Living in the Tension - A Reflexive and Pragmatic Approach to Management Decision-Making

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Abstract:

This paper pursues our research in decision-making theory and practice going beyond our extended open systems approach. We retain the cognitive and social dimensions of decision making as well as the dynamic unfolding of the decision-making situation. In this paper, we explicitly recognize the tension between existential and intentional consciousness that animates management decision-making situations. We present an Organizational Tension Framework, in which we explicitly link the decision-making opportunity to the intentional consciousness of decision-makers, the unfolding strategic response to their reflective consciousness, and the personal and organizational development of the decision-makers to their existential consciousness. Engaging with the intentional content of the decision illuminates the decision-maker, so that management decisions, which are in a sense ongoing commitment of resources to actions perceived as likely to lead to desirable outcomes, are at the same time personal and organizational growth opportunities. The unfolding strategy can be narrated as a recursive rational recollected recognition of the context of an evolving decision-making situation. In this paper we note that this may be done using different and complementary representation formalisms including strategy maps and contextual graphs, both of which serve as decision support tools. (190 words)

Keywords: Context, Consciousness, Cognition, Commitment, Justification, Trust (6 keywords)

1. Introduction

The nature of decision-making has been extensively explored within management and organizational studies; researchers address different aspects of decision-making, for example: individual v. group (Janis, 1972), normative v. descriptive (Gigerenzer & Gaissmaier, 2011; Kahneman & Tversky, 2013; Simon, 1955; Thaler & Sunstein, 2009; Von Neumann & Morgenstern, 2007), strategic v. operational (Langley et al., 1995; Mintzberg, 1976), intuition (Kahneman, 2011; Klein, 2017), emotions (Damasio, 2006), culture and social factors (Hofstede, 1984), cognitive biases (Tversky & Kahneman, 1974), decision fatigue (Baumeister & Vohs, 2004), risk and uncertainty (Knight, 2013), ethics and morality (Mill, 1859; Sen & Williams, 1982), but a holistic and integrated understanding remains elusive. One explanation for this is the lack of agreement as to the function of decision-making, on the one hand, the ends-means school (Simon, 1955) and, on the other hand, the appropriateness of ends (March & Olsen, 2004).

This poses a problem in our business school classrooms that carries over to the boardroom, and the Town Hall, when students move from peripheral to full participation in decision-making as entrepreneurs and corporate managers on the one hand and as citizens and members of a political community on the other hand. For, if one is unsure about what function decision-making serves, how is one to authentically contribute to the articulation of the common good (Hegarty & Maubrey, 2021; Tirole, 2016). The problem is aggravated by students' confusion about the role of ethics and morality in decision-making in business situations, and even whether these domains are related, as suggested by the familiar interjection "We know right from wrong, but first we want to make money". As one gets older, one should be better able to navigate these difficult challenges, better able to live in the tensions that they generate, (Aristotle is said to have claimed you cannot teach ethics to someone less than 40 years old).

As teachers in a business school, our ambition is to accelerate the learning process. We have had some success over the last twenty years in the classroom helping students bring data and ideas together in ways that prepare them for future roles in the boardroom, and in the town hall. In this paper, we pursue our research on decision-making theory and practice, and show how we go beyond the extended open systems approach presented in our first JDS paper (Hegarty & Maubrey, 2020).

We now encourage students to take a more demanding reflexive and pragmatic approach and to look for common ground (Stalnaker, 2002). Throughout this paper we use the term "reflexive" as "a particular specified version of reflective research, involving reflection on several levels or directed at several themes" (Alvesson & Sköldberg, 2017) and "pragmatic" to underline the focus on actual practice of decision-making and particular concrete contexts of use (Brézillon & Turner, 2022; Edmonds, 1999).

Our reflexive and pragmatic approach is borne out by empirical evidence from cognitive science pointing to two interrelated ways of knowing; sometimes we know things intuitively and other times we come to know things through reasoning about them, but most of the time we are using both intuition and reasoning, appropriateness and effectiveness go hand in hand (Kahneman, 2011; Mercier & Sperber, 2011; Nagel, 2023).

Our Organizational Tension Framework, illustrated in Table 2, combines strategic analysis, intentionality analysis, and interiority analysis; the first considers the dynamically unfolding nature of

decision-making situations, the second bears on the cognitive and social nature of the ongoing commitment and communal engagement that constitutes a decision, and the third throws light on the developing personal and organizational maturity of the decision-maker. For each of these we provide students with expressive representation formalisms that help them find common ground with their peers and come to a shared understanding of the nature and function of management decision-making.

Our starting point is the decision-making situation, dynamically unfolding in the reflective consciousness of the decision-maker, a situation characterized as the poles of an existential tension that draws a decision-maker to a question calling for a response. Engaging with the intentional content of the decision illuminates the decision-maker, so that decisions, which are in a sense ongoing commitments to possible actions perceived as likely to lead to desirable outcomes, are at the same time personal and organizational growth opportunities (Voegelin, 1989). We encourage students to come to a shared understanding with their peers about the unfolding of the tension in the form of a strategy. The strategy can be narrated as a recursive, rationally, recollected, recognition of the context of the evolving decision-making situation (Brandom, 1982; Brandom, 2008, 2019), and we show students how this can be done using different representation formalisms, including strategy maps (Kaplan & Norton, 2004) and contextual graphs (Brézillon, 2022; Brezillon, Pasquier, & Pomerol, 2002; Brézillon & Pomerol, 1999; Brézillon & Turner, 2022). We encourage them to consider the implications and desirability of the particular strategy for all stakeholders (Freeman, 2001). This we call strategic analysis.

Our second point is the understanding of decision-making as a cognitive operation that represents a personal commitment to a position grounded in attentiveness to the relevant data, intelligent interpretation of the emerging pattern, and reasoned evaluation of the options (Lonergan, 1967). This cognitive operation does not take place in the splendid isolation of a cartesian cogito but is essentially triadic, a coming to an understanding with someone about something (Gadamer, Weinsheimer, & Marshall, 2004). We encourage students to monitor their degree of common understanding of the situation in what we call a learning table and we find that doing this increases their confidence in their judgment (Hegarty & Maubrey, 2019). This we call intentionality analysis.

Our third point is an understanding of authenticity in the decision maker as self-transcendence (McCarthy, 2015). We encourage our students to develop discernment in decision-making (Byrne, 2016), understanding the ethical dimensions of the situation, by engaging with each other in the co-construction of what we call an ethics table (Maubrey, Hegarty, forthcoming). This we call interiority analysis.

The rest of the paper is structured as follows. In section 2, we review the relevant literature and present the Organizational Tension Framework. In section 3, we present the methodology used in a case that serves to illustrate our approach; the case (tramway route selection in Dublin) has both strategic and operational aspects. The data were collected in the pursuit of a PhD thesis by one of the authors (Hegarty, 2013). In section 4, we present our results. Then, in the last section, we discuss our contribution to theory building and practice modeling in decision-making and suggest avenues for further research.

2. Literature review: Conceptualizing Organizational Tension

Management and Organization Scholars characterize organizations according to their focus of attention, which may be the organization's resources (Barney, 2001; Wernerfelt, 1984, 1995), dynamic capabilities (Teece, Pisano, & Shuen, 1997), institutional context (DiMaggio & Powell, 1983; Meyer & Rowan, 1977), shareholders (Cheffins, 2020; Friedman, 2007), stakeholders (Freeman, 2001; Parmar et al., 2010), or systems (Le Moigne, 2005; Le Moigne, 1990b; Rosenblueth, Wiener, & Bigelow, 1943). The list is not intended to be exhaustive, just to show the wide range of interest of management and organization scholars. Furthermore, this wide-ranging scholarly focus of attention may be *recursive* since scholars may focus on the focus of attention of practitioners being studied, as is often the case for scholars of decision-making. The decision-makers studied may in turn focus on the content of scholarly attention, as is the case when reflective decision-makers reflect on the theory of decision-making as it applies to their decision-making situation. So, theory and practice are *imbricated recursively*, each mediates the other, as content and context.

As AI researchers we are interested in context, where "context" is defined relative to a "focus of attention" (Brézillon & Pomerol, 1999); context is that which bears on a focus of attention without entering into the model of the content of the focus of attention. And since the focus of attention *evolves dynamically* in any given situation, be it problem solving, decision-making, or task realization, the challenge is to find a formalism that captures *dynamically recursively imbricated* context, content, and reasoning of the agent in a uniform representation. The term "agent" in AI is used to cover both persons and robots and we will return to the notion of "agents" "persons" and "selves" later. We start with a simple model of an "agent" interacting with a "world" as illustrated in Fig. 1 below.

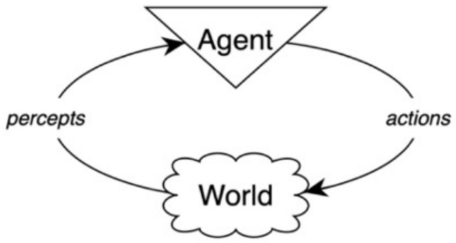

Fig. 1 A simple AI model of the world

In the light of our discussion of management and organization scholarship, in the first paragraph of this section, the simple AI model illustrated in Fig. 1 can be interpreted as showing a researcher or practitioner "agent" whose attention is brought to bear, by "percepts", on some aspect of a "world" that calls for "actions" to fulfill a goal that is exogenic to the decision-making system, a view defended by Simon (Simon, 1955) and that is at the heart of the cybernetics turn of the 1950s (Rosenblueth, Wiener, & Bigelow, 1943). However, this purely pragmatic interpretation is not acceptable to scholars of decision-making, who have in mind a decision-maker that is both reflexive and pragmatic. Simon's colleague March expresses this as a concern for the appropriateness of actions and not just their consequences (March & Olsen, 2004). Common ground is to be found in the conjunction of the reflexive and pragmatic approaches.

We propose adding a reflexive dimension to the model in Fig.1 by revisiting its implicit theories of perception and action. By understanding perception as calling for interpretation of the data (both of sense and of consciousness) the agent is responsible for the selection of data and not just a passive receptor. This is of course a normative exigency, which we justify with a transcendental argument (what must be the case for there to be cognition at all?). The argument goes as follows: all decision-making is grounded in data, if it is to be empirical (Lonergan, 1992), which does not mean that it is impersonal (Polanyi, 2015), and is mediated by intelligence, if it is to be rational, and is mediated by judgment, if it is to be reasonable, where reasons are prior to desire (Scanlon, 2000), and finally is mediated by commitment, if it is to be responsible (Lonergan, 1967, 1992). The cognitive operations, corresponding acts and are summarized with our comments in Table 1. below.

Table 1. Cognitional structure and principles of decision-making after Lonergan (Lonergan, 1967, 1992)

Cognitive Operation:	Act of:	Principle:	Comment:
Attending	Attention	Be attentive	Include all data not just sense data
Understanding	Intelligence	Be intelligent	Intelligence is seeing the pattern, pre-conceptual
Reasoning	Judgment	Be reasonable	Logic, the "whys", reasons are prior to desires (Scanlon, 2000)
Deciding	Commitment	Be responsible	Decision is a commitment manifested over time through acts

Now, by understanding action as intentional, the purpose of the decision-making system is endogenic and we move away from Simon's view where values are outside the decision-making process (Simon, 1955). The agent of Fig. 1 has become purposeful, and there is now a tension between agent and world.

But intentionality is just one aspect of consciousness, there is also the experience of the agent encountering whatever aspect of reality they focus on. This experiential consciousness is in tension with the intentional consciousness. The relations between the two poles of consciousness, corresponding to "percepts" and "actions" in the model in Fig. 1 we call *intentionality,* when directed toward the object "world" and, *luminosity,* when directed towards the experiencing subject (Voegelin, 1989)). While Voegelin coined the term *luminosity*, we emphasize that the notion that a subject's engagement with an object that is the focus of the subject's attention, illuminate's and transforms the subject, is widely held among philosophers (Gadamer, Weinsheimer, & Marshall, 2004; Lonergan, 1992; Newman, 1992; Polanyi, 2015), development psychologists (Piaget, 1968) and anthropologists who study situated learning (Lave & Wenger, 1991, 2012). Together luminosity and intentionality capture two aspects of the tension between subject and object (in Fig. 1 agent and world) that characterizes a situation in the most general terms. Using these ideas leads to a reflexive and pragmatic interpretation of the simple AI model in Fig. 1 as a management decision-making situation in Fig. 2 below.

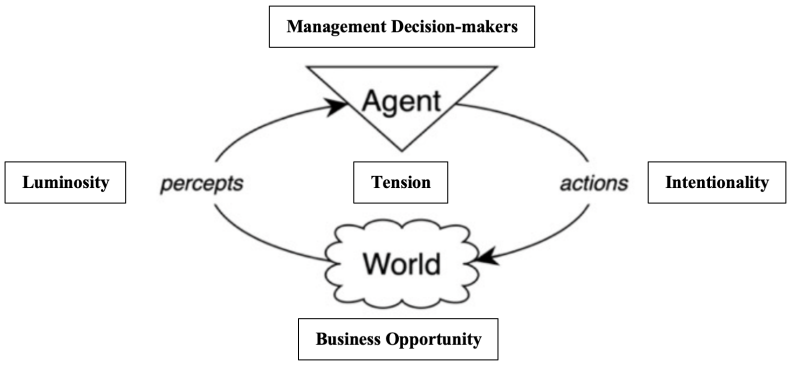

Fig. 2 A pragmatic and reflexive interpretation of Fig. 1 as a management decision-making situation

The title of this paper "living in the tension" situates decision-makers and decision-making in the tension between the current actual situation and its potential evolution under the action of the decision-maker. In Fig. 2 we situate management and organizational tension between the decision-makers and opportunities calling for a response indicated by the label "Tension". At the same time this label points to the tension between the intentionality relation expressed in actively engaging with an opportunity and the luminosity relation expressed in learning from that engagement and changing (growing or declining) as a result. We label the subjective pole "Management Decision-makers" to capture the individual and group aspects of management decision-making as well as the notion of corporate body and the attendant corporate responsibility (List & Pettit, 2011). The objective pole is called "Business Opportunity" but clearly this could also be a challenge perceived as emerging from the situation.

The third aspect of consciousness, "consciousness at a reflective distance", where the decision-maker is aware of being in the tension (Voegelin, 1989) is implicit in Fig. 2. In the case of a business, the dynamic unfolding of the management and organizational tension is narrated in the organization's retrospective rational re-collective reconstruction of its strategy and business plan (Brandom, 2019). We will return to the challenge of expressively representing the unfolding strategy later in this section when discussing strategy maps and contextual graphs.

The existential, intentional, and reflective consciousness of the decision-makers are integrated in the Management and Organizational Tension Framework presented in Table 2 below.

Table 2 Management and Organizational Tension Framework

Place	Actor (participant)	Context (existential consciousness)	Content (intentional consciousness)	Process (reflective consciousness)
Town Hall	Planner	Ecosystem/ Territory's Resources and Capabilities	Development Opportunity	Development Plan
Boardroom	Manager	Business Environment/ Organization's Resources and Capabilities	Business Opportunity	Business Plan
Classroom	Learner	Management (Discipline)/ Learner's Resources and Capabilities	Learning Opportunity	Learning Plan

The integrative framework illustrated in Table 2 must take account of the insights derived from looking at organizations in these different ways: the intentional content (that is dynamically evolving), the experiential context (of actual practice), and the unfolding process of responding to the situation (the narrative of action); these three Voegelinian states of consciousness correspond to the three familiar questions "where are we now?", "where are we going?", and "how do we get there?" The notion of organizational tension is illustrated in Table 2 below for each of the three archetypical situations mentioned in the introduction. The "what?", "why?", and "how?" questions of the last three columns are situated in a place "where?" (first column) and an actor "who?" (second column). The question of time, "when?", is implicit in Table 2 as the dynamic unfolding of the tension.

As we said in the first paragraph of this section, the content of the researcher or practitioner's focus of

attention will vary depending on the theoretical perspective being considered. The Management and Organizational Tension Framework in Table 2 can be applied to any problem-solving, decision-making, or task realization situation, not just the three archetypical ones illustrated, the classroom, boardroom, and town hall. Because of its complete generality, it serves as the stepping stone from any theoretical perspective that is purely pragmatic and quantitative to a pragmatic and reflexive approach by adding the reflexive layer, conceived as an invitation to "a *sequencing* of interpretations at deeper levels and reflections", in which the researcher is invited to consider in turn each of the approaches familiar to qualitative research, namely, the empirical, hermeneutic, critical-theoretical, or linguistic (gendered, classed, emphasizing the integral nature of power/knowledge) (Alvesson & Sköldberg, 2017).

3. Methodology: Using the Management and Organizational Tension Framework

In this section, we show how we use the Management and Organizational Tension Framework (Table 2) to find common ground between the systems approach (Le Moigne, 2005), strategy maps (Kaplan & Norton, 2001a, 2001b), and contextual graphs (Brézillon, 2005, 2022; Brezillon, Pasquier, & Pomerol, 2002).

We start with Le Moigne's model of the organization (Le Moigne, 1990a) as extended by us to communities of practice in a previous Journal of Decision Systems paper (Hegarty & Maubrey, 2020) as shown in Fig. 3 below.

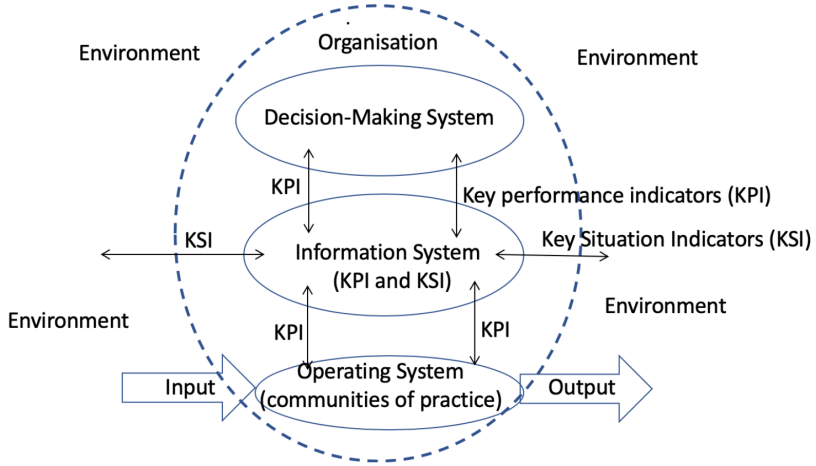

Fig. 3 Interpretation of our extended Le Moigne model of organization as tension between Decision-Making System and Operating System (Hegarty & Maubrey, 2020)

It suffices to note that the Decision-Making System mirrors Voegelin's subject, while the Operating System mirrors Voegelin's object for researchers to use this model in a reflexive and pragmatic way. This situates the subject in a context of purposeful organization of resources and capabilities and the object in a context of a particular opportunity or challenge.

We support the expression of the narrative of the unfolding decision-making tension using two different representation formalisms; the intended action (the business plan or strategy) can be visually represented as a strategy map and the realization of the strategy in practice can be represented in a contextual graph. The first is at the strategic level, the second at the operational level. The two levels mutually mediate each other and bringing the respective representation formalisms together facilitates the discovery of common ground. This supports alignment of theory and practice, on the one hand, and of strategy and operations, on the other hand.

The original Strategy Map showed four perspectives (financial, customer, internal business operations, and learning & growth), as shown on Fig. 4 (Kaplan & Norton, 2004). The logic is that the purpose of the strategy is to maximize shareholders value and each level contributes in a coordinated way. The financial level supports the maximization of shareholder value and each other level supports the level above. Each level is characterized by its goals, measures (KPIs), targets (levels of performance as measured by the KPIs), and initiatives (actions to reach the goal). Initiatives at one level become goals at the supporting level. We enrich our understanding of the strategy map by noting that it is an expression of the shared narrative of the desired unfolding of the tension between organization and opportunity.

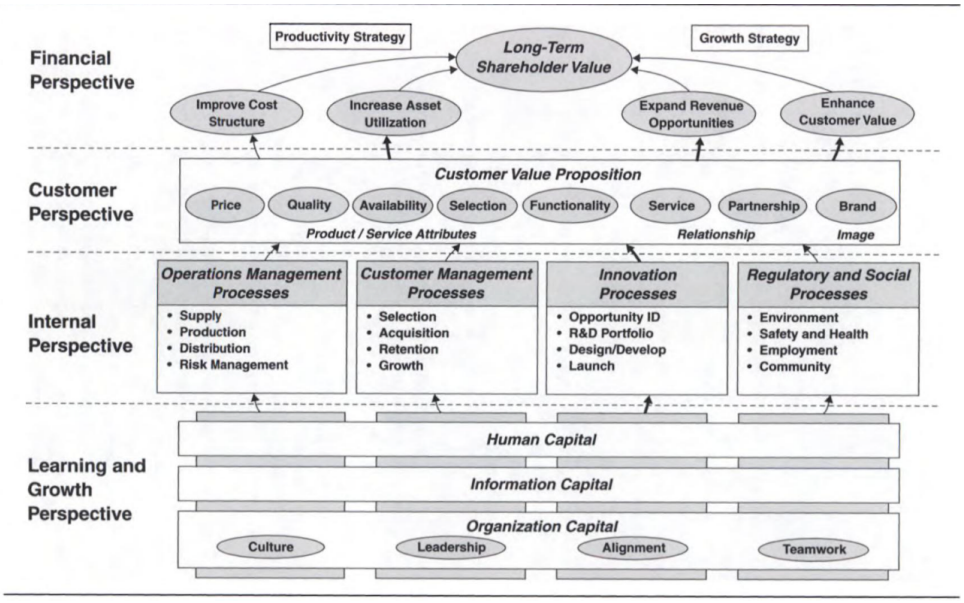

Fig. 4 A Strategy Map expressing an organization's intentions (Kaplan & Norton, 2004)

It is straightforward to go beyond Kaplan and Norton's original interpretation by incorporating Freeman's stakeholder theory (Freeman, 2001) and Gadamer's idea of community (Gadamer, Weinsheimer, & Marshall, 2004) and to emphasize the shared commitment to a particular contribution to the common good but this is the subject of another paper.

Returning to Fig. 4, we see that activities are not in themselves objects, rather the description under which we aim at them is that which we call an object (Anscombe, 2000). In practice this is brought out by representing what is done and why, and we can do this using another representation formalism, a contextual graph.

The contextual graph represents activities along with the values of the contextual elements that explain the path chosen to realize the activity. An example of a contextual graph is shown in Fig. 3 below.

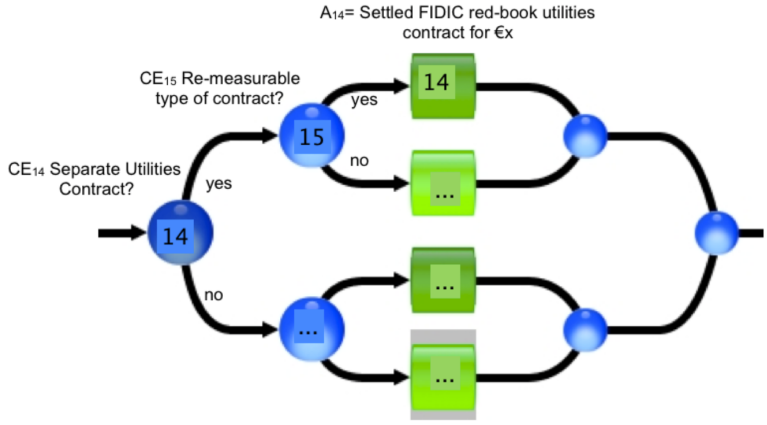

Fig. 5 A Contextual Graph actions in squares, contextual elements in circles (Hegarty, 2013)

The recursive representation formalism (activities and actions can include others, and the graph as a whole represents an activity, in Fig. 5 Route selection for tramways in a Dublin infrastructure project (Hegarty, 2013)) allows successively more detail of the activity to be represented, which is why this representation formalism is particularly well suited to the operational level. What is represented in the graph is the agent's model of the activity that guides task realization and that is enriched through experience. The evolution of the graph over time reflects the illumination of the agent that comes from intentional engagement with the object of the activity.

Over time an agent will have experience of both model free and model-based reinforcement learning (Nagel, 2023), sometimes acting out of habit (recognizing the situation) and sometimes stopping to think about

the situation (reasoning in the situation).

The CxG expresses the personal knowledge of the agent and the accompanying reasoning. It is a powerful explanation tool; reasoning in and about the situation provides arguments that justify the path taken (Mercier & Sperber, 2011).

4. Results

Management decision-making is situated and involves both structural and contextual knowledge (Wells, 1989) and we have pointed out how structural knowledge represented in a strategy map can be complemented by contextual knowledge represented in a contextual graph. But to do this in a coherent way calls for a reinterpretation of both representation formalisms; we must find common ground. To meet this challenge, we proposed a new paradigm for management decision-making which we call "living in the tension".

What we have done in this paper is to show how conjoining the reflexive and pragmatic approaches enriches our understanding of both the nature and function of management decision-making and provides common ground for a reinterpretation and integration not only of some well know representation formalisms, but of the very theories they express.

We presented the Management and Organizational Tension Framework as an expression of our paradigm and a tool to be used in the reflexive and pragmatic approach to teaching, theory-building, and practice modelling in management decision-making.

Underpinning our paradigm and framework is a theory of knowledge and context that it may be helpful to summarize here as a contribution to both theory-building and practice-modelling in management decision-making and decision support. The important distinction between contextual knowledge and proceduralized context is illustrated in Fig. 6 below (Brézillon, 2022).

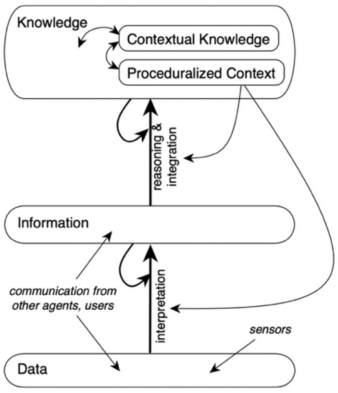

Fig. 6 Contextual knowledge and proceduralized context (Brézillon, 2022)

It is the proceduralized context that guides task realization (the unfolding of the strategy). That this is so whether it be reflective or habitual (Wood & Neal, 2007; Wood & Rünger, 2016) calls for an understanding of knowledge that goes beyond the classic "justified true belief" of traditional philosophers (Gettier, 1963). There is a new definition of knowledge as "the most general factive stative attitude" that comes from contemporary philosophers who hold that knowledge is a mental state like belief but different and more general and recognizable as such (Nagel, 2023; Williamson, 2002). This new paradigm of knowledge implies that decisions are based on intentions and what decision makers know and not on their beliefs. And insofar as the community of practice is the guardian of what counts as known for any given activity (Gadamer, Weinsheimer, & Marshall, 2004), we claim that proceduralized context is not just captured in personal knowledge but also in the shared knowledge of the community of practice.

To sum up our contribution, this paper presents a new way of finding common ground in management decision-making using what we call the Management and Organizational Tension Framework. We showed in the methodology section how this reflexive approach can be practically supported by strategy maps and contextual graphs. Together the Management and Organizational Tension Framework and complementary expressive representation formalisms constitute a package of tools that support a reflexive and pragmatic approach to management decision-making teaching, theory-building, and practice modelling.

The tension we speak of in the title is a tension between individual and community, between opportunity and current situation, between competition and cooperation with stakeholders, between ego and self-transcendence. So, living in the tension of decision-making situations provides students and decision-makers opportunities for growth in discernment (Byrne, 2016) and authenticity (McCarthy, 2015; Taylor, 1992) .

5. Further Work

Using the paradigm of "living in the tension" gives researchers opportunities to develop decision support for the common good, the theme of next year's Decision Support conference in Alicante (DSS 2024).

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