999).

4 IMPLICATIONS

Based on more practice-based fundamental assumptions, the design of approaches to support and facilitate knowledge creation, communication and use in the knowledge creation work, acquire a new logic, which is closer to individuals’ world and their work practices, which connects knowledge to knowing, and which acknowledges the situationality of knowledge and knowing and the texturized dynamic of communicating and using existing knowledge in the creation of new knowledge. The design of supportive approaches can incorporate aspects that matter to individuals, to how and why they need and use specific knowledge in their knowing processes. With a practice-based perspective or epistemology, the design of approaches to facilitate and support workers’ knowledge creation, communication and use start being designed beyond knowledge, *beyond the ‘whats’* of knowledge, beyond *what* knowledge is about or *what* one knows, or the characteristics of knowledge one needs. Such supportive approaches can become *connected to the ‘whys’ and ‘hows’, to the reasons and ways knowers will need and use existing knowledge to create new knowledge* in organizational context. A practice-based approach enables a look beyond knowledge content, characteristics, function, and

performance, it enables understanding and acknowledging the meanings users give to and create with existing knowledge. “Central to the practice perspective is acknowledgement of the social, historical and structural contexts in which knowledge is manufactured. Practice allows researchers to investigate empirically how contextual elements shape knowledge” (Corradi et al., 2010, p. 267). Such understanding is what can make the supportive approaches to knowledge creation closer to the knowers’ needs in specific knowing situations, and adaptive to their differences in knowing. As such, there can be an effective use of knowers and knowledgeable individuals’ time and efforts, and a reduction of the complexity in accessing, using and recreating knowledge in ever-time-limited-knowing-interactions in a challenging and ongoing changing business context.

A practice-based approach to support and facilitate knowledge creation and use inherently calls for approaches that acknowledge the situated knowing practices and their complexities, such as the Tacit<ing> Conversations which are face-to-face interactions focused on the use of specific questioning and communication practices and competences and on how other individuals’ knowledge is needed by users’ for their knowing (Souto, 2010, 2012, in-press), and also as the use of cutting-edge technology to support the knowing interactions between not co-located workers (e.g. long-term videoconferencing). By knowing what someone else knows in consonance to a knower’s needs in a specific knowing situation, that is, in consonance to how and why s/he needs another individual’s knowledge to help his/her understanding, to help his/her creating meaning about something; the knowledge creation and use become not only more productive, but most importantly, richer.

Additionally, the focus on a practice, the focus on the moment of knowledge use and creation enables some of the contextual factors that emerge at this specific point of time and space to be identified, if they play a role. By such, it is also possible to understand how individuals may differ in the ways they need and use knowledge for their knowing, and the interplay between habitual and new ways in using existing knowledge to help the creation of new knowledge, as evidenced in Souto (2010). Such understandings are important if the aim is to design approaches to support and facilitate creation, communication, and use of knowledge, for example, towards innovation. For instance, using a practice-based approach can positively impact how the tacit dimension of others’ knowledge and experience is accessed and used to innovate (see Souto, in press).

A practice-based approach is a way to identify what matters to knowers when they need and use knowledge, what matters to them in their sense-making. By being closer to what happens and matters in practice, supportive approaches for knowledge creation can increase knowledge accessibility, by reducing communicative distances and gaps, and losses of time and resources in interacting and using distributed knowledge in and across organizations. Therefore, a practice-based

approach enables the inclusion into supportive approaches of another level of adapted knowledge-knowers-in-knowing interaction: *a level in which the knower may perform his knowing journey through a flexible and responsive way, which was defined by her/him, and which is potentially more suitable to her/his sense-making process*. Thus, in the context of the knowing work and interactions, the practice-based principles are core to enable the incorporation of the differences of user's meaning-making process and to have adaptation of knowledge communication driven by these differences. It is plasticity directed by meaning-making as defined by the users of knowledge in their knowing practices. Mainly, the use of a practice-based approach enables to put the human variance in knowing practices as the heart of the design of supportive approaches and structures, in an interpretive perspective and systematic way, without ending in an unmanageable inclusion of the user's world and actions upon existing knowledge.

As organizations move further into a 'knowing economy' in which knowledge creation and innovation are increasingly central to their development, it is necessary to turn attention to the ways knowledge creation and use can be supported and facilitated. It has been increasingly necessary to effectively promote the knowing interactions in a way that knowledge workers can rely on to access and communicate each others' knowledge to accomplish work activities and become more innovative or strategic (Souto, 2010, 2012, in press), considering the time and efforts currently misspent in creative practices. Certainly, the increasing demand to create and use complex knowledge, and the increasing complexity of knowledge that is needed to work, mainly in knowledge-intensive work (The Economist Intelligence Unit, 2006) and towards innovation, knowledge creation and communication are core practices to organizational life. However, such knowing practices require plastic approaches to support them effectively. More specifically, they require these supportive approaches to be closer to how knowers do things, making individuals' time and engagement – currently highly scarce resources – to be intelligently used.

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ENDNOTES

ⁱ The terms ‘knowing work’ practice and ‘knowledge creation work’ practice: These synonymic terms refer to the kind of work in which the primary activity is to create knowledge for business. The knowledge creation work is one type of the work that is commonly referred to as ‘knowledge work’. Davenport (2005) categorized knowledge work in five different work activities, and the knowledge creation work is one of them. It is defined by having the practice of creating knowledge (i.e. knowing) as the main work activity. The knowledge created in the knowing work is typically used to ground business strategies, actions, innovation and changes. It is commonly performed by internal or external analysts, researchers, and consultants, creative people, and authors (e.g. competitive intelligence analysts). When the terms ‘knowing practice’, ‘knowing work practice’, or ‘knowledge creation work’ are used in the present study they refer to ‘knowing’ as a work practice, or simply, the knowledge creation work that is done in and for business organizations.

ⁱⁱ The terms ‘knowing’ and ‘knowledge creation’ are synonyms and they are used interchangeably in the present study and paper. Knowing is a concept that was foundationally explained by Michael Polanyi (Polanyi, 1958, 1959, 1966, 1968, 1969; Polanyi & Prosch, 1975). Following Polanyi, knowing is understood as the creation of meaning. In the present research, knowing as meaning creation was also considered as one of the sense-making phenomena, i.e. the knowing practice is a sense-making practice. These terms are based on the Tacit Knowing Theory of Michael Polanyi and Dervin’s Sense-Making Methodology (as developed by Brenda Dervin).

ⁱⁱⁱ Information, knowledge and sense: The current research directly draws on Dervin’s Sense-Making Methodology. In Sense-Making Methodology, there is no difference between information, knowledge and sense (Dervin, 1998, p. 36). Thus, they are all products of knowing; at the same time they all nourish new knowings (as inputs). They are products of human practices of meaning creation or sense-making. In the present study, they are conceptualized according to the principles of Sense-Making Methodology and Polanyi’s theoretical assumptions. When the terms information, knowledge and sense are used in the present study they refer to what nourishes knowing (input) or to its product. The respective use of the term as input to knowing or as product of it may be explicit in the context of its text, or it is explicitly highlighted in brackets. Following the above theoretical approaches, the terms information, knowledge and sense are used interchangeably, but preference is given to the terms knowledge and meaning. It is beyond the focus of this research to discuss differences between information and knowledge.

^{iv} The term ‘practice’: in the present study, this term is used in two meanings. First, it refers to the way of seeing or the point of view by which knowing work is studied, and therefore, an epistemology. In particular, the present study draws on the ideas of the epistemology of practice proposed by Cook and Brown (1999), Gherardi, 2000, 2001, 2006, 2008, 2009, 2011, 2013; Gherardi & Strati, 2013). Second, the term ‘practice’ refers to the object of study that is a specific work practice, i.e. the knowing work.

^v The common approach that knowledge can be converted from one type to another (e.g. tacit to explicit), and that it can be transferred or transmitted from one person to another are not the theoretical bases in the current article and in the research that grounds it.

^{vi} Knowing needs is a concept that incorporates the knowing practice for which individuals’ needs are fulfilled and knowledge is used. When individuals access one’s knowledge they try to fulfill needs that are associated with some kind of interpretive actions, being this action simple or complex. Purposeful access to knowledge implies that individuals have reasons for accessing it and need to put the accessed knowledge into use in some way. The access to and uses of knowledge are not isolated actions from the knowing actions that underlie them. Knowledge is needed and accessed because they contribute to a knowing act, to meaning creation. Thus, knowing needs are how individuals need to be supported by existing knowledge in their meaning creation (Souto, 2010).

^{vii} Sense-Making Methodology studies the sense-making phenomena as a situated creation of meaning, and knowing is a kind of sense-making practice. This methodology is under construction for more than 30 years, and it has an empirically validated set of metatheoretical assumptions and research methods, which enables the study of human meaning creation practices on a situational and communicative perspectives. Fundamentally, Sense-Making Methodology studies the hows and whys of the creation of meaning or sense, focusing on the actions or the movements which individuals use to create meaning. It focuses on “movement and the universal array of both internal and external communicatings that people need to make meaning” (Foreman-Wernet, 2003, p. 9). Based on Dervin’s Sense-Making Methodology (Dervin, 1999, p. 730, 1998, p. 42; Foreman-Wernet, 2003, p. 7) and Polanyi’s assumptions (Polanyi, 1958, 1959, 1966, 1968, 1969; Polanyi & Prosch, 1975), in the knowing work these movements are mainly situated interpretive actions that involve the wholeness of a knowledge worker: body, mind, heart and soul; i.e. cognitive, emotional and physical aspects.

^{viii} Accessibility means the extent that an individual can “access another person’s thinking and knowledge” (Borgatti & Cross, 2003, p. 437) and it is a function of varied factors (Souto, 2010).

^{ix} The concept of sense-making or meaning creation used in the current research is the one studied by Dervin’s Sense-Making Methodology (SMM). SMM is a “set of theoretically derived methods for studying human sense-making” (Dervin, 2003b/1992, p. 270). The phenomena of sense-making are how individuals make sense of their world. The communication of knowledge nourishes sense-making or knowing as conceptualized by Polanyi (1958, 1969, 1975). Knowing and learning are kinds of sense-making practice. For more details see Souto (2010).

^x The Resource-Based View is a perspective of organizational studies (more specifically of strategic management), which suggests and leads to a Knowledge-Based Theory of the Firm. The Resource-Based View argues that resources and products fundamentally contribute to sustainable competitive advantage (Priem & Butler, 2001). The Knowledge-Based Theory of the Firm argues that knowledge and the capabilities in creating and using knowledge are the main sources of sustainable competitive advantage (Nonaka, Toyama, Nagata, 2000), and it assumes that “services rendered by tangible resources depend on how they are combined and applied, which is in turn a function of the firm’s know-how (i.e. knowledge)” (Leidner & Alavi, 2001, p. 108).

^{xi} The transmission models consider that what is transmitted has meaning by itself, and the meaning creation or sense-making processes in which knowledge is needed, used and constructed are not contemplated.

^{xii} It is worth noting the polysemy of the term ‘practice’, which was extensively explained by Gherardi (2011, pp. 48-51). The commonplace meanings of the term may include (a) practice as a learning method, (b) practice as an occupation or field of activity, (c) practice as way something is done – these three definitions of practice are restricted to the operations or activities that are internal to the practice – (d) the dichotomy theory-practice (an oppositional use of the term), (e) practice as the place where knowledge and learning come about, are preserved, communicated and changed (a topological use of the term, e.g. communities of practice), (f) practice as an epistemology of the relationship between knowing and acting, and (g) a certain phenomenon is studied ‘as a practice’ (an analogical use of the term), in which there are two main strands of analysis that are very well-known: science as practice and strategy as practice. In academic settings the term is associated to the following: (a) intentional and goal-setting actions that also have an habitual character and follow certain principles of procedure, (b) the kind of practical and ‘hidden’ knowledge that supports them.

^{xiii} It is important to highlight here that ‘strategy-as-practice’ considers the term ‘practice’ “to study strategy as doing and as a process (strategizing). It has little interest in practice, and its intention is not to contribute to a theory of practical knowledge, but rather to criticize prescriptive and top-down models of strategy” (Gherardi (2011, p. 50). The approach of ‘practice’ and the meaning of the term in strategy-as-practice is not the same used in Practice-Based Studies and it is not related to practice as an epistemology or perspective.

^{xiv} The differences between knowing, knowledge and learning were clearly by Vera and Crossan (2003, p. 126).

^{xv} The term refers to the process of accounting for human variance but doing so in an undisciplined way, within towers of Babel of “multiple interpretations” (Dervin, 1999, p. 734) or when “diversity degrades to a Babel of voices” (Dervin, 2003a/1994, p. 91).

^{xvi} The ‘knowing interactions’ are those purposeful face-to-face interactions that aim at communicating and creating strategic and complex knowledge (e.g. about a market, trends or events that can impact businesses, strategies to enter a new market) (Souto, 2010).

^{xvii} The given research questions are currently under study and they are of a specific research project under development by the author of the current article.

ALÉM DO CONHECIMENTO, RUMO AO ‘CRIAR’ DO CONHECIMENTO: A ABORDAGEM BASEADA EM PRÁTICA PARA APOIAR A CRIAÇÃO, COMUNICAÇÃO E USO DE CONHECIMENTO PARA INOVAÇÃO

RESUMO

O propósito do presente artigo é discutir a abordagem-baseada-em-prática para o conhecimento e a criação de conhecimento (*Practice-Based Studies*) e como a sua adoção permite o desenho de abordagens para apoiar a criação, comunicação e uso do conhecimento em contextos organizacionais, consoante com que seja de valor para as práticas de trabalho dos profissionais-usuários do

conhecimento existente. A adoção de uma abordagem-baseada-em-prática também permite reconhecer e incorporar nesse desenho a situacionalidade e a natureza *in-between* do conhecimento e de sua criação. O foco excessivo em conhecimento como um objeto desconectado das ações situadas de sua criação, nas quais o conhecimento existente é necessitado, comunicado e utilizado, tem guiado a maioria das abordagens que buscam entender e apoiar o acesso, criação, comunicação e uso de conhecimento complexo, particularmente no trabalho de criação de conhecimento para inovação e estratégia em organizações. As abordagens racionalistas do conhecimento são revisadas e suas limitações explicadas. A abordagem-baseada-em-prática para o conhecimento é detalhada, assim como os dois modos de considerar prática em pesquisa. O desenho de abordagens de apoio fundamentado pela abordagem-baseada-em-prática – como epistemologia e objeto empírico – pode impactar na criação e uso de conhecimento existente, reduzindo as naturais lacunas na comunicação do conhecimento, permitindo o uso efetivo do tempo e dos esforços dos usuários e reduzindo a complexidade em usar conhecimento num ambiente de negócios de contínuas mudanças e desafios. O artigo sistematiza e diferencia as abordagens do conhecimento e explica o valor da abordagem baseada-em-prática para dar apoio à criação, comunicação e uso de conhecimento no contexto acima. O artigo contribui para aprofundar o entendimento das diferentes abordagens do conhecimento para pesquisar e entender a criação de conhecimento nas organizações, os impactos de se adotar uma ou outra, e as vantagens de uma abordagem-baseada-em-prática para se entender e apoiar a criação, comunicação e uso do conhecimento em conformidade com a natureza e lógica desses processos.

Palavras-chave: Criação de conhecimento; Sense-making; Comunicação de conhecimento; Epistemologia de prática; Abordagem baseada em prática.

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