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Is ambidexterity a way of managing paradoxes?

Lessons from a multiple-case study

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ABSTRACT

Paradoxes are progressively considered as a central form of organizational management. However, their management remains unclear. Dilemma (that consists of focusing on one element of the paradox) and compromise appear to be limited. This paper explores the idea that ambidexterity could be an innovative way of managing paradoxes. To show this, it presents three case studies that illustrate the limitations of dilemma and compromise and underline that ambidextries could be a way of managing paradoxes.

Keywords: Ambidexterity, paradox, management tool, organizational change, case study.

Econlit : L10

INTRODUCTION

Paradoxes are more and more commonly accepted as one of the central forms of organizational management and an ever-richer literature attempts to analyze their various dimensions (Poole & Van de Ven, 1989; Barel, 1998; Perret & Josserand, 2003; Smith & Lewis, 2011). After postulating that a paradox can be defined as “the simultaneous presence of two mutually exclusive elements” (Cameron & Quinn, 1988, p.2), this literature has tried to reference the different types of paradox. March (1991) was among the first to identify the learning paradox that feeds on the tension between learning through exploitation (expanding the depth of existing knowledge) and learning through exploration (creating new knowledge). In a recent article, Smith and Lewis (2011) add other paradoxes to the learning paradox: the *identity* paradox feeds on the individual vs. group tension and the ensuing values and role conflicts; the *organizing* paradox expresses the tensions arising from increases in organizational complexity, particularly the ever-delicate balance between stability and change; the *performing* paradox comprises internal and external stakeholder diversity and their potentially conflicting or contradictory interests.

However, the question of how to manage these paradoxes remains unanswered. Poole & Van de Ven (1989) then Smith & Lewis (2011) suggested several ways of managing paradoxes. Managing through dilemma consists of choosing to favor one paradoxical element to the detriment of the other (Smith & Lewis, 2011). On the contrary, management through compromise seeks to find a balance between both elements of the paradox. Finally, these authors mention that it could exist a mode of management that could draw out all the positive potential of paradoxes. Poole & Van de Ven (1989) develop the idea of a management by synthesis. But neither of these authors provides solid conceptual and empirical content to support this notion.

This article focuses on the constraint/empowerment paradox found in management particularly with regard to control mechanisms (Brivot & Gendron, 2011; Hoskin & Macve, 1988; Miller & Rose, 1990; Rahaman & al, 2010). We investigate how far the notion of ambidexterity might help to operationalize an effective way of managing paradoxes. The literature distinguishes between several forms of ambidexterity. Some authors try to separate the contradictory aspects of the paradox physically, as in the case of structural ambidexterity (Tushman & O'Reilly, 1999), network ambidexterity (Gilsing & Noteboom (2004) or temporal ambidexterity (O'Reilly & Tushman, 2004). However, only contextual ambidexterity seems to really attempt to hinge the elements of a paradox together (Gibson & Birkinshaw (2004).

We try to respond to the question raised in the title of this article by presenting three case studies using management tools. The first of these, Edutel, a training organization, shows that choosing to use only the constraint dimension in the constraint/empowerment paradox of the tool (management through dilemma), is unsettling for employees and produces rather negative effects. The second case, Petro, a chemicals company, tries to make a compromise between constraint and empowerment in its skills management process; this case shows that management through compromise is also destabilizing for employees. Management using various forms of ambidexterity as illustrated by the third case study (an SME, Bio Distri) shows unlike the first two cases, that this is probably the most worthwhile perspective. Nevertheless, the discussion shows that the durability of this approach and the optimal connections between various forms of ambidexterity, remain a challenge both for researchers and practitioners.

1. PARADOXES ARE INEHRANT TO HOW AN ORGANISATION WORKS

In this first sub-section, we give some definitions of the notion of paradox before introducing different modes of paradox management. In a third sub-section, we focus mainly on the constraint/empowerment paradox.

1.1 Definition of paradoxes and their omnipresence in organizations

The notion of paradox was first used in logic and semantics (Perret & Josserand, 2003) to designate two simultaneous but contradictory statements. Unlike dilemmas or contradictions, where a choice can always be made (by hierarchy for example), paradoxes create situations where that choice is impossible.

This semantic notion was gradually used in more practical contexts through the idea of a “*pragmatic paradox*”. This “*does not situate the contradiction inside what is said (or written etc.), but in the effect produced by what is said*” (Perret & Josserand, 2003). The literature then proliferated with examples showing that paradoxes are omnipresent in organizations. Current changes in markets and technologies have reinforced this phenomenon (Lewis, 2000) but most authors end up considering paradoxes to be at the very basis of all organizations, because while on one hand organizations make use of individuals who are “*free, creative and independent*”, on the other, their objective is to keep these individuals under control (Clegg & al. 2002).

1.2. Ways of managing paradoxes

Managing paradoxes quickly became a central challenge for organizations. It is not simple because it is *a priori* impossible to simultaneously manage “*two elements that are mutually exclusive*”

The studies of Van de Ven & Poole (1989, p.567) tried hard to clarify this perspective. They identify four ways of managing paradoxes:

1. Identify the two paradoxical elements (A and B) and accept the cost of the tensions generated by their simultaneity (acceptance),
2. Deal with the two paradoxical elements at two different levels, for example micro and macro (hierarchy),
3. Deal with the two paradoxical elements at two different times (prioritization),
4. Build a new perspective that eliminates the opposition between the two paradoxical elements (synthesis).

By identifying these different ways of managing paradoxes, Van de Ven and Poole (1989) underline the necessity of distinguishing between contradiction and paradox. Contradiction appears when two elements are difficult to reconcile. When it is possible to get these two elements to run together by prioritizing them in time, or dealing with them at different hierarchical levels, such a case corresponds to a contradiction (Barel, 1998). Strictly speaking, paradoxes cannot be resolved in the same ways as contradictions. The elements of a paradox are mutually exclusive but they must be considered at the same level and in the same time frame. Beyond observing the existence of two mutually exclusive elements (acceptance), the only true way of dealing with paradoxes is to try to create a new viewpoint that could encompass both exclusive elements.

This is what the ago-antagonistic perspective (Bernard-Weil, 1999) tries to do. This approach distinguishes agonism from antagonism. Antagonism correspond to “*two opposing forces acting on a common receiver*”; Agonism designates cooperation between these two opposing forces (Bernard-Weil, 1999, p.107). The theory of ago-antagonistic systems is not limited to analyzing only the cooperation or opposition between antagonistic forces. It envisages all possible “*types of balance and imbalance that could arise between these couples*” (Bernard-Weil, 1999, p.115). This approach suggests a few concrete ways of dealing with ago-antagonistic couples. One of these is “*constituent division*” that “*prohibits all direct contact between the couple’s two opposing poles that would risk a short circuit.*” It also prohibits any attempt at “*synthesis, or any preferential order between the two forces of an ago-antagonistic couple*” (Bernard-Weil, 1999, p.115). But it is clear that these first elements of analysis are not sufficient to constitute a true mode of managing paradoxes.

More recent authors (Smith & Lewis, 2011; Clegg & al. 2002; Lewis, 2000) thus still suggest modes of paradox management not far removed from those proposed by Van de Ven & Poole (1989):

- Firstly, they propose making a choice between one of the two poles of the paradox (*Management by dilemma*).
- Then they propose trying to compromise between the two poles of the paradox (*management by compromise*).
- Finally, they consider that organizations must try to get the best from the “*positive potential*” of paradoxes.

This last possibility is the most attractive but remains little practiced. The authors evoke the notion of ambidexterity as a possible means to operationalizing paradox management. In this article, we intend to take this reflection further in order to see whether the notion of ambidexterity could constitute a mode of paradox management when applied to the tension between constraint and empowerment.

1.3. Constraint/empowerment in control mechanisms

There are so many paradoxes in organizations that to be clear, we find it necessary to focus on managing only one of these. Since it is particularly significant in organizations, we have chosen to deal with the paradox of management control that simultaneously constrains and empowers (Brivot & Gendron, 2011; Rahaman & al, 2010).

This paradox has in fact been studied in management control literature. Authors in this discipline, sometimes inspired by Foucault (1976), rapidly identified the disciplinary dimensions of control processes. They underlined how far these processes manage to make individuals and their actions transparent (Coopey & McKinlay 2010).

However, at the same time, this research observed that control mechanisms create resistance in actors. In *The history of sexuality. The will to knowledge*, Foucault (1976) writes, “Where there is power, there is resistance” (p.125). Certain studies even highlight that beyond inciting resistance, control mechanisms also contribute to create empowering know-how, that is, knowledge that is unknown to the designers of the control system; such knowledge enables

users to redefine the rules of how the mechanism is applied, making it produce unintended effects (Townley, 1994; Brivot & Gendron, 2011).

This article proposes the idea that the different forms of ambidexterity appear to be a solution for managing the paradox between the constraining and empowering dimensions of control mechanisms.

2. CAN AMBIDEXTERITY MANAGE THE CONSTRAINT/EMPOWERMENT PARADOX?

Tushman & O'Reilly (1996) highlighted that innovating organizations face a paradox. They can either explore new opportunities or exploit already existing capacities. Exploitation and exploration are very different approaches; they correspond to what are often highly contrasting aims, time frames, ways of managing risks and allocating resources as well as to different types of activity and organization (Gupta, Smith & Lewis, 2006). Tushman & O'Reilly (1996) proposed the concept of ambidexterity to describe and analyze the processes initiated by organizations that tend to explore and exploit simultaneously. These “*ambidextrous*” organizations are particularly efficient because they are both competitive in mature markets and innovative in terms of product development for emerging markets.

Structural ambidexterity is based on the organizational separation between exploitation and exploration (Tushman & O'Reilly, 1999). For example, in a firm, one profit center takes charge of exploration while another deals with exploitation. With suitable management, this structural ambidexterity can be particularly effective (Collinson, 2001; Dhifallah & al. 2008).

Noteboom (1999) then Gilting & Noteboom (2004) and O'Reilly & Tushman (2004) pleaded for “*temporal* ambidexterity” where alternate periods of exploitation and times for exploring new opportunities are undertaken by the same employees in the same firm.

Finally, Mc Namara & Baden-Fuller (1999) proposed the concept of *network* ambidexterity to account for situations where exploitation and exploration are reconciled externally via a

network of companies: in a given sector, large firms focus on exploitation while small ones innovate through exploration.

These three types of ambidexterity have been discussed by Gibson & Birkinshaw (2004) who consider that it is more efficient for both activities to be carried out in the same units by the same people. These authors thus plead for what they name *contextual ambidexterity*. This corresponds to a new behavioral (not structural) skill consisting of aligning the organizational context in the short term and adapting it over the long term, so that exploration and exploitation may both work simultaneously (Simsek & al., 2009).

These different forms of ambidexterity and the notion of organizational paradox are very closely related. This close relationship is explicit for some authors, for example Gibson & Birkinshaw (2004) mention the fact that ambidexterity goes hand in hand with a way of thinking directed towards managing paradoxes. But above all, the different forms of paradox management are very close to the different types of ambidexterity. Structural, temporal and network ambidexterities that separate exploration and exploitation physically or over a time frame, can easily be connected to paradox management by dilemma (when they are separated) and then by compromise (when they are managed conjointly). *Organizational* ambidexterity approaches true paradox management because it aims to carry out simultaneously two activities that are mutually exclusive.

Focusing on the constraint/empowerment paradox, we now present three case studies. The first two show that paradox management by dilemma (choosing one of the two elements) and by compromise (trying to reconcile both elements) appear to be highly limited and do not succeed in really managing the paradox. On the contrary, the third case shows that mobilizing different forms of ambidexterity constitutes a particularly interesting means of operationalizing *paradox management* that deals effectively with the constraint/empowerment paradox.

3. METHODOLOGY

The phenomenon we studied is complex and little known. The role played by different forms of ambidexterity in managing the constraint/empowerment paradox is currently under exploration. In this situation, it is recommended to adopt a qualitative approach (Ragin & Becker, 1992). Indeed, this methodology enables us to grasp the meaning actors ascribe to their actions (in this case, managing paradoxes), and lets us question to many of the actors concerned in depth.

3.1. Data collection

In order to show the phenomena we are analyzing more clearly, we chose to carry out a comparative case study (Eisenhardt, 1989). We introduce and compare three case studies showing different ways of managing the constraint/empowerment paradox; the first case favors management by dilemma, the second management by compromise. Observing the limits of these modes of management, we then introduce the case of an SME that proposes more innovative modes of managing this paradox by exploiting various forms of ambidexterity.

The data in these three case studies (named E1, E2 and E3 in the rest of the article) were gathered from documentary sources and semi-directive interviews (table 1).

	Edutel (E1)	Petro (E2)	Bio distri (E3)
Documents	Strategic plan until 2018; assessment reports (on the organization's development); accounting and financial results for each site; press releases, main texts on internal job management; internal communications etc.	Documents introducing the firm in general; social audit; declaration n°2483 namely « <i>participation in developing continuous professional training</i> » (summary of amounts allocated to training); main texts on internal job management; internal communications etc.	Annual reports; Press releases; Business plans; Documents introducing the firm in general; main texts on internal job management; internal communications etc.
Semi-directive interviews	45 semi-directive interviews Actors questioned: CEO as prescriptor of the process, General secretary as key project player, current HR Director, job managers, Site directors, department heads on various sites, trade union delegates.	19 semi-directive interviews Actors questioned: Plant director as prescriptor of the process, change manager (from the HR department, entrusted with designing and implementing the tool), HR Director in place when the tool was designed, current HR Director, head of maintenance department (supervising foremen), foremen of maintenance teams (supervising technicians) (3), maintenance technicians (9), trade union delegates (2)	8 semi-directive interviews Actors questioned: CEO, Administrative and financial director, General secretary, HR Director, Management controller, head of logistics, head of quality

Table 1. Data collected

The documentary study enabled us to gather the main formal information on the organizations concerned: history, main key figures etc. Next, semi-directive interviews were carried out. These are essential in order to analyze phenomena in context from the viewpoint of the different actors involved (Stake, 1994). Further in the text we give extracts from the

interviews mentioning the function of the person cited after the quotations. The real names of the companies have also been purposely omitted for reasons of confidentiality. Triangulating the data enabled us to show up the underlying logic of the tools' design and use, and to identify their main characteristics and structuring elements (Hlady-Rispal, 2002).

Concerning E1, the Edutel training center, the study centers on the deployment of control tools that were rolled out along with the firm's profound organizational reform. We carried out 45 interviews of 1 hour to 1h30 each with all actors who designed and implemented this organizational change. We met the CEO, the General Secretary, the job directors (pedagogical design, marketing, HR, finance etc.) and, on the sites involved, the site directors and department heads.

For E2, the Petrochemical firm, the study concerned a skills assessment tool implemented in the firm's maintenance department. We interviewed all the types of actors who had a role in the design and use of the tool (change manager, plant director, HR Director, head of maintenance, team foremen, technicians and trade union delegates)

For E3, the SME Bio Distri, the study concerned the hyper growth trajectory of this company. This is a retrospective longitudinal case study. The firm's main actors were interviewed (CEO, Administrative and financial director, General Secretary, HR Director, Management controller, Head of logistics, Head of quality).

These interviews were systematically recorded and transcribed. In order to limit *ex post* rationalization bias inherent to all retrospective processes, the interviews were crossed with multiple secondary data (annual reports, press releases etc.).

For these three cases, the data were analyzed in two stages. The first aimed to construct a narrative of the case under study in order to understand the dynamics at work. The second

consisted of analyzing the data thematically in order to interpret this dynamic. Emerging themes were integrated during the coding phase.

3.2. The organizational dynamics studied

E1, the Edutel training center, underwent a profound reorganization that resulted in the development of new management tools, particularly reporting. Edutel is mainly made up of specifically allocated State employees. The firm has seen a constant decline in student enrolment because of the increasing number of competitors and the ease of accessing knowledge through online resources. To counter this decline, the organization engaged in a deliberate policy to design online training; this was a complete reversal of its former practice that had been largely paper-based.

Edutel employs 1000 people spread over several sites, each site specializing in a particular activity. Site managers are responsible for an average of 80 people, and rely on three or four team managers. The establishment adopted a matrix organization about one year before our study took place. Transversal functional directors (TFD) were added to the functional hierarchy (General director, vice-director, department managers).

The study was carried out as intervention-research aiming to produce an analysis that would contribute to the evolution of managerial practices in the firm. A confidentiality contract obliges us to present information in such a way as to preserve anonymity.

The problem identified by Edutel related to two aspects: first, the director thought that both site and department managers found it difficult to take decisions in line with the firm's orientation; second, he saw that his own decisions were not carried out. The development of a managerial culture was thus seen as an essential lever of change for the firm.

In the French petrochemical firm (a subsidiary of an American group), the change concerned the design of a skills management tool. This sector of activity is highly capitalistic. The cost of manpower represents only about 10% of the cost of producing a ton of plastic. Any stoppage in

the plant produces major losses. Any social innovation that would help employees to make the tools of production more reliable would have a direct effect on the company's profitability. Even if this had a cost, it was seen as worthwhile.

The plant in the study set up a laboratory for "social innovation" in the group. The Change manager responsible for making the plant innovative affirms clearly today: "*we had carte blanche*". Amongst other things, he develops a skills assessment tool to evaluate the competences of the maintenance technicians. The tool's content can be summarized as follows (see Box 1)

Components of the skills assessment tool:

1- Skills organized into two sets:

- a specific group of technical skills for each job (instrumentation, electricity, mechanics, etc.). Each technician was encouraged to accumulate several jobs (*multiskill*).

- a "job mastery" set referencing the skills common to all the jobs in the company (IT, safety, quality etc.)

2- Three ranks for each type of skill

3- Each rank earned awards the employee the collectively agreed pay coefficient immediately above his current level.

Box 1. Description of the skills assessment tool [E2]

With reference to this assessment and depending on the firm's needs and each employee's expectations, the team leaders proposed career plans for the technicians.

The E3 case demonstrates the transformation dynamic of an SME undergoing very rapid growth. Bio Distri is one of the European leaders in organic fruit and vegetables sales. The firm was created in 1987 with its headquarters in a French department (Vaucluse). In 2008 there were 220 employees and the firm saw an annual average growth rate of 20% from 2005-2009; this growth was due largely to external operations.

Three main phases can be distinguished in the firm's growth trajectory. During the first phase from 1987 to 1992 the company was marked by the militant dimension of the organic farming at a time when the organic market was still in its infancy. Growth was carried along by a steady

increase in demand rather than through the company founder's explicit aim. Indeed, the company's strategy seems to have been largely directed by outside events.

Then, from 1992 to 2001 came the wish to structure both the firm and the organic market. This desire was instigated by a dramatic event: a transport strike blocked the Vaucluse warehouse for several weeks, resulting in four employees being fired. Thenceforth, Bio Distri sought to diversify its sources of supply, its markets and clients.

Finally, from 2001 until today, the firm has engaged in a gradual effort to structure a true team of top management, officially set up in 2004. This period was also the starting point of several external growth operations that increased in momentum after an investment fund took a 51% share of the firm in 2005.

Below, we present how the three above cases illustrate different modes of paradox management, and we underline the possible role to be played by ambidexterity in managing them successfully.

4. RESULTS

The case of the training institution Edutel shows that managing the constraint /empowerment paradox by dilemma (by favoring only the constraint end of the spectrum), produces destructive and demotivating effects on the employees who undergo this type of senseless control. The case of the petrochemical company underlines that managing paradoxes through compromise leads to employees' not knowing where they stand and not knowing how to interpret the control tools in operation. Finally, although it has certain limits, the Bio Distri case shows that ambidexterities appear to be a possible way of regulating the management of paradoxes.

4.1. The limits of managing through dilemma – the Edutel case.

The Edutel case is exemplary in so far as the head office was reacting to historical situation where the firm's different sites had been highly autonomous. In reaction, they set up

organizational transformations and management tools that were all exclusively directed towards the constraint dimension of the constraint/empowerment paradox. The employees' reactions and Edutel's subsequent difficulties underline how far management by dilemma is limited. It has detrimental and destabilizing effects on the organization.

4.1.1. An organization that counted on constraint.

Previously, Edutel was organized into a headquarters and about ten relatively independent sites. The product catalogue was not really coordinated and this sometimes resulted in internal competition. Resources, synergies and information were only shared to a limited degree. The different sites took little notice of instructions from headquarters and actors from this period willingly admit the limitations of this type of organization: *"Everyone did more or less what they wanted, designing their own course catalogue. We had training courses that were in total competition with those of another site. There was no logic to it"* (Site Director).

In reaction the sites' high level of autonomy, headquarters started their reorganization by eliminating the function of site director. Instead, Transversal Function Directors (TFD) at headquarters were responsible for managing the department heads on the sites. This reorganization was destabilizing for the organization: roles were mixed up and decisions could not be made because sites found themselves with no manager to take decisions at local level. *"Not having anyone in charge of the site was dreadful and it came up in all the details: a broken radiator, leas badly cleaned toilets if there is no director, nobody takes care of those things"* (Financial director).

Faced with the numerous dysfunctions, headquarters decided to reintroduce site managers, giving them a dual role as local coordinators who were also responsible for communicating company policy. They represented the TFDs and directed the latter towards the right interlocutors; they were supposed to ensure that TFD directives were applied.

The above organizational changes were part of new strategy that had several objectives. Working groups were launched in order to modernize practices while standardizing them. The *Working on line* project should thus in the long run, have designed products suitable for online exploitation – a complete break from the previous model that produced a huge amount of paper documentation. These changes were overseen by control tools. Thus *management by objectives* was implemented for each site (and controlled by TFD).

Working from a logic of constraint, this centralization aimed to rationalize decision-making. The objective of standardizing practices resulted explicitly in removing the site managers from strategic decision making in accordance with a top-down view and a dichotomy between strategy and operations. The same centralization was applied to all budget decisions because sites did not have their own budgets; henceforth sites were asked to focus on exploitation. In general, any decision with financial consequences was taken exclusively by the TFD concerned.

4.1.2. The limits of management by dilemma

Employees interviewed seem rather critical of these management tools whose aim was to control of the sites. One head of department thus declared: “*It is top heavy, oh so top heavy! We ask questions and we don’t get answers – or too late or an answer that doesn’t answer the question*”.

Initially, employees seem to have “*played the game*” of strategic reorganization: “*On site, we took the Edutel strategic plan, we looked at the different angles and we tried to see how we could make it work*” (Site Director).

But when sharing their experience, the managers became aware of the inevitable gap between the instructions and carrying them out. The formal decision making circuit was a top down process with decisions very clearly taken at headquarters. Not only were decisions not open to discussion, but any discussion was interpreted as a sign of resistance to change. “*If decisions are contested, that means that at some point, the hierarchy has not played its part.*”

The managers don't support the decision. A decision that is taken should be discussed before it is decided, you hear such and such, but once it's decided, it's decided. That's it. We don't go into feelings, we are not trying to shoot things down or get round them etc. It's very difficult.... ”
(Vice CEO)

On one side, top management (CEO, vice CEO, TFD) sees the hierarchical line as a fluid chain of command and tends to interpret any block in the chain as a lack of loyalty or a deficit of managerial culture: *“Each time an instruction comes out, I receive a mail asking for an exception to be made after ten minutes. It is extraordinary! It happens on each and every subject. It's amazing, this capacity to either contest or try to get round everything”* (Vice CEO).

On the other side, the site and department managers consider the decision making process unsuited to local reality. The lack of any discussion results in contradictory injunctions because while on one hand the site managers' responsibility is strengthened, on the other, their room for maneuver is severely reduced.

Similarly we notice a strengthening of prescription (multiple reportings) without decisions being accepted and without their meaning being shared. Over time, mutual incomprehension or even mistrust developed: *“The sites shoot red bullets at the TFD. It's like the Guns of Navarone”* (TFD).

This case highlights the limits of the approach by dilemma. By pushing the leer of constraint to the fore, top management gets stuck in a managerial dead end. Managers submitted to multiple paradoxical injunctions are under pressure and find it very difficult to fulfill their role; the fault line between what is strategic and what is operational is at the least ambiguous and is constantly being negotiated; management tools proliferate without being fit for purpose.

4.2. The limits of management by compromise – the Petro case

The Petro case illustrates management by compromise that seeks to enable both constraining and empowering dimensions of the paradox.

4.2.1. A tool designed to encourage empowerment

The management philosophy behind this tool highlights the concept of the *plant of the future*: rewarding skills, empowerment and a limited hierarchy are seen as major factors of the firm's future performance.

To implement this *plant of the future* successfully, the change manager, HRM and the plant director together with team leaders from maintenance, designed a tool to par skills. The tool increases earnings for employees who develop skills in line with the firm's strategic plan.

The first few years of using this skills management tool were satisfactory. Employees and team leaders say today that at the time, they found this tool useful and efficient: "*The message they gave out when they hired you was exactly that they took multiskills into account (...) I'm one of those who benefitted because I had quite a lot of salary increase, and it was straight up for me. (...) "For them (the top management – authors note) it also paid off. When I am on call, they can call on me for all different jobs (instrumentation, analyzers, etc.)"* (YL, maintenance technician).

Many other verbatim show that this perception was widely shared in the company at that time. Thus, a team leader confirms: "*At the beginning, everyone was really keen on this tool. We thought that skills was a good way of motivating the guys (...)*" (Team Leader Maintenance).

Thus initially, the tool was used in a fairly empowering way, even if the logic of constraint was not entirely absent (employees could not choose to validate whichever skills they wanted). However, the tool rapidly began to be used in unexpected ways. In particular, the designers realized that they had conceived the tool to be based implicitly on a narrow range of multiskills. In other words, to have efficient teams, the firm sought employees who would be experts in just one area with fairly strong skills in one or two other jobs at most.

In fact, unlike the designers, the technicians interpreted the idea of *multiskill* its broadest sense. The first grades of each job were systematically the easiest to obtain, so in order to obtain

the highest possible level of remuneration, technicians developed skills in all jobs (including those that had little to do with the job in which they were most skilled). This broad interpretation of multiskills does not result (as the designers' narrow interpretation expected), in a virtuous circle of skills development and organizational performance. Indeed, it encourages the coexistence of skills in jobs with limited interactions between them.

This shift from a narrow to a broad interpretation of *multiskill* resulted in the tool jamming up from the third year it was in use: the development of multiskill failed to result in the improved organizational performance.

4.2.2. Management by compromise seeking a compromise between empowerment and constraint

In order to improve this situation, the tool designers narrowed down the skills framework making it more constraining. Firstly, the skills required were more difficult to obtain, but more importantly, the remuneration was thenceforth established according to the highest level obtained in one of the technical skills. This modification clearly aimed to obtain a narrower interpretation of *multiskill*.

This transformation was both rapid and profound – it was no mere revised version of the skills framework, however, it did not really produce the expected effects. The tool's dynamic once again rapidly broke down. This was because it was used in a new and unforeseen way. As underlined by XT, Maintenance team leader: *“The work group did a good job. Since there were both technicians and team leaders in the group, and they all knew the firm and its organization well, they managed to suggest grids that were more difficult to obtain but that were still acceptable to all employees.... despite this, it never took off again like at the beginning.... we remained weighed down.”*

The attempt at compromise represented by this new edition of the skills framework (The plant of the future was still part of the scheme, but no longer led systematically to pay increases;

the scheme was defined by the firm's needs) appears to a great extent limited because it resulted in the loss of the initial empowering dimension without reaching the intended objectives of increased constraint. This failure is summarized by an employee who said: *"When they reorganized the grids, it's a bit as if they lost the "atmosphere" that was there when the plant set out. The teams didn't support it in the same way...."* (ST, Maintenance Technician).

Observing that the original dynamic no longer existed, the new, recently hired HR Director decided to set up a new tool for career management. This was rather different from the one previously mentioned. The new tool was no longer meant to manage skills, but employees' potential. During an annual appraisal interview, each team leader established the "ultimate potential" of each member of his/her team. These "ultimate potentials" were supposed to be stable enough for regular salary increases to be distributed throughout an employees' career. The tool thus made no reference to employees' skills.

This radical change did not necessarily disturb the employees. They were prepared to understand that *the plant of the future* and skills based pay were no longer factors relevant for tomorrow's performance. On the other hand, the fact that both tools coexisted appeared to destabilize them. : *"With the potential, it means you don't know where you're going. They still use the grids to make assessments. Does it really serve a purpose, or is it just group hypocrisy? If everything is already decided by the potential, what point is there in pretending to talk about the skills you either have or haven't acquired during the year? Couldn't they just decide once and for all?"* (MR, Maintenance technician).

We notice here that management by compromise, using a tool that seeks to enable coexistence between empowerment and constraint, produces a destabilizing situation. Like management by dilemma, it appears highly limited as a way of managing paradoxes. However, as the following case shows, ambidexterity seems like a more efficient lever for paradox management.

4.3. Ambidextrous management – the Bio distri case.

The case of this SME shows the dialectic that occurs between constraining and empowering dimensions in a context of very strong growth. Regulating this growth and the attendant paradoxes relies on exploiting a wide variety of forms of ambidexterity.

4.3.1. A tool designed in the context of an innovating SME

This firm opted for a differentiation strategy based on innovation, personalized management of customer relations and a high standard of quality. Bio Distri thus differentiated itself from other market providers of organic fruit and vegetables by investing steadily in the different areas of the sector. Upstream, the firm supported producers on a technical (advice on organic certification processes, choice of varieties, assistance from independent agronomists) as well as financial (advances on crops) levels. Downstream, the firm advised its clients in marketing campaigns and putts, showcasing products and even advice to customers.

This strong investment in all stages of production resulted in a close relationship with clients and their needs. The CEO thus considers: *“When you do business in this state of mind, you create something in common. When I travelled, I went to my clients’ homes and they set up their caravan at my place when they came to Provence. With the producers, we have friendly discussions and a personal relationship”* (CEO, press release, 2008).

This market proximity is seized on as a way of spotting signs of weakness and taking opportunities. The direct contacts with clients in fact appear to substitute for marketing studies. This closeness can also be analyzed as a lever of client loyalty and an illustration of coherence between the internal and external image (it echoes that between directors, managers and employees).

These characteristics go hand in hand with the desire to appear as a fully-fledged institutional actor. According to the Bio Distri CEO, this is one of the major motivations behind growth; reaching a minimum critical size is from his point of view essential if you want to have any

influence on the rules of the game in this market: *“You have to have a position on the market that is strong enough to try to build up an organic market that is independent from the conventional market.”*

This desire is supported by the company’s director and company executives’ investment in numerous networks. It is also noticeable that Bio Distri executives are active in various regulatory bodies: the European Commission, the ministry of Agriculture, the Certification committee EcoCert, the presidency of the organic committee of Interfel, a professional organization for the Fruit and Vegetable sector. According to the CEO, this involvement aims to *“increase the clarity and understanding of the market » while « fighting against those from the conventional market who convert to organic”*.

4.3.2. Managing the constraint/empowerment paradox through ambidexterities

As in other organizations, the constraint/empowerment paradox exists in the tools and practices of this firm. Thus the firm’s growth results in the need to rationalize and structure the HR function. This corresponds firstly to a need for security from risks on the social level. In this regard, the HR Director is highly preoccupied by mastering and respecting the legal framework. He used a law consultant specialized in social law to make sure the firm was risk free from this point of view.

However, this structuring of the HR function has more than one significance. It is not only intended to guard against social risks. It also appears to constitute a competitive advantage, and thence as a catalyst for growth. For example, Bio Distri clearly declares its wish to capture and retain rare human resources that create value. In this perspective, the recruitment of salesmen appears to be strategic since the firm decided very early on to develop exports. Most of the sales force recruited have a sharp knowledge of the sector, having been in fruit and vegetable companies for 10 or 15 years (whether on the organic or conventional markets). The Bio Distri director himself symbolizes these resources, not only by his personal characteristics, but also

through his investment in many different networks. In this capacity, he participates in seeking norms, certifications and frames of reference that enable him and his firm to confirm their legitimacy vis a vis their stakeholders (clients, suppliers, financiers etc.)

The manpower retention strategies at Bio Distri are based on clearly established principles: most of the contracts are permanent, there is a dynamic of internal promotion (for example the purchasing director was successively order preparer, head of order preparation, head of sales); salary scales compare favorably with market norms; the firm is rooted in its home territory; there is a strong identification with the personality of the founder. Employee retention is envisaged by company actors as a major way of maintaining client loyalty.

The directors try to perpetuate the founding cultural model along with the need for structure resulting from rapid growth and implying a more constraining logic for employees. But this paradox management is not automatic. In particular, the need for rationalization runs counter to the desire for more individualized processes necessary for retaining employees.

In fact, expanding the reach and depth of HRM practices is detrimental to the company's internal logic; the cultural model can only function with a limited number of employees. The growth of this SME created a need for rationalization and standardization of processes and simultaneously an excessive focus on the logic of exploitation: intensifying current routines risks in the long run transforming fundamental skills into fundamental rigidity, while at the same time blinding the organization to the evolution of its environment. The Bio Distri directors are acutely aware of this tension: *“For me, I still see the opposition between the perfection of the organization and the dynamic of growth. The dynamic of growth is fundamentally disorganizing. It has to be within acceptable limits or the whole thing explodes. But the organization is fundamentally anti-growth. As a matter of principle, the organization foresees everything and as a matter of principle, growth always sets the organization back because things have to be changed immediately” (CEO).*

The CEO also expresses the tension between the militant philosophy of the founding entrepreneurial spirit of Bio Distri and the need for rationalization and structure required by growth: *“Everyone who dealt with organic at that time were people who did it by conviction, but they were often not very professional in their approach.... I for one was immediately highly obsessive about the quality of products and the quality of client service”*.

Finally, in his eyes, the question of coherence between the company’s outside image and the reality of its internal management practices is fundamental: *“The question of coherence, for me, is a vital one. We say we are ecological set up North-South relationships that are as fair as possible. We also have to act that way inside the company, otherwise it doesn’t hold water.”*

Faced with the need to make tools more constraining, the various forms of ambidexterity appear as the main means for these actors to manage the constraint/empowerment paradox. Structural ambidexterity translates Bio Distri’s desire to try to preserve islands of autonomy and spaces of freedom within a structure that was becoming more and more formalized. Thus the firm sets up small units to deal with specific projects, for example to deal with the crisis facing the Belgian subsidiary. This mode of structuring is combined with seeking complementarities between employees’ profiles and competences. In this way, at Bio Distri, a group of “faithful” employees, convinced by the militant dimension of the company, coexists with another population of “mercenaries” who have a more pronounced management profile: *« For me, there are the faithful and then the mercenaries, those who come just for their CV, take what they can from the firm, and then leave. We do need them though at a certain moment, they are people who are effective because they bring a new viewpoint...the firm can’t keep only sons of producers who have kind hearts and common sense....what is difficult for Bio Distri is to manage to keep the two types working together”* (HR Director).

Temporal ambidexterity seems inherent to the very trajectory of company growth. It is marked by moments of rupture, such as when new investment fund became a major shareholder.

The competence of this fund in directing outside growth operations was a precious lever for the firm whose external growth strategy aims to guide market trends and structure an organic market that should be relatively independent of the conventional market. This new shareholder appeared concurrently with a movement to rationalize company processes, so it seemed that learning by exploitation succeeded to learning by exploration. The human resources processes appeared to be particularly strongly impacted (structuring of function descriptions, generalization of annual appraisals, reorganization of the job classification system etc.). This shift resulted in creating the HR function in 2007, in other words, two years after the investment fund's entry.

As for network ambidexterity, it seems result from the CEO's acute awareness. External growth in fact appears as a lever for capturing complementary know-how and helping the firm structure market trends: *"Choosing external growth was conditioned by the fact that you end up thinking that you will have to go into mass distribution, and we didn't know how to do that and in fact, there was a company not far from here that did only that and did it not too badly. So we bought them, because we were buying a competence"* (CEO).

This case underlines in particular the role of contextual ambidexterity, that is, to create an organizational context that is favorable to individuals themselves being ambidextrous in their everyday activities. The HR Director highlights the stability of work groups, the low turnover rate, the simple and direct relationship with the hierarchy, a deliberate limitation of using temporary labor (never more than 20% of the total of permanent employees).

Ambidexterity also seems to exist on the individual level in the director's capacity to take on a wide range of roles and be able to initiate double loop empowerment. The director himself seems to have a penchant for paradoxes: *"In fact, I like paradoxes (...../.....) when I get financial shareholders in the capital, I say to myself: we'll see what it's like – we're going right into the eye of the tiger"* (PDG).

Finally, we can see that these ambidexterities are combined with a flexible use of strategic planning processes that are used rhetorically to legitimize the actions of top management and reassure the different stakeholders: *“We are on the 5 year Business Plan but we built it because we had to have one. Because we are dealing with people who are used to having a 5 year business plan, and obviously, we make it in such a way that it is well constructed and highly credible”* (Management controller).

The Bio Distri case thus stands out by the firm’s capacity to combine a wide variety of types of ambidexterity in order to deal with the paradoxes generated by the dynamic of growth.

5. DISCUSSION

The results presented above lead to two complementary discussion threads. The first is about managing paradoxes by dilemma and compromise and the second about the capacity of ambidexterities as a solution for managing paradoxes.

5.1. Dilemma and compromise as management destabilizers

The idea that paradoxes can be managed by dilemma (that is, favoring one aspect of the paradox) or by compromise (that is, creating a compromise between the two aspects) has always been part of the thinking about managing paradoxes. Thus in 1989, Poole & Van de Ven proposed a mode of management by hierarchy and prioritization. This proposition was taken up by Smith & Lewis (2011) who proposed management by dilemma.

We find the same idea in the literature on ambidexterity. It should sometimes be possible to separate paradoxical elements via structural ambidexterity (Tushman & O’Reilly, 1999) network ambidexterity (Gilsing & Noteboom, 2004) or temporally through temporal ambidexterity (O’Reilly & Tushman, 2004) still using both of the dynamics at work.

The results from cases E1 (the training organization) and E2 (the petrochemical firm) lead us to put the relevance of these modes of management into perspective. In fact, the employees we interviewed declared above all that they found these modes of management destabilizing.

Management by dilemma is destabilizing because it denies the existence of the other aspect of the paradox. For example, the directors of the training organization maintained only the constraining dimension of the firm's reporting tools. This dimension tries to annihilate any form of empowerment or construction of specific knowledge by local actors. Since this is in fact impossible (any control tool is always systematically both constraining and empowering), employees are destabilized and this results in their no longer understanding what they are doing in the organization.

The results in the E2 case (the petrochemical firm) show that management by compromise is not much more effective. In fact there too the actors are destabilized and ask for clarification or even the creation of a new control tool. The attempt to have only one control tool that compromised between constraint and empowerment confused employees. They thus had the impression that the rules were no longer clear.

Employees' reactions in both these cases leads us to put the propositions of Poole & Van de Ven (1989) then of Smith & Lewis (2011) into perspective. If the aspects of a paradox can be prioritized (by choosing only the most important, or doing one then the other) or if a compromise can be reached between them, it is not a paradox but a simple contradiction. It can be costly and/or difficult to resolve, but a solution can nevertheless be found. The very definition of paradox supposes that both aspects are mutually exclusive. Since the tension between constraint and empowerment is a true paradox, the modes of management by dilemma or compromise cannot work: all they do is to destabilize the actors who undergo this experience.

Our results therefore argue for a fine analysis of the situations involved. When organizational tensions are only tensions, that is, when a choice or a compromise is possible between the two aspects of a contradiction, our results argue for a clear identification of the contradictory elements and an explanation of the choices made and their reasons. On the contrary, when it is

a matter of a true paradox, both these modes of management seem to a large extent counter-productive.

5.2. Ambidexterity as a relevant way of managing paradoxes

Several authors have mentioned (sometimes explicitly like Gibson & Birkinshaw 2004) the fact that ambidexterity could be a way of managing paradoxes. The Bio Distri case study that we propose operationalizes and confirms this assertion that had not previously been put into practice. We observed that the different forms of ambidexterity are probably a way of managing the constraint/empowerment paradox.

Nevertheless, our results lead us to propose a distinction between the different forms of ambidexterity. As we have just mentioned, it seems that although they all have their uses, not all forms of ambidexterity possess the same capacity to truly manage paradoxes. In fact, structural, temporal and network ambidexterities seek to separate the two aspects of the paradox either physically or over time. As mentioned above, if such a separation is possible, it probably means that the situation involved a contradiction rather than a real paradox. In such cases, it is probably wiser to present the contradiction for what it is and to apply modes of management devoted to managing such contradictions rather than applying modes of paradox management. From this viewpoint, only contextual ambidexterity, that attempts the simultaneous management of both aspects of the paradox, seems to be a true way of managing paradoxes.

CONCLUSION

This article posed the question of the capacity of different forms of ambidexterity to constitute a mode of managing paradoxes. Two main conclusions can be drawn from the three cases presented. The first is that managing paradoxes by dilemma (choosing one of the aspects of the paradox) or by compromise (attempting to make a compromise between two mutually exclusive aspects) appear as very nearly impossible. They destabilize employees who, seeing the paradox, fail to understand why it is managed in the same way as a simple contradiction. The second is

that the different forms of ambidexterity appear as possible alternative ways of managing a paradox such as that between constraint and empowerment inherent to all control mechanisms.

These results must however be understood relative to the limitations of case studies. They seem completely valid for the cases in this study, but their generalization remains to be established. We hypothesize that these cases are exemplary for average sized structures that are undergoing transformation processes close to those we have described (SME in a phase of rapid growth). To increase the generality of these results, it would be necessary to replicate the study in other activity sectors.

In general, this study shows that the analysis of the role of ambidexterity in paradox management constitutes a particularly interesting and promising research avenue. In fact, many questions remain to be refined. For example, we have shown that contextual ambidexterity appears to be the most pertinent for managing paradoxes. However we can wonder about the relevance of linking the different types of ambidexterity. It is thus possible that structural, temporal or network ambidexterities constitute true resources for multiplying the efficiency of contextual ambidexterity when working together with the latter. Seeing how the different ambidexterities can be articulated together thus seems to be a research avenue that should be investigated. In the same way, the situation described in the SME Bio Distri appears as neither very stable nor necessarily durable. The question of finding an enduring mode of managing paradoxes by different forms of ambidexterity also constitutes a particularly stimulating perspective for future research.

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