

ORIGINAL RESEARCH ARTICLE

If You Want to Go Fast, Go Alone; If You Want to Go Far, Go Together. In Favor of a Partnership Approach to Directors of Incubators' Dynamic Managerial Capabilities

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Abstract

On the cusp of the 2000s, the incubation industry had started to become competitive after 20 years of stability. The question of adapting incubators to this turbulent environment was now on the table. In this context, the aim of this article is to better understand the role of directors of incubators during the transformation process of their organizations. The concept of dynamic managerial capabilities is used as a means of responding to this gap. The capabilities of the directors of incubators were studied during a longitudinal multiple case study. The main contribution of this research is the partnership relationship built up by these actors to transform their organizations. The foundations of the directors' dynamic managerial capabilities (cognition, human, and social capital) are then combined with the cognition, human, and social capital of their partners to seize opportunities: new incubation models that had been the subject of resistance to change within incubators.

Keywords: *Dynamic managerial capabilities; Human capital; Social capital; Cognition; Incubator director*

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Bergek and Norrman (2008) define incubators as 'an overall denomination for organizations that constitute or create a supportive environment that is conducive to the 'hatching' and development of new firms' (Bergek & Norrman, 2008, p. 20). The latest figures indicate the presence of 7,000 incubators around the world (Lukeš et al., 2019), when there were only 2,000 in the early 2000s (Economic Commission for Europe, 2001). This growth played a key role in the development of the competitive climate (Ahmad & Thornberry, 2018). It was also accompanied by a brutal diversification in the profiles and needs of the entrepreneurs, technological progress that contributed to the dissemination of North American support practices (Lukeš et al., 2019), and a drop in the public money for financing incubators in Europe (Messeghem et al., 2018).

Since the early 2000s, researchers have observed this environment (Kim, 2021). They study how incubators adapt by mobilizing strategic management concepts. They underline, for instance, the emergence of customization strategies or the

creation of acceleration business models (Hausberg & Korreck, 2020; Vanderstraeten et al., 2016). Nevertheless, research has focused little on the processes and capabilities that lead to these transformations. The aim of our article is thus to highlight this aspect.

Hackett and Dilts (2004) state that the dynamic capabilities theory (Teece et al., 1997) is a relevant path for understanding the way incubators transform their resources and competences to better support entrepreneurs. Within this theory, we specifically make use of the dynamic managerial capabilities concept (Adner & Helfat, 2003; Kevill et al., 2021), which leads directors to 'build, integrate, and reconfigure organizational resources and competences' of an organization (Adner & Helfat, 2003, p. 1012), thus highlighting an ability for transforming their organization (Ambrosini & Altintas, 2019). The researchers indicate that these capabilities are structured by the social capital, human capital, and cognition of these actors (Helfat & Martin, 2015; Helfat & Peteraf, 2015). Thanks to these three foundations, the directors

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or managerial team play a part in sensing, shaping, and seizing opportunities, and transforming the organization (Ambrosini & Altintas, 2019). This theoretical framework seems relevant for studying incubators because the directors are the driving force behind the operational and strategic management of these structures (Ahmad & Thornberry, 2018; Kakabadse et al., 2020; Patton, 2014). Their strategic role during these organizational transformations has been studied little. This explains why our research has focused on the following question: how do the dynamic managerial capabilities of incubator directors contribute to their organization's transformation process?

To answer this question, a longitudinal, multiple case study was carried out on three French incubators from April 2016 to February 2018. The main contributions of this research are revealing the relationships between the foundations of the dynamic managerial capabilities of the directors (cognition, human capital, and social capital), and the cognition, human capital, and social capital of the partners who form the bedrock of the directors' strategic role (Ahmad & Thornberry, 2018; Kakabadse et al., 2020). This relationship is original (Adner & Helfat, 2003; Helfat & Martin, 2015; Helfat & Peteraf, 2015) and allows the actors to face up to a context of resistance to change to develop new incubation models (acceleration, coworking, hackathon, etc.).

Our article is structured as follows. The first part provides a review of the literature on incubators and dynamic managerial capabilities. The second part gives details of our longitudinal, multiple case study, while the third part presents the results of the research. The final part discusses these results and highlights our contributions.

Theoretical framework

Contribution of the incubator strategy trend

The literature that focuses on incubators traditionally studies these organizations from a managerial and operational perspective. The aim of these organizations is to manage resources to favor the survival of young businesses (Bergek & Norrman, 2008). This operational mission is assigned by the institutions that finance them and establish for them the directives for participation in local economic growth (Hackett & Dilts, 2004). Since the early 2000s, certain researchers have suggested re-orienting their definition to a more strategic perspective (Baraldi & Ingemansson Havensid, 2016). Incubators have become 'strategic' organizations, and they develop their own strategies to confront a turbulent environment (Kim, 2021; Vanderstraeten et al., 2016). Our article is firmly anchored within this perspective as a means of studying the transformations made within incubators.

Strategic management concepts are used to provide details of these transformations. The strategies studied aim to respond

to the specific needs of entrepreneurs, which goes hand in hand with the brutal diversification seen in their profiles (Boissin et al., 2009; Cambra Fierro & Pérez, 2018). These strategies particularly involve specialization (Vanderstraeten & Matthyssens, 2012) or customization (Vanderstraeten et al., 2016). In a competitive context that is intensifying, research has taken an interest in business models and shows that they have multiplied: acceleration, pre-acceleration, coworking, etc. (Arreola et al., 2021; Lamine et al., 2018). They make it possible to renew the interests of financiers, particularly in Europe where there are underlying reductions in public spending (Messegem et al., 2018). Acceleration is thus an economic development tool for public financiers as well as a means of finding young businesses in which to invest for private financiers (Arreola et al., 2021).

The internal processes and mechanisms of the incubators behind these transformations have nevertheless been studied little. The literature focuses rarely on interactions at the individual level, and the actors who bring them about. The director remains the individual most commonly cited in works that open the incubator black box (Ahmad & Thornberry, 2018; Kakabadse et al., 2020; Patton, 2014). Ahmad and Thornberry (2018) and Kakabadse et al. (2020) present two roles for this actor: (1) support for entrepreneurs and (2) direction and strategy, a role studied little. For this second role, team management, representation of the organization, and the implementation of strategic decisions are stated (Ahmad & Thornberry, 2018; Kakabadse et al., 2020), without mentioning the question of evolution within incubators. Putting the spotlight on this role within the transformation process is lacking, notably as a means of identifying the mechanisms needed to confront a competitive environment.

The dynamic managerial capabilities of incubator directors

We study this strategic role by using the dynamic managerial capabilities concept (Adner & Helfat, 2003; Martin, 2011; Kor & Mesko, 2013). Helfat and Martin (2015) state that the aim of these capabilities is to study the relationship between managerial decisions and strategic changes. Dynamic managerial capabilities are linked to dynamic capabilities theory (Kevill et al., 2021). This theory explains how, in changing contexts, organizations transform to develop performances better than those of their competitors and modify their environment (see particularly Teece et al., 1997). Dynamic capabilities are based on organizational routines that make it possible to commit to change (Teece, 2007). Research work highlights the role played by governance in the emergence of dynamic capabilities and the organization's transformation process (Augier & Teece, 2008). The director or managerial team are thus behind the strategic decisions implemented to adapt the organization "Kor and Mesko".

According to Helfat and Peteraf (2015), a capability corresponds to an individual's aptitude for carrying out an action or function in a satisfactory manner. The aptitude in question is that of directors to transform their organization in a changing context. The term 'transform' as used here refers to the strategic actions mentioned in the literature: shaping, building, integrating, extending, modifying, restructuring, or orchestrating the organization's resources and competences (see Adner & Helfat, 2003). Thanks to dynamic managerial capabilities, directors pilot the transformations that involve the resources, assets at the organization's disposition, plus the competences, the know-how of the members of the organization (Warnier, 2019).

Research focuses specifically on the foundations of dynamic managerial capabilities: the director's cognition, social capital, and human capital (Adner & Helfat, 2003; Helfat & Peteraf, 2015). Cognition refers to the ability to construct mental patterns, to reason, and feel emotions. Social capital refers to the relationships developed in the professional context. Human capital combines the knowledge and competences available, thanks to training and experience. These three foundations interact and influence each other mutually, thus structuring the director's dynamic managerial capabilities, and particularly defining managerial decisions and actions (Adner & Helfat, 2003; Ambrosini & Altintas, 2019). They allow directors to trigger transformation processes and intervene in the steps of sensing, shaping, and seizing opportunities, as well as in the step of transforming the organization (Kevill et al., 2021; Huy & Zott, 2019).

Many works focus on the consequences of just one of these attributes on dynamic capabilities and the organization (Helfat & Martin, 2015). For example, Danneels (2011) showed that the mental representations of managers (cognition) play a part in developing dynamic capabilities, thanks to the case of the company Smith Corona. Eggers and Kaplan (2009) studied the influence of managers' cognition on business transformation through the acquisition of technology.

Nevertheless, Helfat and Martin (2015) stressed the importance of carrying out research to explore the interaction between these three foundations. In this context, Huy and Zott (2019) understood the role played by emotions, an element of cognition, in the formation of the foundations of dynamic managerial capabilities. They stressed that the variety in the ways of dealing with emotions resulted in structuring the directors' social and human capital differently. Holzmayer and Schmidt (2020) studied the influence of cognition, social capital, and human capital on diversification activities in the football industry. Our research is part of this perspective.

Incubator directors' social and human capital have already been cited in several works: their social capital brings the entrepreneur into contact with the economic environment (Patton, 2014), while their human capital is the source of the

advice provided during the support process (Kakabadse et al., 2020; Nair & Blomquist, 2021). However, few works focus on cognition, particularly concerning the incubators' strategic decisions. We thus question the role played by all three foundations in the development of the directors' dynamic managerial capabilities for triggering the transformation process.

The aim is thus to answer the following research question: how do the dynamic managerial capabilities of incubator directors contribute to their organization's transformation process? Using the process presented in Figure 1 and established by the literature as our starting point, we hope to determine the specific role played by the foundations of dynamic managerial capabilities of the directors on transformations in the context of incubators. We will thus open the black box that makes up the strategic role played by these actors (Ahmad & Thornberry, 2018) in the stages of sensing, shaping, and seizing opportunities, and transforming the organization.

Methodology

To understand how incubator directors' dynamic managerial capabilities manifest during organizational transformations, our methodological choice was to focus on a multiple case study, one of the most rigorous qualitative research methods according to Eisenhardt and Graebner (2007). This method is particularly relevant for responding to questions that focus on 'how' and 'why' questions (ibid, 2007). The multiple sources of data used (interviews, observations, and documents) make possible considerable internal validity and the triangulation of data (Yin, 2013). This variety of information gives rise to very rich research carried out in depth (Adla et al., 2020). Finally, the number of cases selected increases the external validity of the research (Eisenhardt & Graebner, 2007; Yin, 2013).

Selecting the cases

The aim of this research is to carry out a 'theory elaboration' (Ketokivi & Choi, 2014): adapting an existing theoretical framework to a new context. We use the dynamic managerial capabilities framework, which has already been used, and we study how it manifests in the incubator sector, representing the new context. We focus on the characteristics of these capabilities, particularly their foundations (cognition, social capital, and human capital), as well as on the transformation stages that they provoke (sensing/shaping, seizing opportunities, and transforming the organization).

To make this adaptation, our research is localized in France. The incubation industry is characterized there by strong involvement from public institutions (Messeghem et al., 2018). Most incubators are financed through public subsidies. However, since the end of the 2000s, the number of private incubators has increased significantly. They have developed

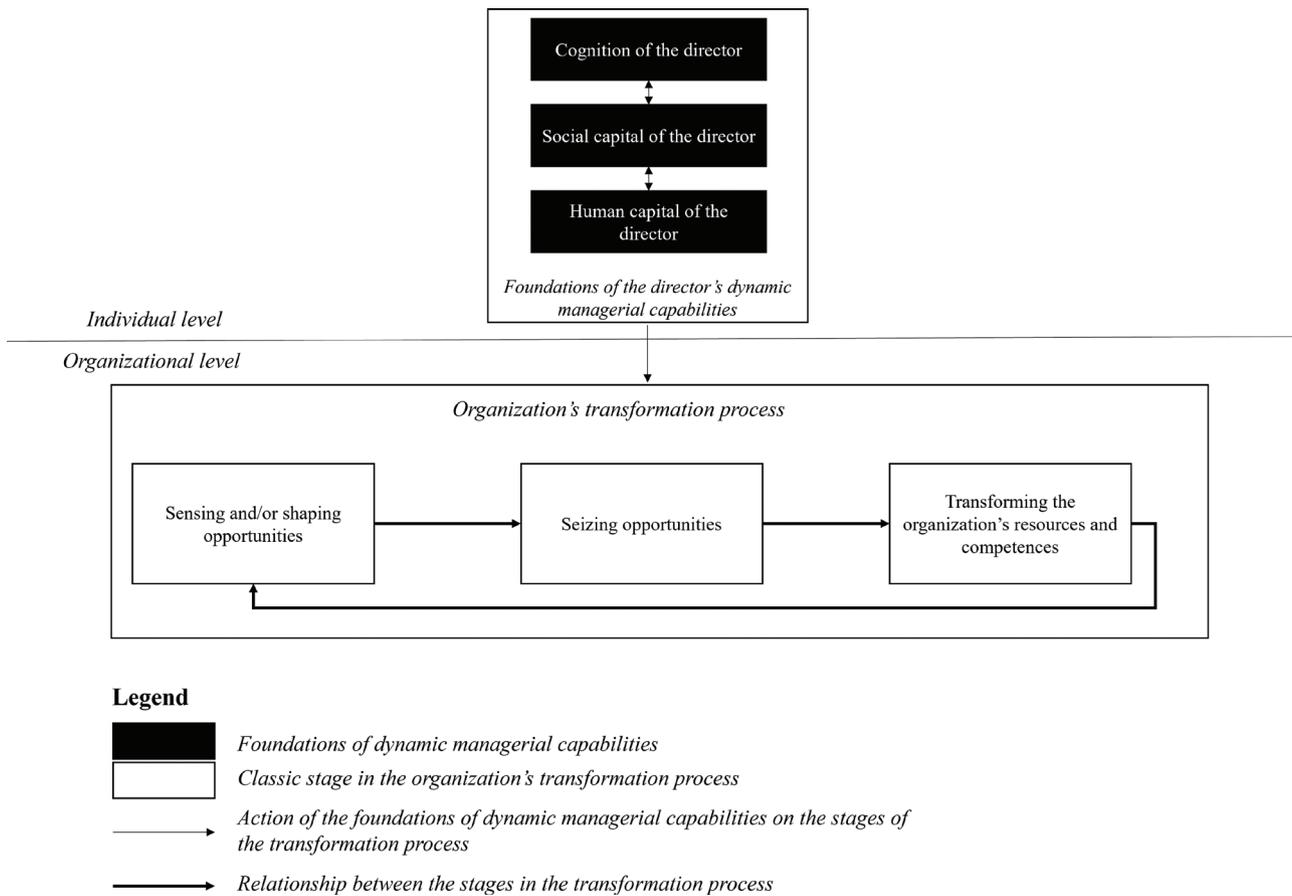


Figure 1. Transformation process for an organization guided by the foundations of dynamic managerial capabilities of the director. Source: own elaboration, based on Teece (2007); Helfat and Peteraf (2015); Huy and Zott (2019).

new incubation models, classified using the typology developed by Lamine et al. (2018). In addition to the traditional incubation created in the 1980s, Lamine et al. (2018) mention acceleration and pre-acceleration. Traditional incubation consists of support over several years provided by a team of coaches, from the emergence of the project to the development of the company (Lamine et al., 2018). Acceleration is structured around support provided over several months within batches of entrepreneurs guided by external mentors (Arreola et al., 2021), while pre-acceleration is designed as support reserved for students (Lamine et al., 2018).

As part of our research, we selected three cases of incubator. They were identified using several criteria:

1. *Diversity in practices and contexts:* we used the works by Lamine et al. (2018) as our inspiration for identifying incubators with different incubation models. The aim was to determine the common and different elements that may play a role in the development of dynamic managerial capabilities and the transformation process.
2. *Incubators that are a reference in their region:* we finely tuned our selection by retaining only incubators

recognized for their expertise in their region. We consulted the local professional press and our professional network to verify our selection.

3. *A desire for transformation expressed by the director:* the aim of this criterion was to observe a potential transformation process. We became aware of this desire during exploratory interviews carried out upstream of the case study.

These criteria made it possible to select three small-sized (two to five employees) incubators: one traditional incubator, one accelerator, and one pre-accelerator.

Presentation of the cases

The *traditional incubator* is an association created in 1988 by a political desire to develop the economy of a region in the south of France. Its longevity has resulted in locally recognized expertise in the field of support for innovative businesses. This know-how comes from a team of employees (a director, two coaches, and two assistants). The support activity takes place from 2 years before the creation of the

the current situation of the incubator (value proposition, financiers, etc.), and (3) the incubator's transformation projects.

During these interviews, we were able to mention the foundations of dynamic managerial capabilities of the incubator's director; and the cognition, social capital, and human capital of their partners. The directors effectively presented their partners the reflections undertaken with them and the network made available to develop their projects. We also discussed with some of these partners during the interviews to touch on these aspects. In total, 86 interviews lasting on average 50 min were used as materials for this research. During each immersion, six to 10 interviews were carried out depending on the amount of information available. Each recording collected was transcribed. The interviews were completed by observations noted in a logbook. A total of around 100 pages were written, with no observation grid to increase the freedom of observation. Notes were taken during support meetings, team meetings, or during the everyday activities of the employees. Internal documents and press articles focusing on the projects of the incubators were also collected.

Analyzing the data

Our data analysis was based on the 'temporal bracketing strategy' method, which is specific to longitudinal studies (Langley, 1999). It consists of identifying the phases and ruptures in the transformation process (Adla et al., 2020; Langley, 1999) (Appendices 2.1, 2.2, and 2.3, see Supplementary material). Phases are composed of a set of homogenous activities, while ruptures are events that break this homogeneity and open the way for a new set of activities. For example, we determined that the 'construction of a vision' phase is structured by activities for studying the environment and analyzing information to constitute a vision. This phase stops with the explicit refusal of the board of directors and incubator teams to adopt this vision. This analysis was made, thanks to themed coding using the software Nvivo12, inspired by the approach by Gioia et al. (2012). This approach is based on the construction of a structure of data (Appendices 3 and 4, see Supplementary material), which aims to show more clearly the links between a first level of analysis centered on the recording and a second level focused on the interpretation of the researchers.

The coding was done as follows. One of the coauthors of this article analyzed the transcribed interviews, then the observations made in the field, and finally, the documents collected. This sequential coding made it possible to take the different origins of the data into account. The material that we considered to be essential was the interviews. We used them as the basis for illustrating our results as fewer filters and biases were present than in the written documents collected by these same actors. The observations and documents allowed

us to step back in relation to the events indicated by the actors in the field.

From these materials, the coauthor conducted a first level of coding that Gioia et al. (2012) called 'first order analysis'. The aim was to define the codes as closely as possible in relation to the perceptions of the actors in the field. After this analysis stage, the same coauthor conducted a second level of analysis from the codes created, and this in relation to their own perception and the literature. The 'concepts' (Gioia et al., 2012) explored at the first level became the 'themes' in this second level of analysis. Finally, a third level of analysis made it possible to reveal aggregated dimensions: the stages in the transformation process. After this work, the other coauthor made a critique of the analyses (Gioia et al., 2012). This critique was made by reading the structure of the data with a new pair of eyes. Our analysis is presented in the results section.

Results

Our analysis highlighted a transformation process in incubators structured in six stages and summarized in Figure 3. This figure shows that the process was triggered by the foundations of dynamic managerial capabilities (cognition, human capital, and social capital) of the directors. These dynamic managerial capabilities were materialized by the directors' commitment to transforming their organization, and their foundations had the specificity of being based on the reflections (cognition), competences (human capital), and network (social capital) of the directors of public or private organization partners. We give the details of these elements as follows.

Constructing a new vision by the incubator's director

In 2016, the directors of the three incubators studied observed that their environment had changed. Their experience in the support sector (human capital) allowed them to identify increasingly strong competition, the emergence of new incubation models, or the increasing scarcity of funding. These observations formed challenges that had to be taken up to strengthen the value proposition and economic model of the incubator. The transformation processes started with a more in-depth study of certain incubation models that were emerging (co-working, FabLab, acceleration, etc.). The process was carried out by the directors and their team, thanks to events and meetings with the actors in their professional network (social capital). The director of the traditional incubator and coach 2 organized a conference on FabLabs; the director of the pre-accelerator moved with his team to incubators in Israel and Cambridge, and the director of the accelerator organized training courses on entrepreneurship for the large groups

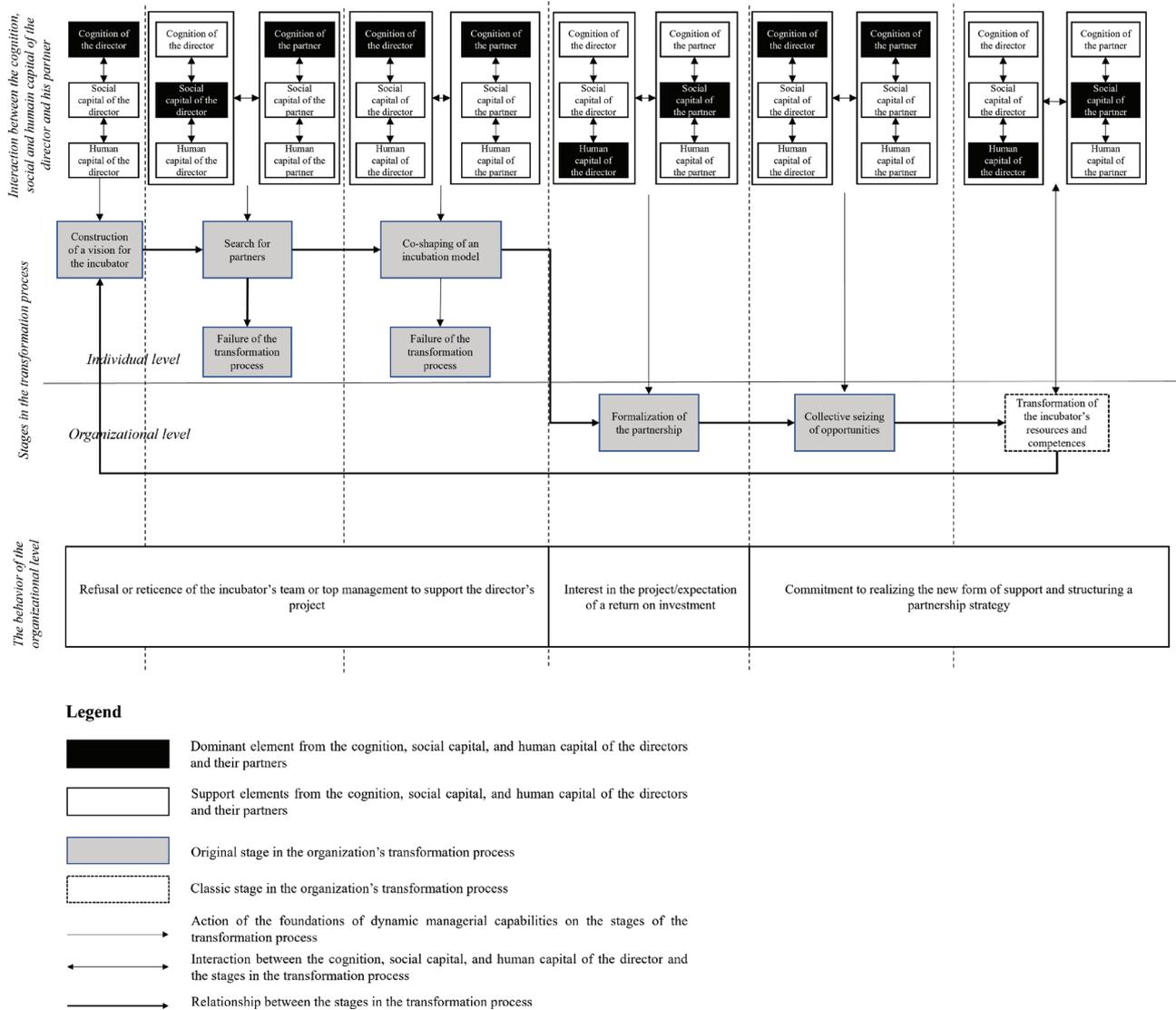


Figure 3. Transformation process guided by collective dynamics between the cognition, social capital, and human capital of the directors of incubators and their partners. Source: own elaboration

interested in business support. These experiences resulted in discussion times within the incubators, which in turn fed into the reflections of the directors (cognition). They thus construct new visions for their organization.

The director of the traditional incubator identified the importance of community coordination: 'For me, [community coordination] is fundamental, it improves support. The relation of the coach with the entrepreneur needs to be completely reviewed' (director of the traditional incubator, April 2016). This vision makes it possible to respond to the expectations of the entrepreneurs and public financiers, particularly keen on incubation models based on community coordination and events. On his return from Israel, the director of the

pre-accelerator hoped to develop an economic model based on private funds: 'What interested me was trying to generate turnover. That's my main question right now: how can we, too, be financially independent?' (director of the pre-accelerator, November 2016). As foreign incubators are experts in this field, this director hoped to capitalize on their experience to avoid the unwieldy amount of paperwork associated with using public funds. Finally, the training courses developed by the director of the accelerator allowed him to measure the degree of interest in support for large business groups: 'There is something to be done between incubators like ours and the attempts [within large business groups] to create intrapreneurs: inviting the companies to send their intrapreneurs [to the

accelerator] so they can take advantage of the incubator's network and start-up culture' (director of the accelerator, May 2016).

These visions were presented to the board of directors and team of the incubator by the directors to trigger the transformations. They nevertheless did not receive unanimous support. Within his team, the director of the traditional incubator was confronted with the refusal of the managers to develop community coordination activities, notably because of an already busy day-to-day life:

You should ask [the director of the traditional incubator], I'm not the one who manages [the coworking space]. No one's asked me to manage anything at all. [The intern] said we needed to do community coordination activities and I agreed. But I'm not the one who's going to be doing those activities, that's for sure! (Manager 2 from the traditional incubator, September 2016)

At the level of the board of directors, responsible for validating the projects of the directors, the director of the pre-accelerator was confronted with a refusal to bring his vision to life: 'In January, I asked for a meeting with [the members of the top management] for the idea that I'd had for student-entrepreneurship. I kind of threw the cat among the pigeons [...]. At the time, they told me it was a very good exercise, but that it wasn't something they could envisage' (director of the pre-accelerator, October 2017). This director made the choice to limit the involvement of coach 1 in his projects to confine his missions. He thus obtained little support from the board of directors and felt isolated. On the contrary, the director of the accelerator discussed often with coach 1. The latter was enthusiastic and wanted to play a part in the director's vision, notably by communicating with large companies. However, a lack of resources, particularly financial, and political tensions were behind the refusal of the top management to support this intra-preneur support project. We learned of this during an informal discussion with business director 1: the director was subjected to a conflict between two members of the accelerator's top management, in disagreement for allocating funds to the project.

Searching for public and private partners

In these situations of resistance to change, the directors felt defenseless. The director of the traditional incubator felt that he did not have the managerial skills necessary for supporting his team in new projects: 'The relationships, the questioning with the managers wasn't easy [concerning the community coordination activities]. Typically, we found ourselves in a change of management issue for which I was fairly unprepared at that time. That is, I don't really know how to do it, I mean, I'm not going to force them, but get them to adopt new activity tools'

(director of the traditional incubator, September 2016). The directors of the pre-accelerator and the accelerator, for their part, had the feeling that they did not have enough institutional weight to obtain validation from the top management of the incubator. To fill in this gap, they turned to their professional network (social capital). They called on external people ready to commit to their projects and capable of providing them with additional resources. During this research, the directors adopted three very different approaches. (1) The director of the traditional incubator, who had worked there for more than 20 years, was very familiar with the rules applied to the institutional context: he used two members from one of the partners, the consular chamber, which had considerable influence on the incubator's strategic decisions. The director suggested to the director of this consular chamber a project for a coworking space in 2016, and in 2017, he submitted the idea for an accelerator to an elected representative executive from a large company. (2) The director of the pre-accelerator, whose professional experience in the incubator was recent, and for whom, the institutional context was a source of tension, turned to actors within his network, all positioned within the group of public universities and schools. In 2016, he contacted the director of a doctoral school and the directors of research laboratories in the group with an idea for an open innovation program. In 2017, he mentioned a hackathon project with an executive in a large company, who was a former student at one of the schools in the group. By turning to these different actors, the director was thinking about what contribution each could bring to his projects, rather than the institutional counterweight. (3) Finally, the director of the accelerator, who had joined the incubator 3 years previously, was considering leaving his post for other professional adventures. He contacted a CEO in his network, who was one of the mentors for the accelerator, and with whom, he had developed considerable proximity. He offered him the opportunity to set up an open innovation program that this partner had imagined:

I was already doing it [providing support for open innovation], I did it from time to time with a few start-ups. When I saw an opportunity, I suggested it. Except that you really have to look for opportunities. This was thus an industrialization project [for this support] that we were going to do [with the accelerator]. (Business director 1, partner of the accelerator, November 2016)

The directors' experience (human capital) gives them legitimacy with the potential partners with whom they have their discussions. They present the projects under way based on their vision to obtain the support of these managers of public or private institutions. The partners study the directors' visions (cognition), based on their own experience (human capital) and knowledge of the expectations of their professional network (social capital):

Why choose a hackathon? It's an opportunity. We were invited to take part [...]. It has value [for us] for three reasons. First, it brings in innovative ideas. [...] Second, it's for our employees: we create an event in which they find themselves in a work situation that is very different to their usual one. [...] Third, it was also an opportunity to publicize the fact that we were organizing events with major universities. (CEO partner 1 of the pre-accelerator; April 2017)

Co-shaping of an incubation model

The interest of a partner showed in the director's vision gives rise to a phase of exchange and reflection (cognition) between these actors to adapt the idea of incubation models to the partner's expectations. Their reflections are based notably on their competences and experiences (human capital) and the expectations of the members of their respective organizations (social capital).

The director of the traditional incubator revealed, for example, the reflections made with the executive from a large company:

I met him [the manager of a large partner company] in spring 2016. He had come to see me to tell me that plant X had just closed down. On the other hand, [the large company] was making funds available for economic development. He asked me what could be done with the money. We talked and came up with several ideas together. The idea of setting up an accelerator was one. The idea was to use the money from [the large company] to launch the accelerator. (Director of the traditional incubator; May 2017)

The director's experience (human capital) was particularly useful for defining the accelerator because it was inspired by another accelerator project he had taken part in his region.

The hackathon of the director of the pre-accelerator is another example of co-creation of an incubation model. This hackathon was founded on the reflections of the director of a large partner company to train his teams in support (cognition), notably to respond to the challenges facing his profession, which he had identified, thanks to his experience (human capital), and with people that he was using to develop his reflections and play a part in the program (social capital):

[For the hackathon], we brought two things to the table: first, subjects, we brainstormed to find subjects that would be very interesting and innovative to deal with [...]. Second, we brought in experts: we made available to top quality experts, people from the company's R&D department that we brought in. (Executive from a large partner company of the pre-accelerator; April 2017)

The director's reflections (cognition) were based on his experience of putting together incubation models (human capital) and made it possible to combine the expectations of the executive, whose aim was to generate turnover; and the request for an introduction to entrepreneurship for the students

of an establishment that was part of the group of public universities and schools (social capital).

This co-construction phase closed with acts of commitment: the presentation of the coworking project to the board of directors of the traditional incubator; with the support of the director of the consular chamber in 2015, an agreement in principle from the executive of the large partner company of the pre-accelerator in 2017, or the creation of pilot committees for the incubation model for open innovation in the pre-accelerator in 2016 and for the accelerator for the traditional incubator in 2017.

The incubation model developed within the accelerator produced a different outcome. The director of the accelerator co-constructed the content of an open innovation program with business direction 1 and then left the incubator. The business director surrounded himself with a team of volunteers and tried to develop the new business model that had been imagined. Unfortunately, this operation failed, and the incubator closed in October 2018. One of the reasons was the absence of partnerships developed with a large company to obtain funds that would have made it possible to pay a team: '[CEO partner 2 and I] agreed that [the accelerator] was sinking because no one was free to work on its 100% of the time. It was a shame, but at the same time, finding talent with the budget available just wasn't possible' (CEO partner 1 of the accelerator; November 2017).

Formalizing the partnership

The commitment made by the partners led to the possibility of formalizing the partnership between the incubator and the public or private organizations that they directed. The aim was to recognize at the organizational level the work started at the individual level. Although the directors had mentioned the projects developed informally with their teams and boards of directors, an official declaration was lacking. This would make it possible to continue the projects launched and obtain the resources promised by the partners.

The directors proposed formalization mechanisms that they already knew (human capital) and that they knew were pertinent for the incubators. From this experience, they reflected on the adaptations necessary (cognition) for the projects being developed and relied on their partner (social capital) to defend them at the organizational level. During this phase, the partners followed the recommendations of the directors in terms of formalization (social capital).

To obtain the support of the traditional incubator's top management for the coworking space and accelerator projects, the president of the consular chamber and the executive from the large partner company were members of the incubator's board of directors: 'Of the members of the board [of the traditional

incubator], [the manager from the large partner company] is now the president' (director of the traditional incubator, May 2017). This institutional counterweight was the lever that made it possible to launch both projects. The status of partner was suggested by the director because he was aware of the importance of the composition of the board of directors when it comes to orienting the incubator's strategy. He thus used a standard mechanism for strategic decision-making of the organization.

As for the director of the pre-accelerator, he signed partnership agreements and service contracts to promote the support of the public and private partners in the eyes of the pre-accelerator's top management. While moving away from the standard context of a service contract, the director knew that partnership agreements were particularly popular with the top management. He was even thanked publicly at an event that we attended in 2017:

During his speech, the president openly thanked [the director of the pre-accelerator] for his commitment in front of the whole room. During our interview that week, [the director] mentioned it again with a smile on his face. He stated that the compliment hadn't been very politically correct because the president had said that he had absolutely no confidence in the possible projects before they came to life. (Logbook, October 2017)

Nevertheless, because he had moved away from the institutional framework, the tensions between the top management and the director remain. Even though the signs of interest were obvious, a return on investment from these collaborations is expected and is being monitored.

We would like to underline the importance of this stage by illustrating the failure of a project developed by the director of the traditional incubator. In 2016, this director launched into the creation of a FabLab. A relationship was established with two business directors. However, because of a lack of time, the director gradually withdrew from the project, leaving the business directors to structure it:

The FabLab was a project that slipped away from us. I went to meetings with a certain number of people, and I defended the idea that we needed to have a group of business directors to develop it. I was in contact with a business director who started to gather a few friends. I told them that I would help them. I wasn't able to be present when they put this project together, so they made contact with [an institutional actor with whom a collaboration has now been formalized]. (director of the traditional incubator, May 2017)

Collective seizing for the emergence of the incubation model

Formalizing the project triggered a work phase between the incubator and the partner organization. The teams from the traditional incubator and the pre-accelerator were involved in

the emergence of the incubation models worked on by the director and his partner, as were the teams from the partner organization. This collaboration was guided by the reflections of the directors and their partners (cognition), based on mutualization of their experience (human capital) and their professional networks (social capital). They worked with their teams to complete each stage in the construction of new incubation models: finding public and private funding, identifying the human resources required, precisely structuring the content of the programs, defining a place to welcome entrepreneurs, etc. For example, for the accelerator project, the director of the traditional incubator turned toward the use of public and private funds, thanks to his knowledge of public subsidies and the network of the executive from the large company:

[The incubator and the partner company] obtained agreements from private financiers for funding of around €100,000. We applied together for a regional subsidy of around €170,000. We received an acknowledgment of receipt. We're in the process of drawing up the specifications for the call for projects of the service provider used to run the accelerator. (director of the traditional incubator, May 2017)

During this phase, the directors face renewed interest and investment from certain employees for the tasks of implementing the incubation models, or a total rupture with other employees. Within the traditional incubator, the managers and assistants played a part in the installation of the coworking space: they received the furniture ordered, they supervised the refurbishment work carried out by the technical team from the consular chamber, and they moved their offices to set them up in the coworking space. . . . However, the tensions with coach 2 did not dissipate: this employee refused to implicate himself in the preparations for the events in the new space and felt excluded. A few weeks after the inauguration of the coworking space in September 2016, he definitively left the traditional incubator. This experience led the director and the executive from the large company to finance a service provider for the management of the accelerator. The executive launched the acceleration of a first group of 11 CEOs in September 2019. Within the pre-accelerator, the director decided to recruit interns to manage the construction of the hackathon and the open innovation support program. The aim was to allow coach 1 to focus on his already very full day-to-day work. This decision did not prevent the coach from helping the director from the margins and to stay up to date on how the projects were progressing. Furthermore, during the structuring of the hackathon, the director was gradually side-lined from the strategic aspects by the group of public universities and schools and took over responsibility for more operational aspects. The first edition of the hackathon took place in March 2017, the second a year later. Regarding the open innovation

support program, pilot meetings made it possible for the pre-accelerator and the doctoral college to launch the support in October 2017. Although the director played an active role in the construction of this program, his project was gradually transferred to the team responsible for promoting research within the group of public universities and schools.

Transformations of the incubators

Implementing projects for new incubation models led to transformation not only (1) in the resources and competences of the incubators, as well as the emergence of a strategy, but also (2) in the foundations of the directors' dynamic managerial capabilities.

At the organizational level, transformations concerned (1) the acquisition, modification, and abandon of resources, (2) the development of new competences in the field of business support for the incubator team, and (3) the emergence of a partnership strategy. For the traditional incubator, its human resources evolved with the departure of coach 2 and the hiring of a freelance to manage the accelerator. The employees benefitted from new material resources: the offices of the incubator were abandoned for the coworking space and the building that housed the accelerator. Public and private financial resources were also acquired, thanks to the coworking space and the accelerator: 'The accelerator's business model was based on public funding, which was provided by the Region and the State, and private funding, around 70% private, 30% public. It was that that guaranteed our viability' (executive of the large company, partner of the traditional incubator; January 2017). Public and private funds were also obtained by the pre-accelerator. The hackathon made it possible to manage the turnover, a first for this public structure: 'We worked with [the large partner company]. They provided us with €20,000 for the hackathon' (director of the pre-accelerator; March 2017). The open innovation support program made it possible to collect public subsidies of €8,000. The human resources also evolved: while interns were hired to support the emergence of new incubation models, the director decided to leave the incubator in March 2017 because of the tensions with the top management.

Regarding competences, the employees of the traditional incubator developed a competence close to coordination of community:

This coworking space helped us to evolve and made our work evolve. We're moving more and more into business services, I can feel it. We're contacted a lot to organize events in the space. For example, the event that took place yesterday, organized by [an association of regional businesses] is typically something that helps our profession evolve. (director of the traditional incubator 1, September 2016)

This transformation dynamic, given impetus by the coworking space and the accelerator, has encouraged the employees of the incubator to rethink their day-to-day business and develop competences of adaptation and innovation: 'We want things to progress [within the traditional incubator] and to help our profession evolve' (assistant 2 from the traditional incubator; September 2016). The director of the pre-accelerator acts in a similar way for coach 1. He was inspired by the partnerships formed, thanks to the director to develop a competence for seeking out private partners: 'I want to work with the biggest companies and to find partners to fund business support. I would like to develop these private partnerships to enhance this independent side' (coach 1 from the pre-accelerator; March 2017).

This transformation in the resources and competences made it possible to reinforce the performances of both incubators, particularly through the implementation of a partnership strategy. This strategy guarantees more long-term performances by ensuring that partners for funding the incubation model can be detected. This strategy emerges, thanks to experience in the field and trial and error: Mobilizing partners is effectively an original solution found along the way by the directors. For the traditional incubator, it materialized in 2017 with the vote of the top management to modify the statutes of the traditional incubator: 'We changed the statutes of the incubator to include the accelerator project' (director of the traditional incubator; May 2017). The aim of this transformation was to facilitate the arrival of new projects similar to the accelerator, and the inclusion of partners, notably from the private sector, in the board of directors. For the pre-accelerator, in addition to the competence developed by coach 1, the group of public universities and schools created a position for an employee with competences in managing partnerships and this, thanks to the experience of the director. The latter nevertheless criticized the unwieldiness of this system: 'There's now someone who deals with partnerships [within the group of public universities and schools]. Every project has to go through this person. This creates a bottleneck because she has priorities dictated by the direction. And the priority, it's patronage' (director of the pre-accelerator; October 2017).

At the individual level, one consequence of these processes was the transformation of the foundations of the directors' dynamic managerial capabilities. The relationships with the cognition, social capital, and human capital of their partner resulted in the enrichment of (1) the social capital of the directors: thanks to their partners, these actors were brought into contact with many professionals who enhanced their professional network. This was the case, for example, of the director of the traditional incubator during the accelerator project: 'This accelerator was created by several partners. We were five or six at the beginning. Today, there are 20–25 of us. [The traditional

incubator] was one partner out of many for the creation of the project, but it was no doubt the incubator that became the structure that initiated the accelerator' (executive of the large partner company of the traditional incubator; May 2017). For these directors, the most interesting encounters were with professionals from the private sector who could become partners in future support projects. They entered more easily into contact with them, thanks to their partners and their identifiable position as initiators of incubation models; (2) the human capital of the directors: experience of processes led them to enrich their knowledge in the field of support, particularly by developing competences in community coordination activity for the director of the traditional incubator; and the implementation of an economic model for the director of the pre-accelerator: 'Opportunities are all part of our day-to-day business. To find funding, each time, we must see what business model we can have. When you talk about business models, every event, every action has its own, original business model' (director of the pre-accelerator; March 2017); (3) the cognition of the directors: the transformation processes and their difficulties led the directors to modify their mental thought patterns and reflections. For example, thanks to his experience and partners, the director of the traditional incubator put the specificities of accelerators into perspective and recognized the capacity of a traditional incubator to be the origin of this type of format:

The partnership between [the traditional incubator] and the [partner consular chamber] resulted in [the chamber] being more strongly motivated to support us in our implementation of programs and actions for innovation. I am now convinced that a structure such as ours is capable of developing accelerators, coworking spaces, etc. just as proficiently as any private accelerator. (director of the traditional incubator; May 2017)

After experiencing tensions with the top management, the director of the pre-accelerator saw his confrontational position in a new light and understood the need for his departure:

Before, during the discussions with [the board of directors] my frontal proposals for rethinking and restructuring the incubator were systematically refused. Since my decision to leave, that seems to be the preferred scenario. It's a good thing for [the group of public universities and schools] that I'm leaving. And it's good for me too. It allows me to put things into perspective. It wasn't my ideas that were the problem, but rather my way of doing things.

Discussion

This research focused on studying the dynamic managerial capabilities of incubator directors and the foundations of these capabilities (human capital, social capital, and cognition). The

aim was to open the black box of the strategic role these actors play in the transformations of their organizations. The originality of the results lies in the relationship between the foundations of the dynamic capabilities of the directors and the cognition, social capital, and human capital of the directors of public or private partner organizations. The latter directors participate in the transformation processes triggered by the incubator directors in a context of resistance to change and increasing scarcity of resources. Together, they bring into being new incubation models that transform the resources and competences of the incubators. This partnership relationship also plays a part in modifying the foundations of the directors' dynamic managerial capabilities.

Contributions to the literature

The main contributions of this research target the literature on incubators. We propose better understanding of the strategic functioning of these organizations (Ahmad & Thornberry, 2018; Kakabadse et al., 2020). In particular, we go into further depth regarding the decision-making role played by the directors of incubators by studying their dynamic managerial capabilities. Of the strategic missions carried out by these actors (Ahmad & Thornberry, 2018; Kakabadse et al., 2020), we indicate that they are invested in defining and implementing strategic changes. They warn their boards of directors about the transformations needed and try to convince them to act if they react negatively. They also mobilize their team to initiate these transformations. In this context, they notably face situations of resistance to change, requiring managerial know-how in terms of support in the face of change, and not all directors have this skill. The importance of incubator directors having the managerial skills for dealing with change had not until now been highlighted in the academic literature (Ahmad & Thornberry, 2018; Kakabadse et al., 2020).

To face up to these situations of resistance to change and the lack of funding, incubator directors develop relationships with external partners, in the hope of finding support and continuing the transformations they judge essential. These partnerships are based notably on the relationships between the cognition, social, and human capital of both actors. This original approach allows us to study these 'relationships' formed by (1) one-way enrichment (e.g., when one of the actors is brought into contact with a member of the social capital of the other; thus increasing his own social capital), (2) enrichment that goes both ways (e.g., common discussions and reflections that enhance the cognition of both actors at the same time), or (3) criss-crossed enrichment (e.g., when the experience of one actor – his human capital – enhances the reflection – cognition – of the other).

Furthermore, although all three incubator directors developed relationships with their partners to trigger the changes initially refused by their boards of directors and the incubator teams, they did not all choose the same type of partner: (1) in certain cases, the human capital orients this choice. For example, thanks to his extensive experience in the incubator, the director of the traditional incubator was very familiar with how the institutions in which he had positioned himself function, as well as with the actors he could use to respect this framework. In other cases, (2) the social capital was the driving force. The director of the accelerator notably chose a business director he knew well and whom he trusted to try to provide a solution to the problem of a lack of funding for his structure. (3) Finally, in the last case, it was cognition that gave impetus to the selection of partners: the director of the pre-accelerator gave the matter thought and assessed as a priority the resources he needed for his projects, and then determined as a result which actors could provide them for him.

Studying the articulation between the foundations of the dynamic managerial capabilities (cognition, social capital, and human capital) of the directors also allowed us to respond to the research paths proposed by Helfat and Martin (2015) in the literature on dynamic capabilities, such as analyzing the three foundations jointly. Our approach is original because it highlights the contribution of the cognition, social capital, and human capital of the partners on the outside of the evolution in the foundations of the dynamic managerial capabilities of the directors during the transformation process: this relationship is present little in most research (Adner & Helfat, 2003; Helfat & Peteraf, 2015; Huy & Zott, 2019; Kevill et al., 2021). During the transformation processes of incubators provoked by dynamic managerial capabilities, processes structured by original stages ('structuring a vision', 'searching for partners', 'formalizing partnerships') (Helfat & Peteraf, 2015; Teece, 2007), the cognition, social, and human capital of the directors were themselves transformed, thanks to several mechanisms: (1) reflections shared with their partners, (2) meeting and making contact with third parties, and (3) personal experiences during these transformation processes. The human capital of the directors was transformed by the experiences they had during these transformation processes, structured by reflections (cognition) for implementing incubation models with their partners (social capital). The social capital was enriched by the events organized by the incubator's team, the discussions, and suggestions with their partners (cognition), which led to new contacts with their partner's network during the experience (human capital). Finally, their thought processes and reflections transformed, thanks to not only experimentation with new support formats (human capital) but also exchanges with their partners (social capital). These modifications thus show interdependence between the cognition-social capital-human capital of the actors

who work on the transformation of incubators (Adner & Helfat, 2003; Helfat & Peteraf, 2015; Huy & Zott, 2019).

Furthermore, the partnerships constructed by the incubator directors could be linked to the behavior of the contributing entrepreneurs (Béraud et al., 2013) and the active players in the construction of collaborations within the open innovation systems. We nevertheless go into this theoretical approach in depth by indicating that the incubator directors are not entrepreneurs like any others. These actors are subject to the decisions of a board of directors composed of the public or private institutions with which they must work. The directors thus act more as contributing 'intrapreneurs' (Covin & Miles, 1999).

Managerial contributions

We also discuss several managerial contributions for the incubator directors and their public financiers. First, we advised the directors to find relays outside of the incubator to support their projects. This mission consisted of anticipating possible evolution in entrepreneurial support and imagining the new incubation models to adapt to it. It led them to potentially identify the situations of resistance to change within the incubators. One solution was to mobilize the support of public or private partners. The status of these actors and the interest they might have in initiating projects form a basis for facilitating the adhesion of the members of the incubator. This support is even easier for the board of directors if the partners mobilized are well-known and involved in the strategic levels of the incubator, as well as being capable of providing funding. For the teams, solid commitment from the partners for the creation of new incubation models provides impetus for their participation. The choice of these partners furthermore had to be made strategically by the directors. To favor the success of the collaboration, several elements seemed important: (1) mutual trust and common values to allow the director and the partner to work together, (2) the organization to which the partner belongs must contribute to the incubator's mission, for example in terms of economic development, to build a common objective for both organizations, and (3) the formalization of a partnership is essential, notably taking the incubator's institutional framework into account.

Second, in relation to collaboration with these external partners, it seems to be a good idea to highlight the importance of managerial competences in the incubator directors to be able to deal with situations of resistance to change within their own organization. A training component, notably in providing support for change, was revealed by our research. The directors are the agents of change within their organization, and equipping them appropriately to conduct this very specific mission is essential. We thus suggest that the boards of

directors of incubators fund training courses for their director in this field.

Third, it seems relevant to suggest that the public institutions that fund incubators support their partnership approaches. This support can come in the form of participating in defining and implementing the partnership strategy. In terms of defining this strategy, the public financiers can orient the calls for project that they propose with, for example, the request for private co-financing or by selecting the specific support programs that bring together competent public or private actors on specific themes (inclusion, environment, deep tech, etc.). This support can also lead to the incubation industry, characterized by a wealth of actors, becoming easier to understand.

Limitations and perspectives of research

This research has certain limitations that are all possible paths for future research. As indicated in the methodology section, our research was carried out in France, where public institutions are committed to funding incubators. Our results are also specific to a context in which the public authorities are very present. To overcome this limitation, it is necessary to explore other countries in which the public sector is less invested. In addition, to study in further detail the transformations of incubators, hybrid organization concepts (Battilana, 2018) and collective intelligence (Secundo et al., 2021) are fields that seem to us interesting to explore. On the one hand, the partnerships developed allow incubators to benefit from resources and competences of public and private origins. They act like hybrid organizations to acquire and conserve these resources and competences. On the other hand, acquiring and conserving these resources are possible, thanks to the work of the incubator directors and their partners, during which they associate their efforts to attain a common goal, that is, dynamic collective intelligence (Lévy, 2010).

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