To shape practice act on theories

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Abstract: Practice based studies have provided rich descriptions of knowledge dynamics. On the other hand, they led to conceptualizations that question the possibility to view knowledge as a resource that can be oriented and shaped by managers. From this perspective, questions such as why an existing community has developed, or how to enable the emergence of a new community, are still unanswered. Such weaknesses are rooted in a tendency to ignore the cognitive motivations (theories) that lead actors to behave in a particular way. As a consequence, we propose that social practice can be explained as the outcome of interlocking cognitive theories and, moreover, that to shape practice, we need to act on theories.

Keywords: communities of practice, situated learning, cognition, knowledge management, organizational learning, theory of action.

1. Introduction

A major concern of Knowledge Management (KM) theories and frameworks is to provide managers with models and tools to "act" on organizational knowledge. That is, managers need not only to understand how knowledge evolves within their span of control; rather they need to orient such knowledge dynamics towards the realization of some value. As cleverly pointed by Chandler (1977), the managerial function is a "visible hand" whose role is to transform, by means of control, orientation, and direction, an unorganized and valueless set of "matters" into an organized and valuable set of resources.

This perspective raises the question whether knowledge is a matter that, among the others, falls into the managerial domain of action. Is knowledge something that we can orient towards some direction? Or is it just something that happens and that we should limit ourselves to contemplate?

If we look at the evolution of the KM debate and experiences, the answer seems to be not obvious (Wison 2002). Historically, KM has started assuming metaphors, such as the one of an internal market (Davenport 2000) or a capital (Stewart 2002), that are able to drive easy conclusions on how the managerial action should look like. From the first perspective, the market metaphor invites us to build infrastructures to connect people so that knowledge can be exchanged as a good, and to promote such exchanges by means of incentives and other enabling factors such as culture or absorptive capacity (Mowery, Oxley, and Silverman 1996). The latter suggests us that knowledge should be stored and reused as much as possible in order to maximize the fixed costs that where sustained to generate it. Both perspectives assume, more or less implicitly, that knowledge is made of knowledge objects; these are artefacts that encode some content whose semantics is embedded in the artefact itself. A major example, originally promoted by the Xerox approach to KM, is the document. Through the exchange and storing of documents, organizations direct and orient knowledge assets (Al-Sayed and Ahmad, 2003). As a consequence technology, intended as a "medium" or vehicle to store and transmit knowledge, becomes a strong and primary enabler. However, it has been underlined that many KM implementations based on these principles have failed to achieve knowledge sharing because what comes out to be shared are, rather than contents, meaningless collections of documents. In fact, such approaches, relying on a poor description of the matter they want to manage, underestimate some social and contextual dimensions involved in the knowledge creation process (De Souza 2003) (Currie and Kerrin 2004). Somehow they had to give up descriptive capacity in favor of normative power (Bonifacio et al 2003).

On the other hand, important descriptive approaches arose in order to provide a richer understanding of those organizational dynamics related to knowledge and learning processes. Interestingly, the richer are these

descriptions, the more they have led to conceptualizations that question the possibility to view knowledge as a resource that can be oriented and shaped by managers. That is, they somehow gave up normative power in favour of descriptive capacity (Bechky 2003).

In this paper, our purpose is to provide a contribution in order to address the trade-off between normative power vs. descriptive capacity that characterizes KM theories and initiatives. In particular, starting from those rich descriptions of knowledge and learning that emerge from the Situated Learning (SL) perspective (Lave and Wenger 1991) and the related Communities of Practice (CoP) theory (Brown and Duguid 1991) (Wenger 1998), we argue that some important normative weaknesses make them not acceptable to managers as far as questions such as why an existing community has developed, how to deviate its evolution, or how to enable the emergence of a new community, are still unanswered. Such weaknesses are attributed to a tendency to ignore the cognitive motivations that led actors to behave in a particular way and, thus, can be addressed reinserting the actor and his cognitively represented motivations into practice. Adopting the Theory of Action (TA) perspective (Argyris and Shön 1996), we claim that prescriptive warnings can be included respecting the original ideas of SL theory. We will discuss these hypotheses presenting the case study of the research centre of a famous automotive company.

2. The situated learning perspective

With the aim of balancing the descriptive limitations of traditional normative models, important approaches arose and provided a richer understanding of those organizational dynamics related to knowledge and learning processes. Among the others, the Situated Learning (Lave and Wenger 1991) approach has proposed a set of metaphors that attracted the interest of both researchers and practitioners. In short, knowledge is viewed as an intrinsically practical matter that develops when people, by means of social interaction, stabilize their reciprocal behaviours. Knowledge is embedded in social behaviour that works. That is, since we evaluate the goodness of knowledge in terms of its capacity to generate expected

consequences, and consequences are behaviours performed by other people in response to ours, knowledge appears as a system of interlocking behavioural patterns. The SL approach proposes that the meaning of a fact is always rooted into a practice, knowing is a process through which people are socialized into a practice, and practice defines the roles of people and their relationships (Gherardi, Nicolini 1999). Moreover, practice defines a social space in which people learn and belong, developing knowledge, which is in turn a social identity. In this sense, the notion of practice incorporates and strongly extends the one of routine (Knorr Cetina 1999). In fact, practice is not just that part of repetitive and procedural knowledge by which people know "how to do", while not knowing why they do it. Intriguingly, also the more declarative and conceptual aspects of knowledge are seen as intrinsically practical in nature: scientific theories, budgets, corporate strategies, chemical formulas are all seen as expression of the practice owned by a particular community (scientists, controllers, managers, chemical engineers). Intuitively, we all experienced the impression that a dialogue between two scientists is hardly distinguishable from the dialogue that occurs between two magicians that belong to some esoteric culture. What seems to be obvious science from within seems always obscure and opaque practice from without. From this perspective, through ethnographic observations, the SL approach has produced illuminating and rich descriptions of an incredibly wide and heterogeneous set of communities, ranging from the police academy (Van Maanen 1973) to scientific laboratories (Suchman et al 1999). In all these cases, practice changes; what remains unchanged is the impression that behind each unexplainable and apparently meaningless ritual or jargon there's a practice in which such mysteries gain sense.

An interesting corollary of the SL perspective is that since knowing is acting in a social space, confirmation (truth) is partially determined by the knower's actions. As an example, consider an important stock exchange broker that asks information in his community about a particular firm (knowing through action). As a response, others may ask information to colleagues, or formulate some

expectation about the firm's stock price future trend. Thus the knower will probably influence the quotation of that firm. Thus the correctness of knowledge becomes a dependant variable displaying self-confirming dynamics.

SL attracted the interest of researchers and practitioners since it throws a different light onto organizational learning processes. First of all, arguing that knowledge is a social and contextual construct, SL advises that there are many "knowledges" and that such organizational redundancy should be accepted and exploited as an opportunity to generate value. As a consequence, a pluralistic perspective emerges, given that a knowledge cannot be said to be better than another as far as meaning depends on contextual conditions. This suggests that centralization and standardization are not correct solutions in order to express the wealth of meanings and perspectives that populates an organization when red as a knowledge system (Fiol 1994) (Gherardi, Nicolini 2002).

Moreover, the link proposed by SL between learning and identity formation suggests the opportunity to emphasize how every intervention about knowledge - far from being neutral- influences, impacts, and is driven by the interests of different communities (Star 1999) (Contu 2003). In this sense, technology acquires new importance in order to comprehend how tools interfere with practice formation. Infrastructures are seen as malleable boundary objects that are negotiated by organizational communities (such as designers, managers and users) that aim at shaping technology according to their practice (Orlikowski 1992) (Scheepers and Damsgaard 1997).

3. SL normative limitations

Interestingly, the richer are these descriptions of knowledge as practice, the more they have led to conceptualizations that question both the possibility to view learning and knowledge as, respectively, a controllable process and matter. In managerial terms, these approaches, although appealing thanks to their descriptive capacity, provide few handles in order to guide learning processes in a way that could be consistent to organizational objectives. Namely, if

knowledge is practice, and practice can be understood only from within, then what can the manager do if not just contemplating, as an ethnographer of the XIX century, corporate communities as tribes?

In this context, there are two alternative readings of the SL approach regarding managerial action. Both reach the conclusion that, when dealing with knowledge, there's no room for direct managerial action.

3.1 Managerial action as intrusion

An ideological and post modernist approach to practice states that the very concept of managerial intervention is conceptually wrong. Management is viewed as a community itself that attempts to impose its perspective on other organizational groups. In particular, claiming that managers observe organizational communities from an external position, such theory assumes that they neither can understand the different "knowledges" that belong to existing communities, nor can judge their practices (Styhre 2003). Such relativistic conclusion, that assimilates the notion of practice to the one of *traditions* proposed by the philosopher Feyerabend, while interesting in speculative terms, seems quite unacceptable in practical ones. The manager is left with no conceptual elements to give reason of practice existence, and to understand those conditions that enable the formation of a new organizational practice. Moreover, the manager is just an observer that can neither judge a practice, nor facilitate its evolution form both an intra-community, and an inter-community perspective. All these interventions are to be seen as "intrusions".

In this contribution we view such conclusion as driven by ideological rather than substantial concerns. Of course managers are part of a community that owns a knowledge and an identity among the others. But we believe that such knowledge is a particular one. Even under a SL light, as far as organizational actors believe that there is an organization, it is reasonable to think that they delegated a community to represent such unifying concept. Said differently, if a community cannot be judged in theoretical terms, it seems pragmatically reasonable that a

community delegates to another the capacity to do so. As a way to continue our discussion without incurring in some realist approach to knowledge, we propose to view an organization as a constellation of communities that, in order to be so (that is, an organization), delegates to another the right to evaluate, judge, and orient the evolution of practices. In these terms, management appears as a meta-practice whose role is to guide and orient other practices. No matter how negotiated, weak, or stable such delegation is, it seems to us enough to say that "there is" a managerial perspective that needs normative conceptual tools in order to fulfill such organizational expectation.

3.2 Managerial action as enablement

On the other hand, a naive interpretation of the SL theory proposes that communities are always "good" places where "good" learning happens. Such statement is somehow correlated to the presumed contraposition between the formal organization (represented by functions and hierarchical roles) and the informal one (represented by CoPs), whereby the latter is supposed to cross the boundaries of the former. As a consequence, communities are assumed as elective means to promote the circulation of knowledge across traditionally closed, bureaucratized, and not permeable organizational units (Stewart 2002). In this sense, communities are seen as uncontrolled good places, and managers are asked to enable the spontaneous emergence of these communities, creating infrastructures and spaces in which social interaction can freely take place.

However, the evidence that even a bureaucratized unit could be a community implies that there are not "good and informal" communities by definition as opposed to "bad and formal" units (Bechky 2003). Rather, we have to distinguish among "good" and "bad" communities (Swan et al 2002). In fact, there are evidences that CoPs, since they are auto-normative by definition, have a propensity to close their boundaries, making increasingly difficult to communicate with those that belong to other communities (Szulanski 1996). From this perspective, communities can be an obstacle, rather than a means to facilitate knowledge flows, since self referential dynamics are likely a source of path dependant errors (Cyert and March 1963); in this sense, rather than *loci* of competence, they can be better seen as "competency traps" (March 1991). Moreover, once a community can be judged as bad, questions raise about "why" such community has developed, how we can intervene in order to influence its evolution, and how we can promote the development of communities that are able to cross the boundaries of existing ones, enabling coordination and innovation (Brown and Duguid 2001) (Dougherty 1992). But still these major questions are unanswered.

In this contribution we propose that not each practice is good by definition. From an SL stand point, competency traps, organizational boundaries, inertia, resistance to change and innovation, are all synonymous of a same problem: communities tend to become close and become self referential leading to two major problems. First, knowledge as practice can become sub optimal, in the sense that working solutions appropriated to particular conditions can become unable to cope with a changed context. Second, knowledge as practice can become an obstacle to innovation in the sense people tend not to cross the boundary of their communities as far as this process puts under discussion current beliefs, assumptions and identities. As a consequence, we believe that knowledge, as practice, is not incompatible with managerial action. In particular, one of the main challenges for managers, viewed as owners of a meta-practice, is the capacity to act in order to reshape suboptimal practices and open up community boundaries as a means to foster innovation.

4. Shaping practices: the role of theories

Interestingly, the SL approach is rooted in a constructivist theoretical movement and, in particular, direct references are made to Giddens' Structuration Theory (1984). In general, it is proposed that society is a mutual construction of agents that, through interaction, build routines that, once reified, are able to shape agents interpretations and behaviors. This

practical knowledge (the routine) is intrinsically social and self reinforcing; that is, its correctness depends upon the fact that, for each action performed by an agent, the reactions of the others confirms the beliefs of the former. As a consequence, knowledge resembles a social prophecy: an interlocking pattern of self-reinforcing actions and beliefs. Moreover, the reification of routines gives them structural properties so that they are perceived by actors as given, although they where once constructed and stabilized on the base of some cognitive motivation.

For our purposes, what is to be underlined is that both agents (beliefs and motivations) and structures (routines in the sense of interlocking confirmative actions) play an equal role in the construction of knowledge. While it is true that social structures (practices) shape the way in which people interpret facts, it is also true, on the other hand, that agents are able, to manipulate, deconstruct and reshape the practices according to their beliefs. As clearly stated by Giddens, actors are reflexive; if they do an action they have motivations and values and, moreover, they are able to reflexively think about what they do. In this sense knowledge is practical, but sustained by a net of interlocking set of beliefs.

Although such aspect is theoretically presumed by SL theory, the explanation of how this happens is generally ignored if not underestimated (Bredo 1994). Starting from an observational methodology aimed at emphasizing concrete social aspects, environments and behaviors, SL theory did not pay enough attention to the role of agents' beliefs, values, and motivations in knowledge creation (Wilson and Madsen Mayer 1999). In this sense, the normative limitations of SL are rooted in the underestimation of the agent's cognition in both the constitution, and the deconstruction of practice. As a matter of fact, SL descriptions tend not to answer questions such as: Why these agents acted in this way? What motivations, values and beliefs they had? What was once a belief in their mind that, after stabilization and routinization, now is taken for granted?

These questions are fundamental exactly from a normative perspective. In fact, if we know on the base of which beliefs people do some action, in order to change that action we can intervene on those beliefs. On the contrary, if we assume practice as separated by subjective motivations, than, as SL tends to propose, practice resembles a given action structure that cannot in any case be judged. Ironically, the practice view, which has been proposed in opposition to objectivistic approaches, leads to a world in which every knowledge is objective for their holders…. No body can externally judge it but, at the same time, people are internally locked into their practice.

Consistently to the view proposed by Giddens, theoretically accepted by SL in "theory" but forgotten in "practice", we propose that a cognitive reading of action is a prerequisite to give reason of how practice emerges as a joint and mutual structuration of actions and thoughts, and, moreover, how such structuration can change by means of intentional intervention. This intervention should happen, thus, at the cognitive level, where motivations and beliefs drive the formation of practice. For this reason, we believe that cognitive approaches in organizational behavior are to be correlated to practice analysis.

A major approach to the cognitive analysis of organizational behavior is the one proposed by March and Simon (1958). In their seminal work, they propose to view cognition as a process that selects a course of action among a set of alternatives, whereby consequences are estimated on the base of a knowledge and ranked according to some judgment standard. March and Simon then focused more on how this process occurs in situations characterized by a lack of information and limited computational capacity, proposing the model of Bounded Rationality. In this sense, routines are defined as predefined behavioral programs that are able to provide satisfying rather than optimal solutions. Although programs are activated by decision makers when a particular stimulus occur, March and Simon did not focus on the implications that derive when considering such stimulus as another program performed by another actor. That is, those that are programs from the perspective of one actor are stimuli from the perspective of another who may

activate, in response, a program that in turns represent a stimulus for the previous actor. In this sense, the goodness of a routine may be seen as a self-confirming property generated by the interrelated nature of behavioral programs.

On this direction Argyris and Shön (1996) elaborated their organizational learning framework, which clearly attempts to correlate cognitive motivations to the formation of behavioral routines. In their Organizational Learning theory the Authors define individual and collective "theories of action" (TA) as composed by values, assumptions, and behavioral strategies. Similarly to March and Simon, while strategies are actions planned in order to obtain certain goals, values guide the selection among alternative goals, while assumptions determine which strategies are to be used in a given state of affairs. Differently, what they clearly underline is that these cognitive theories may activate self reinforcing loops that confirm the agents' beliefs and lock them into a behavioral routine. Moreover, Argyris and Shön focus their attention primarily on the perversities of this process. Living apart the consideration that these routines may be seen as "good" social practices, they underline that people tend to remain locked into "bad" practices. That is, even when the behavioral pattern configures a suboptimal or even negative routine, people are unable to correct their errors through the reflexive analysis of their theories. This difficulty is attributed by the Authors to the need expressed by agents to protect themselves from embarrassing situations; to do so they generate declared defensive theories that are able to justify the current state of affairs. Moreover, since failures are attributed to wrong causes, there can be cases in which failing courses of action reinforce themselves generating something similar to a competency trap; a persistent vicious circle of self-reinforcing errors. As a consequence, the only way to change a social behavioral pattern is to intervene on those theories that sustain its formation.

We suggest that Argyris and Shön's contribution can be adopted as a useful model in order to explain how people think about their actions as interconnected systems of expectations about goals, strategies, assumptions, and values. As such, it can complete the SL explication of the learning process providing, besides a social lens of practice as a behavioral fact, a cognitive one of practice as the outcome of agents expectations about actions. In particular, the TA perspective is interesting for our purposes since it intentionally addresses the need of detecting agents mental structures (here named theories) as a means to understand the emergence of organizational routines intended as interlocking and self reinforcing systems of action. In this sense, social practices are seen as produced by cognitive theories. Moreover, the TA perspective underlines that in order to change self-reinforcing behavioral patterns, an intervention is needed at the cognitive level. That is, to shape practice, we need to act on theories.

In the next section, we present as a case study the research center of an automotive company; in this setting, we tried to verify whether we could give an account of practice as the emerging outcome of a cognitive structuration process (Figure 2). That is, we tried to explain a social practice as emerging from cognitive theories. Moreover, we wanted to test as hypothesis, the idea that practice formation depends upon a consistency between the expectations of different theories held by different organizational actors. This means that a group of individuals constructs a practice if their theories enact a set of interlocking and self-reinforcing actions. On the contrary, when TAs generate unexpected outcomes, the presence of declared theories that prevents from analyzing the causes of failure, leads to the formation of barriers among different practices; that is, when TAs are not compatible, sharing practices across different groups do not emerge. As a consequence, we formulate some hypotheses on how an intervention could be defined in order to influence and orient the formulation of organizational practices.

5. The research context

In 1999, the need to support investment in regional research programs led the Trento Local Government to sponsor the opening of a delocalized branch of the Centro Ricerche Fiat (CRF), the research division of the biggest automotive company in Italy whose head quarter is in Torino. This

research center counts thirty researchers working in different projects, which are organized into four main units of investigation: BIT (Business Information Technologies), PIT (Info-Telematic Processes), PMV (Virtual Manufacturing Processes), PMS (Micro-Systems Processes).

In 2003, an important financial crisis in Fiat led the corporation to adopt a new strategy in respect to the research division. In fact, CRF was invited to direct more efforts to match external market needs and to save costs in order not to be so heavily dependent on its traditional captive market. CRF management was aware that new services and competences where needed in order to be competitive in an increasingly complex and differentiated market. Nonetheless, given a lack of financial resources, the only way to generate new services and competences could be accomplished only through a better use and mix of present human resources. Along this direction, the management felt that, on the one hand, people within existing units (especially young new comers) had difficulties in learning what they where expected to learn; in particular, they where expected to become autonomous on research projects thus being able to provide a concrete contribution to CRF results. On the other hand, they felt that collaboration across different units was fundamental in order to promote knowledge dissemination and, moreover, the generation of innovations able to provide CRF with new solutions and services. From this perspective, there was a general agreement around the perception that collaboration efforts where not successful at all, since they did not generate expected results and, moreover, they where felt by company peers as frustrating experiences. In this context, we where asked to understand how to improve intra- and inter- community learning processes within and across research units.

As a starting point, we looked for communities of practice with the aim to verify both learning practices within communities (Lave and Wenger 1991), and coordinating practices across the boundaries of different communities (Wenger 1998). Qualitative, open, and informal interviews where conduced with a story telling method along a twelve months

elapsed; in particular, there was a first round in summer 2003, and a second round in spring 2004. Interviews where distanced in order to verify the initial theoretical categories, comparing and contrasting additional cases.

In order to avoid defensive behaviors, we adopted a double faced interview strategy based on an "on-line" – "off-line" metaphor: the first part of the interview was shown as a traditional and formal analysis of organizational roles and processes; at a certain point, when we perceived a distance between the "declared" and the "real", we switched into an off-line mode that resembled a personal conversation. While in the first part we have shown ourselves as researchers interested in organizational "facts", in the second part we showed our personal interest in the life, perceptions, interests and expectations of the interviewed. We applied this strategy with fifteen researchers involved in the four units. In addiction, we have chosen a novice worker to take a diary about his daily job-life in the organization. Every morning this researcher was requested to tell us the events of the previous day and provide us his considerations. In all those circumstances (diary and interview), the interviewer solicited documents and collected direct observations about organizational life.

6. Results from practice observations

Comparing data of different meetings, we found the existence of six communities of practice. Four of these communities match with formal research units (RU), the others correspond respectively to the chief board (here named top management-TM), and to the bottom line (BL) group of researchers (see Figure 1). We noted that executives of four units (middle managers-MM) did not form a community of practice and that there where overlapping communities: members of the BL group where also unit members; and one person of those that composed the TM was also an executive in the PMS RU. As a means to identify each group identity, we inquired through language analysis members' perception of what they considered to be "us" and what they considered to be "them".

After a general understanding of the CRF Trento context, our attention was directed to each RU in order to understand internal learning processes. We could identify a formal way to introduce new researchers. It comes out to be ambiguously attended in real behaviors so that it fails to be effective as expected. In particular, the learning practice is viewed as a silently agreed upon process that, given the difficult situation of the Fiat, requires to become productive in order to contribute to the CRF Trento survival. As a consequence, despite the claims of trainings and tutorships, new researchers struggle in order to become productive as soon as they can, avoiding waste of time and resources. On the other hand, managers appreciate those that are able to become productive recognizing them with tasks that are characterized by an increasing level of autonomy and responsibility. To some extent, the practice is a system of coordinated actions oriented towards the joint goal of productivity, being this intended as a competence characterized along the dimensions of autonomy and proactivity in acquiring and executing research projects. Nonetheless, although both the manager and the researcher agree and engage in the practice, they both feel the learning process as sub-optimal since they complain that it's hard to become (the researcher) or to have (the manager) an "autonomous" researcher.
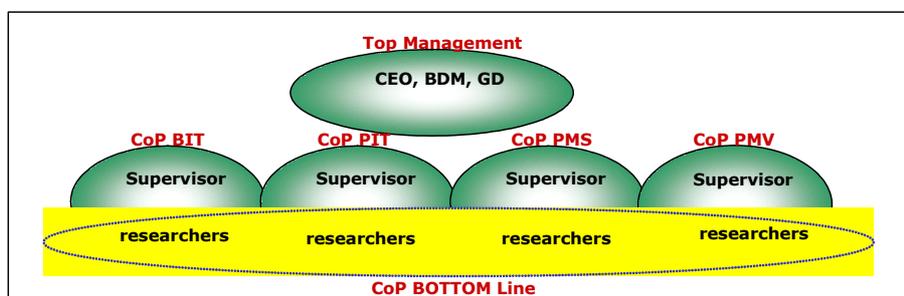

Figure 1: Communities of practice in CRF

From an inter-community perspective, collected data was applied to all the communities in order to understand some well-known difficulties in communication and cooperation across different RUs. The communication practice (or non practice since communication didn't work at all) was a continuous attempt to "put different competences together" either through projects that involved more than a RU, or through social moments in which all CRF employees would create some "emphatic" understanding of the others. MM, when requested by TM to promote a joint project with another unit, started a discussion table around which those that where involved could coordinate their actions and exchange the needed information and competence. As said, although everybody ideally recognized the importance of collaborating, they found it practically not viable since unable to produce valuable outcomes. As such, it was seen as a waste of time and, as consequence, in direct contradiction to the generally agreed upon need of productivity. To some extent, the practice (or non practice) of collaboration could be described as a continuous attempt to "do things together" characterized by a deceasing belief that such collaboration could be successful.

7. Results from theories representation

Informal practices are a good starting point to understand how an organization actually functions. Nonetheless we underline how practice descriptions alone cannot explain why, on the one hand, some practices emerge even when felt as sub-optimal by the same participants while, on the other, some other do not, even if all agree that such emergence would be desirable. To validate our hypothesis, we tried to examine both the sub optimal working practice (learning in the RU) and the non practice (collaboration across different RUs) using, as a lens, the different TAs expressed by different organizational members. In this way, we provided an explanation of practice/non practice emergence based on the comparison of different strategies, assumptions and values.

By means of TA we could understand that pervasive inadequacy of learning

processes is due to some doubtful assumptions on learning among RU members. From the middle manager perspective, learning is conceived as an individual responsibility and not as collective concern. In his opinion, learning should be an efficient process, that is, it should be encouraged to the extent that new knowledge can be directly applied to operative and value added work tasks. It is therefore considered as a marginal process in the sense that it should not take time to the "normal production" process. Form the researchers' perspective, learning is a personal development and serves to become a competent, autonomous, and estimated worker. They need experts' help and consider middle managers as hierarchical superiors that, differently from them, have learned to be competent in the sense that they are "autonomous". In order not to delude the middle manager expectations on their autonomy, researchers prefer not to ask for tutorship since it would be exactly a prove that they are still not autonomous. Despite these doubtful assumptions, we noted that researchers' and managers' values are compatible since they both agree that productivity and autonomy are measures of personal value and competence. Such compatibility constitutes the basis of a pattern of interconnected actions that generate a stable, even if perceived as ineffective, practice. In fact, the MM attributes importance to the saving of resources and use them as a means to increase projects performance, while researchers attribute importance to be recognized as productive workers. Given that, managers do not offer their support in order not to waste time and to select more productive researchers, while researchers tend to elude coaching demand with the intention of appearing productive as they are expected. In doing so, managers keep trainees "far from their doors", while researchers act preventing experts to understand the real need of mastery transfer. In these terms, while they all agree that learning is not effective, they all contribute to the persistency of such practice (see Figure 2).
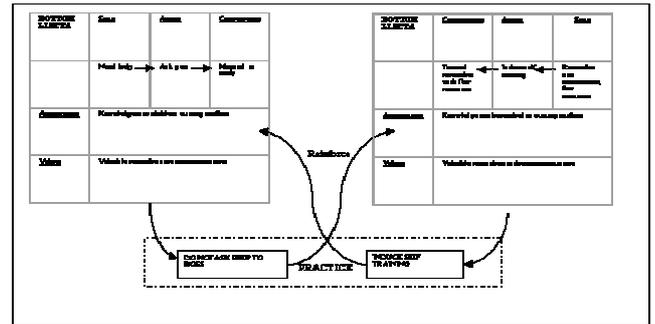
Figure 2: Practice emerges from theories

Analyzing TAs with regard to inter-community sharing of knowledge, we found that the scarce, if not existent, collaboration previously described, is due to divergent values among TMs on one side, and MMs on the other. Synthesizing, while TM considers collaboration as a means to innovate, MM main concern is still the consolidation of the RU specialized competence as a means to increase its results. More precisely, although both agree in principle that collaboration is important, while the former is evaluated on his capacity to generate new services and solutions, the latter is evaluated on his capacity to "bring money home" acquiring new projects. Since vertical competence still seems a viable means to acquire new projects while collaboration generates "wastes of time", the latter is done in "free time"; that is, when it doesn't affect traditional productive work. But since the situation of Fiat pushes CRF towards the need to systematically acquire projects in order to be independent, no free time is available and, thus, collaboration is avoided. This means that, while the TM would like to produce a social context to favor knowledge sharing, MM wants to maximize the use of resources to realize the unit's assignments. In addiction, both share a general assumption about collaboration: it's considered as a sort of "sum" of competences and tasks carried out by different units. As a consequence, knowledge sharing is not considered as an occasion to produce new knowledge through negotiation and combination of meaning, but rather is considered as a means to exchange advises in a way that resembles a unit-to unit "consulting service".

We found that explicit contrast never emerges between the two values, since potential conflicts are covered by some common opinions, which are able to justify

failures without questioning the intentions of each stake holder. Briefly, most part of both TM and MM think that different research fields are difficult to integrate and, moreover, that researchers are not interested in sharing. As a consequence, top managers cannot understand why their efforts do not work, while middle managers reinforce their belief that makes them focused on increasing the unit's competence.

8. Discussion

What we have seen in CRF is that theories of action, if its realistic presumptions are abandoned, can be used as an interesting analytical method to explain practice. Adopting such lens, we propose that a community of practice is possible if different stakeholders have the opportunity to reciprocally "match" their TAs in a stable manner. In other words, they can accomplish their goals and values by means of coordinated actions that reinforce their beliefs and assumptions. To some extent, we could say that practice emerges when a system of social actions is able to become both the outcome and the premise of a system of cognitive beliefs. In this sense, cognitive theories orient social actions and, social actions confirm cognitive beliefs. An interesting corollary of this line of thought is that a community of practice is not, as some commonly think, a group of people that share a perspective; rather it should be intended as a system of different TAs from which behavioral structures and aligned understandings materialize as convergence of subjective predispositions and tendencies. In this sense, a practice appears when actors' values and assumptions can be combined and re-shaped in group enactments.

On the contrary, practice does not emergence when TAs are not compatible in the sense that such consistency among social behaviors and cognitive premises cannot be established. Moreover, since stakeholders adopt declared defensive theories, such inconsistency is hardly resolved by means of reflection. In this sense, the presence of defensive strategies that prevents stakeholders from analyzing the causes of failing courses of social actions (a non practice) explains why, even when acknowledging such failure, boundary practices are so hard to

establish. Simply, people find it difficult to understand that such gap is exactly the outcome of their interpretations.

From a managerial perspective, an understanding of which theories determine a practice or a non practice, can orient interventions aimed both at correcting competency traps (intra community focus), and at promoting innovative behaviors and understandings through boundary crossing (inter community focus).

As regards concrete types of interventions, here we propose some examples that, of course, require further research as proposed in conclusions of this paper. As an example, at the assumption level, managers can intervene promoting training programs aimed at showing how taken for granted cause-effect relationship can be criticized and explained through alternative perspectives. Moreover, sensemaking sessions can be promoted in order to question existing orthodoxies and jointly inquire new ways to explain "what leads to what". From the perspective of values, interventions are more difficult in the sense that they could interfere with some very core dimensions of organizational life. As an example, in the case of CRF, the values of the middle managers are clearly related to their evaluation and rewarding system; of course, it seems quite contradictory to require them a change in values while maintaining an inconsistent type of performance measurement. In this sense, values are often the manifestation of how the organization concretely "evaluates" people; as a consequence, interventions at the value level should not be considered as a sort of ideal debate around corporate ethics but rather as a very concrete one around they way in which "value" is measured and resources are assigned.

Starting from these examples, we can suggests that intra and inter community interventions can be designed and promoted through a mix of actions oriented towards a re-discussion of existing assumptions and values. As seen in the case of CRF, better intra community learning processes can be promoted making explicit that there "are" assumptions about how new comers should relate to old timers, and that such assumptions lead to a vicious circle. Moreover, alternative perspectives on

learning can be proposed and discussed, while new procedures can be co-designed and established according to alternative learning approaches (such as SL).

Regarding the collaboration gap among units, interventions should be designed both at the assumption and at the value level. In particular, at the value level, top management should inquire their current evaluation and rewarding method while acknowledging that scarce collaborative attitudes are not due to wrong dispositions, but to an inconsistency between organizational requests and rewards. From this perspective, top managers should decide whether collaboration is or is not an important aspect of the future CRF, considering how such choice could impact on consolidated organizational evaluation practices and interests.

9. Conclusion

In this work we propose a way to address the trade-off between KM initiatives focused on the managerial need to orient knowledge processes and KM initiatives characterize by descriptive interests . Assuming the SL approach as a rich explanation of knowledge as an organizational matter, we reinterpreted the Theory of Action perspective as a means to transform such matter into an organizational resource; that is, provide managers with a model able to explain how practice emerges and how to intervene in order to correct suboptimal practices, or to enable the formation of boundary practices among existing communities. From this perspective, we believe that our reading can provide insights on how knowledge can be oriented as a means to sustain performance improvement (intra community focus) and innovation (inter community focus). Such reorientation should happen at the cognitive level, where people represent those motivations that drive their actions. In this sense, we propose that in order to shape organizational practices, actions should be taken on theories.

Our proposal needs of course further investigation. First of all, work needs to be done in order to test managerial interventions on values and assumptions and their capacity to re orient the

development of organizational practices in a way that is consistent to organizational goals. Second, especially at the value level, it is required more theoretical inquiry and contamination with other disciplines in order to better understand which dynamics constitute the basis of value formation and reformulation. On this regards, we are currently investigating how more cognitively oriented approaches such as the sensemaking theory can offer (Weick 1979), through the concepts of retrospective reasoning, commitment, and enactment, hypotheses on how human agents are able to actively shape their values and preferences.

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