



**Questioning the validity of the knowledge produced in management sciences:
The case of the elaboration of a ‘digital strategy’ in a group of the sanitary, social and medico-social sector**

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Abstract

How is strategy made? For about twenty years, the thought stream known as « Strategy as Practice » (SAP) has attempted to answer this question by articulating strategic decision-making with the context and by studying strategy in the making. We study the case of a group of 50 establishments in the sanitary, social and medico-social sector trying to elaborate a “digital strategy” in order to question the epistemological positioning of SAP. The framework of complex thought elaborated by Edgar Morin seems to enrich the SAP approach. The study and practice of strategic reflection being elaborated in a complex environment raises a double question: what is the place of the researcher in the SAP field in front of his/her research field? How can we evaluate the validity of the knowledge that he/she contributes to create? Combining in a coherent way the epistemology, methodology and ethics of the researcher contributes, according to us, to clarifying the SAP approach. After considering the main features of this current of thought, the case of a strategy in the making in the reference sector is presented. On the basis of this case the epistemological and methodological implications of SAP are discussed. This finally leads to question the validity of the research and the place of the researcher in strategic management involved in this approach.

Key words: strategy as practice; complexity; epistemology; constructivism; validity of knowledge.

Introduction

Political, economic, social and climate crises, radical technological innovations (WWW, robotics, big data, blockchain, AI, etc.), the emergence of new economic actors and behaviours (GAFA, collaborative economy), the shifting of the centre of the international economy to Asia are as many uncertainties which make our environment very instable characterized by the four qualifiers: volatile, uncertain, complex and ambiguous (VUCA) (Vallat, 2016).

The complexity of this context requires a capacity to improvise, experiment and project oneself into the future (Brown and Eisenhardt, 1997), and a strategy using the information that crops up in action, integrating it and formulating actions to be able to muster as many certainties as possible to face the uncertain (Morin, 1990). Strategy, which literally means 'leading armies' gives a particular importance to decision-making as 'leading' means deciding and by nature deciding pre-supposes uncertainty (Desportes, 2007). Our environment is all the more uncertain as our actions contribute to modify it continuously. This requires a complex approach of strategy (Martinet, 2006), which cannot rely on ready-made recipes. This paper is inscribed in the work of Edgar Morin (2005) on complex thought and attempts at putting it into practice in the field of management.

Strategy possesses a double contradictory nature. It is about planning (Chandler, 1962) as it aims at setting objectives. But it is also emergent (Mintzberg, 1978) as it evolves with the environment and the decisions made by the strategist. These three dimensions (planning, emergence and actions of the strategist) have been fully described by Mintzberg stating that the construction of a strategy is articulated around three forces: a constantly changing environment, a bureaucracy looking for stability and a monitoring to maintain the stability while taking environmental changes into account.

The rare resource in an organization seems to be more the processing of information than the information itself. The processing of information leads to a knowledge that entails the most satisfactory (as possible) action (Simon, 1996). If a Taylorist enterprise looks for efficiency, we may wonder if we should not rather look for the optimization of decision-making (Le Moigne, 1999). To do so, strategy adapts itself and is founded on successive, incremental decisions made as the situation evolves (Morin, 1980).

Then Strategy means adaptation to the environment and contingency. It is more heuristic than algorithmic (Morin, 1990). It is not, however, only adaptation to the environment. The emergent (inventive) dimension supposes some autonomy of the actors and a certain distance as regards the environment. Strategy should anticipate and contribute to the construction of the environment (Daft & Weick, 1984).

In the context of the many and brutal changes characterizing the VUCA world, the classic approach of strategy relying on mustering the resources necessary to attain pre-set objectives (Chandler, 1962) has become inappropriate. The heydays of strategic planning have long gone (Mintzberg, 1994).

Mintzberg showed that contradictory forces operate in the definition of a strategy (Mintzberg, 1978). We have an intended strategy which will be different from the realized strategy, modified by changes in the environment and emergent strategies, or at least strategic elements, as we go along.

These distinctions between intended, emergent and realized strategy of course challenge the relevance of a planned and controlled strategy disconnected from the forces of the environment (both external and internal). As Napoleon used to say: “*I have conceived many plans but never had the liberty to execute any of them*” (in Desportes, 2007); hence the necessity to understand “strategy in the making”.

Therefore, we will base ourselves on this notion of “Strategy as Practice” developed by a number of authors (Golsorkhi, Rouleau, Seidl, & Vaara, 2015; Vaujany, Hussenot, & Chanlat, 2016; Whittington, 1996).

We will first examine the main features of SAP, then present the case of a strategy in the making in a group of the sanitary, social and medico-social sector, finally discuss the epistemological and methodological implications of this approach. This will lead us to question the validity of the research and the knowledge produced, and the place of the researcher involved in this approach.

1. Strategy as Practice

Strategy is the product of human actions in a network of social interactions influenced by political, organizational, material, technological, social and psychological parameters.

A strategy is at the same time made possible and limited by the context.

“Strategy as practice” is more interested in the way strategy is elaborated than in the result of strategic decisions (Johnson, Melin, & Whittington, 2003; Vaara & Whittington, 2012). The strategy elaborated is more the result of the context than of that of planning (Ansoff, 1965) or rational choices (Porter, 1980). The subject is not only to try and understand why the choice of such or such strategy has been made but also how this choice has been made. The ‘how’ sheds light on the ‘why’. Rationality is no longer the only motive to be taken into account to understand strategy in the making. This approach finds its inspiration in a number of sociological works (Bourdieu, 2000; Certeau, 1990, Giddens, 2013) showing how everyday actions contribute to maintaining, reproducing and transforming social structures. Internal practices of an organization are influenced by external practices and vice versa (Whittington, 2006).

Thus, the elaboration of strategy is inscribed in a complex (Morin, 2008, 2015) and systemic (Le Moigne, 1994, 1999) dimension far from the instrumental rationality of economists (Vaara & Whittington, 2012). Strategy in practice is monolithic; it experiments, corrects itself, adapts itself and transforms itself depending on the changes in the internal and external environments in which all members of the organization take part (Rouleau, 2005).

As underlined by Johnson et al. (2003) SAP permits to give a new life to strategic issues and go beyond some dual characters (planning/emergence, effectiveness/efficiency, exploration/exploitation, structure/process) and leads academic works toward the concrete preoccupations of managers to offer them practical and actionable advice (Johnson et al., 2003) such as leading a strategic meeting, organizing debates to favour organizational creativity, conceive work spaces facilitating collaboration.

The SAP approach also implies that researchers think of themselves as practitioners as, in order to theorize practice, you need to practice theory (Feldman & Orlikowski, 2011). SAP, then, takes on the shape of a co-production to facilitate strategic decision making.

From a methodological point of view SAP favours qualitative approaches (Balogun, Huff & Johnson, 2003; Feldman & Orlikowski, 2011; Johnson et al., 2003) whereas until now

strategic management was mainly studied through statistical approaches (Vaara & Whittington, 2012). Problems become intelligible because they are observed and discussed in the field with the actors (Balogun et al., 2003).

The SAP approach aims at producing actionable knowledge on the elaboration of strategy and strategic decisions, which sounds relevant in an economy where the only certainty is uncertainty and the only durable source of competitive advantage is knowledge (Nonaka, 1991). Thus, epistemology, methodology and theory constantly act on one another.

2. The ‘practical’ case

In France the health sector employs nearly five million persons today (Zanda & Funès, 2012). The research field is a group made of an association of 50 sanitary, social and medico-social establishments mainly implanted in the southern half of France employing more than 2,000 people (medical, technical, administrative).

The general director of the group wanted the directors of the establishments to start thinking about the implications of digitalization (social networks, internet) for the activities of their organizations. Implicitly, the issue of the adaptation to change emerges. The General Director acted upon the intuition that there was a fundamental change in the ‘job’.

This initial will and the issue of digitalization and therefore “the digital strategy” to adopt gave rise to a research work of more than two years among these establishments. A preliminary remark should be made about the choice of the phrase “digital strategy”. It may be argued that “digitalization” concerns the various operations carried out in the establishments and is not really a strategy *per se*. However, the General Director insisted on the use of the word “strategy” both to stress the strategic character of the adoption of digitalization, with all its implications, and to enhance to commitment of the persons involved in this project.

A qualitative study, of an ethnographic type, according to the recommendations of the authors of SAP, was conducted, consisting of the presence of the researchers in the field for about 100 hours; about 80 hours being devoted to work sessions with the General Director, the executives of the group and the directors of the establishments, 12 hours of informal meetings with the same persons and 6 hours of interview with the General director.

This action research (Lewin, 1946) is then based on a single case (Yen, 1981). The methodological approach of the grounded theory (Glaser and Strauss, 1967) was chosen to avoid bias in the representation of the actors. The grounded theory allows to grasp some reality in its complexity in an innovative way (Guillemette, 2006). It requires adjusting step by step the theoretical construct by a constant movement forth and back between observation and formalization (Bergman and Paavola, 2012; Glaser and Strauss, 1967, Strauss and Corbin, 1998).

The discussions during the work sessions of the groups were recorded in order to provide reports handed over to all the participants and validated at the beginning of the sessions. The purpose of the action research is then to accompany the managers of the establishments of this group in the translation and implementation of the strategic vision of the General Director. On this foundation, the work unfolded in two steps: first identifying the risks perceived as regards the introduction of digitalization and the changes it implies in the establishments, second translating the vision of the General Director into strategic objectives

while introducing operational objectives to reduce, or even suppress, the risks perceived by the managers in the group.

Table 1 sums up the stakes of this research and the possible modes of cooperation.

Table 1. List of interviews and work sessions

Date and duration	Theme	Nb of people
27/01/2014 Interview (2h)	<ul style="list-style-type: none"> • Presentation of issue of digital strategy 	1 : Gen. Director
24/04/2014 Meeting 1 (2h30)	<ul style="list-style-type: none"> • Presentation of issue of digital strategy • Discussion on action research framework 	7 :GD, Quality Manager, IT Director, Executive Assistant de direction, 3 Establishment Directors
04/07/2014 Interview (2h)	<ul style="list-style-type: none"> • Definition of the AR framework 	1 : GD
04/09/2014 Interview (2h)	<ul style="list-style-type: none"> • Definition of the AR framework 	1 : GD
08/12/2014 Work session (7h)	<ul style="list-style-type: none"> • Brainstorming on digital strategy • Definition of objectives for work sessions 	10: GD, IT, QM, Com Manager, 6 Directors
27/01/2015 Work session (7h)	<ul style="list-style-type: none"> • Brainstorming on digital strategy • Definition of objectives for work sessions 	22: GD, Deputy Director, CM, 19 Directors
27/02/2015 Work session (7h)	<ul style="list-style-type: none"> • Changes in environment • Decision making in uncertain environment • Stakes of change management in uncertain environment • Collaborative management and knowledge construction 	13: CM, 12 Directors
07/04/2015 Work session (7h)	<ul style="list-style-type: none"> • Organizational learning in group • Knowledge, a construct • Digital tools for collaboration in establishments and group 	9: CM, 8 Directors
19/05/2015 Work session (7h)	<ul style="list-style-type: none"> • Co-construction of digital strategy of group • Complex thought, guide for action 	9: CM, 8 Directors
11/09/2015 Work session (7h)	<ul style="list-style-type: none"> • Prioritarization of objectives and actions 	9: CM, 8 Directors
13/11/2015 Work session (7h)	<ul style="list-style-type: none"> • Articulation of projects of establishments and digital strategy of the group 	9 : GD, CM, IT, 6 Directors
09/12/2015 Work session (7h)	<ul style="list-style-type: none"> • Implementation of a learning organization • Necessity to mitigate defensive routines • Deepening of complex thought and systemic vision 	7: CM, 6 Directors
11/02/2016 Work session (7h)	<ul style="list-style-type: none"> • Monitoring of digital strategy with <i>balanced scorecard</i> (BSC) • Co-elaboration of BSC indicators 	7: CM, 6 Directors
08/03/2016 Work session (7h)	<ul style="list-style-type: none"> • Co-elaboration of BSC indicators 	8: CM, 7 Directors

The uncertain and complex nature of the environment, particularly in its digital dimension,



permitted to justify a collaborative approach of the construction of knowledge where the researcher is a partner facilitating the implementation. Several steps were followed:

- Identification and formalization of problem
- Conceptual and operational tools to identify possible solutions
- Methodology to formalize possible solutions and help with decision making.

An incremental approach developed as the work sessions developed, and was adopted according to principles validated by all the participants. The great flexibility implied by this practice was regulated thanks to a standardized organization of the work sessions with a mix of active phases of production (e.g. brainstorming) and less active ones (training, concepts) for the practitioners.

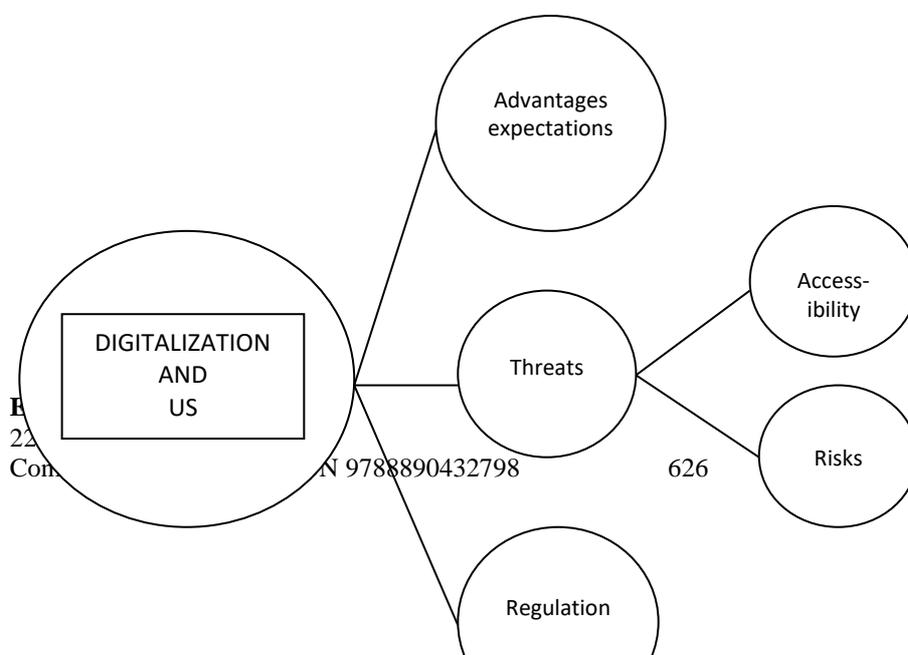
Organization of each collective work session

- 1) Validation of the report on the previous session
- 2) Contextualization and discussion of the theme selected in the previous session ; formulation of questions
- 3) Involvement in situation (serious game, problem solving, tools) ; reformulation of questions
- 4) Conceptual contributions and discussion
- 5) Conclusion and validation of the next theme

A community of digital practices (Google+ social network) was set up and operated for more than a year to facilitate exchanges between the directors and share documents, information and comments.

The unfolding of the work sessions was considered after the initial brainstorming. Then the opportunities, threats, advantages, constraints, etc. were developed.

Sketch of formalization of brain storming



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The first task was to develop in common an understanding of the environment with its ontological uncertainty and the impossibility to control it. This led to questioning how to learn to adapt to this environment and the nature of this knowledge. Then the initial question was reformulated and a strategic project devoted to digitalization was constructed in common. Finally the priority actions were selected depending on the expected impacts and the means needed.

Next, the articulation of the digital strategy with that of the group was discussed, followed by how to organize the change and to fight against defensive routines. The last two sessions consisted in preparing the monitoring of the digital strategy by constructing a Balanced Scorecard (Kaplan & Norton, 1996) with the objectives, indicators, targets and actions.

From one session to the other, the strategy was elaborated step by step as shown in the following table.

Table 2. Elaboration of the “strategy as we go”

January 2014 Interview with GD	Expression of the GD’S will to « <i>share with managers these thoughts on internet and social networks to use them for the benefit of our users, families, residents and patients.</i> »
July 2014 Interview with GD	Expression of the GD’s will to « <i>improve the global performance of the group thanks to a digital strategy in coherence with subsidiarity and empowerment.</i> »
December 2014 to May 2015 Work sessions	Formalization of the axes of the digital strategy: <ul style="list-style-type: none"> • Develop digitalization to improve practices and quality of life of the teams at work; • Develop digitalization to improve the quality of service and of life of the persons hosted in the establishments; • Ensure the technical feasibility of digitalization.
September 2015 Work session	Complete the digital strategy with added objectives and sub-objectives.
November and December 2015 Work sessions	Reflection on the adaptation of the projects of the establishments with regard of the digital strategy to guarantee its implementation.
February and March 2016 Work sessions	The strategic objectives identified are integrated into a BSC with 16 objectives and 72 actions.

The collaborative work contributed not to simplify the initial questions raised in the brainstorming, but to contextualize them gradually and thus complexifying them (Tsoukas,

2017). As the process developed, fears about the negative impact of social networks on the reputation of the establishments were mitigated and a strategic reflection on digitalization was developed taking into account a societal dimension (society's evolution and patients' expectations) and an organizational dimension (impact of digitalization on the management of the human resources).

3. Discussion and research tracks

From an epistemological point of view, the 'practical' approach (Feldman & Orlikowski, 2011; Vaujany et al., 2016) questions the way in which knowledge is produced by researchers. Several authors have worked within this framework (Chia & Holt, 2006; Chia & Rasche, 2015; Feldman & Orlikowski, 2011) without really, to our mind, proposing an epistemological reference framework. The case studied here shows that the initial intentions are rather fuzzy and are then constructed in common. An epistemological questioning emerged in the case studied as two elements quickly appeared as central: the necessity to reformulate the initial question to reach the root of the problem and the necessity to create a framework for constructing knowledge where the co-construction between researchers and practitioners would be legitimate.

3.1 The phenomenological and teleological dimensions of the 'practical' current of thought

As presented above, the 'practical' current of thought is characterized according to Feldman and Orlikowski (2011) by three main principles:

- Practices as they are social actions produce the organizational, mental and social structures which make at the same time these practices possible and constrain them. The world around us is not given but constructed (Nicolini, 2009) by our actions and representations;
- The 'practical' thought embraces an approach centred on relationships and complementarity rejecting the Cartesian dualism (subject/object, body/spirit, objective/subjective, institutional/individual) upon which positivism was elaborated;
- It adopts a principle of mutual influence where human actions cannot be understood outside the institutions and structures in which they are inscribed, these institutions being the product of human actions.

In short, these principles indicate that the 'practical' thought takes into account two dimensions little explored in the epistemologies inherited from positivism; a phenomenological dimension and a teleological dimension.

Following Kant (1905), we can consider that it is impossible to get the knowledge of the reality in itself (noumenal reality). We only know the experience we have of phenomena (phenomenal reality). Only those can be the object of a scientific study. We constantly experience this ambivalence of reality which possesses an objective existence but that we only perceive through our senses. This ambivalence relates to the complexity of our conscience which is always subjective but seeks objectivity (Morin, 1986). When we think

about the construction of scientific knowledge, we are led to raise the question of the observer and his relation to observation. All we know from the world, we know it from a personal view (Merleau-Ponty, 1952).

Actors act according to a logic which is more or less fuzzy. Hence their actions contribute to modifying their intentions. Acting on reality modifies the experience we develop about the latter and hence the knowledge we can have of it. By acknowledging the intentional character, hence its teleological dimension, of the cognitive act, it becomes legitimate to attribute the same character to the knowledge constructed by this act (Le Moigne, 2012). In the theoretical framework of SAP, Chia and Rasche (2015) make the distinction between two visions of the world: 'building worldviews' and 'dwelling worldviews'. This helps to understand the specific features of a 'practical' approach of the organization.

3.2 The road to a constructivist epistemology of the 'practical' current of thought

Levi-Strauss (1962) makes the difference between the 'handyman' and the 'engineer'. The handyman 'understands' the world on the basis of experimentation. His ambition is to do, to transform while transforming himself at the same time. "All doing is knowing, all knowing is doing" (Maturana & Varela, 1992). This construction of knowledge is a dialogue with the world. The handyman is *in* the world, he *is* the world. A part of humanity is thus integrated into the reality (Levi-Strauss, 2014). His action qualifies, in a teleological way, the mode of production as well as its result, which is akin to a constructivist epistemology.

On the contrary, the 'engineer' tries to understand the world through an analytical procedure, in line with Descartes. He observes the world from outside, which is a guarantee of objectivity.

Constructivist epistemologies can be traced back to Leonardo da Vinci, Montaigne, Pascal, Vico (Le Moigne, 2003, 2012) and more recently Piaget (1998) or Bachelard (1934).

3.3 What place for the researcher?

This approach questions the researcher who wants to be inscribed in the SAP current. What is his/her place in the production of knowledge? Can he/she be neutral? What is the validity of the knowledge produced? Contrary to positivist epistemologies, the purpose in a constructivist framework, is not to describe how reality functions (based on the hypothesis that there is a reality which is independent from the observer) and induce laws (objective truths) from these observations, but to develop some intelligibility of the experience we have of the world (Avenier, 2010). The phenomenological hypothesis obliges to take into account the objectives and finality of the subject developing knowledge as this work modifies the knowledge thus produced. Studying reality means to contribute to shape and to model it with a certain intention (*design* to use the word of Simon, 1996). The knowledge produced then depends on the researcher. The knowledge of the object has a feedback effect on the knowledge the researcher has of him/herself. The subject and the object, which are separated by Descartes, are united in a two-way constructivist cognition.

Whatever our cognitive limits, being as near as possible the research field allows to embrace the complexity of the reality (Balogun et al., 2003; Feldman & Orlikowski, 2011; Johnson et al., 2003). Consequently the purpose is to adopt an approach of the research field which is compatible with the constructivist epistemology and which permits to reveal the complexity

of the situations studied, and more generally the ontological complexity of reality (Brown & Eisenhardt, 1997; Morin, 2005).

The fact that the researcher and the object are not separable, together with the teleological character of the research project, explain the recourse to action research (*“Research that produces nothing but books will not suffice”*, Lewin, 1946), or in the words of Argyris (Argyris et al., 1985): *“Action science is centrally concerned with the practice of intervention”*.

As a ‘practical’ approach implies a strong commitment of the researcher, the question of the rigour of the scientific approach is raised (Argyris & Schön, 1989). SAP invites the researcher to reflect on his/her practice (Vaara & Whittington, 2012; Johnson et al., 2003; Nicolini, 2009).

3.4 What validity for the knowledge produced?

The validity of the knowledge produced questions any producer of knowledge. We can agree with Morin (1990) that science only functions thanks to the continuous confrontation between truth and error.

According to the constructivist paradigm, the purpose of research is to construct an intelligibility of the phenomena observed. It is then the finality of the project which is questionable and questioned. The ‘validity’ of the knowledge itself is not really the stake, but it is rather its functional relevance; the adequacy between the artifacts produced and the aims pursued. We find here again the notion of *design*: *« Design, on the other hand, is concerned with how things ought to be, with devising artifacts to attain goals »* (Simon, 1996). If we generalize, this corresponds to the idea of the adequacy between representations (models) and the reality observed. But, as our representations are built by ourselves (our cognitive system), then true knowledge is *“the adequacy between a cognitive organization and a phenomenal situation or organization”* (Morin, 1986).

The verification in a constructivist framework has got a pragmatic nature (Girod-Seville & Perret, 2002) as it is realized through action (action research and other encounters with actors).

The work of the researcher consists in producing ‘actionable’ knowledge: *« Actionable knowledge has been defined as information that actors could use, for example, to craft conversations that communicate the meanings they intend. Actionable knowledge has to specify how to produce meanings but leave actors free to select the specific words »* (Argyris, 1995).

Evaluating their operational character is a criterion of the validity of the research: *« Actionable knowledge must not only have high external validity (i.e. a high degree of relevance) it must specify the thoughts and actions required to create the propositions in the real world »* (Argyris, 1995). Glaserfeld uses the phrase *“functional fit”* pertaining to a constructivist epistemology: *« This modification of the role of knowledge, from ‘true’ representation to functional fit, requires an enormous effort because it goes against a traditional belief that is at least three thousand years old »* (Glaserfeld, 2001).

Nevertheless, the construction of ‘local (elements of) knowledge’ (Albert & Avenier, 2011) must not hide the necessity to communicate this knowledge, to make it ‘generic’, and then raises the question of the transmission and generalization of this knowledge.

If the validity of the project is measured according to the results of the action, the rigour of the scientific project is evaluated by the academic community which considers the coherence between the approach's description and the results obtained. A scientific approach is widely open to discussion ('conflicting plurality of opinions', Morin, 1990), which guarantees its 'ethical validity' (Girod-Seville & Perret, 1999). The case presented here aims at illustrating this approach.

This criterion of "operationality" is coupled with that of transmission (teaching/learning), which is also found in the 'practical' current (Feldman & Orlikowski, 2011). If knowledge aims at solving problems, it is necessary to show that the knowledge produced can be re-produced (according to circumstances). However, this criterion of 'repeatability' (fundamental to a positivist epistemology) is challenged by the contextual dimension of the constructivist production of knowledge. The repeatable character of the knowledge must be supported by convincing arguments if we want to redefine the scientific approach on the basis of its project and no longer on its object. This is where the notion of 'method' (understood as a guide) becomes meaningful. It is thanks to the application of the 'method' ("*What teaches to learn, that is the method*" Morin, 1977) that it becomes possible to share the scientific approach of the production of knowledge (Morin, 1990). This is major stake for the 'practical' current.

Conclusion

We tried to show on what epistemological, methodological and ethical foundations, researchers involved in the 'practical' current can rely. Our case deals with the elaboration of a 'digital strategy' within a group of establishments in the medical, social and socio-medical sector. Basing ourselves on the works on 'Strategy as Practice', we have tried to show that the elaboration of such a strategy is a 'process' rather than a 'planning' exercise. We think that this 'practical' current of thought requires an epistemological clarification implying a methodological and ethical coherence. We wanted to show that the teleological character both of strategy and research on strategy as we go leads us to question the role of the researcher, the status of the knowledge produced and the methods for creating this knowledge. The complexity of the world induces the development of a complex thought both for the strategist and the researcher who can no longer claim (a supposed) neutrality (Weber, 1994). But, relying on the works of 'constructivism', the researcher can endeavour to "*control his/her subjectivity*" by finding coherence between his/her objectives, ethics, data collection techniques and validation modes of the knowledge produced.

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