TITLE:
Development, forms and effects of governance structures for enabling sustainable coexistence of balanced institutional logics: case study in new French energy R&D collaborative organizations.

ABSTRACT:
Building on the creation of new forms of collaborative research organizations in the French renewable energy sector, this article explores which organizational governance structures are developed by hybrid organizations in order to sustain balanced institutional logics co-existence. Literature on institutional plurality and hybrid organizations highlights the importance of organizational governance structures and practices in a context of institutional plurality. However, there has been limited temporal analysis for understanding how these organizational governances develop and how these governance mechanisms affect hybrid sustainability. Based on a case study approach, findings suggest that hybrids develop different organizational governances. Contractual and hierarchical governance structures address risks related to hybrid’s multiple goals and means, but they are not sufficient to allow sustainability. Relational and heterarchical governances address risks related to hybrid’s multiple goals, values and norms. The establishment of combined organizational governances contributes to the sustainability of balanced co-existing logics in a hybrid organization. The paper contributes to literature on hybrids’ response to institutional plurality by exploring how organizational governance structures develop and how they influence hybrids’ capacity to sustain balanced logics coexistence.

KEY WORDS:
INTRODUCTION:

Back in 2009, a report ordered by the French president, pointed out the “deterioration of our external balance of patents and licenses”. The above extract analyze why France suffers from a “lack of innovation”, pointing largely to a deficit in R&D private-public collaborative efforts (“Weak linkage between public research organizations, universities and companies”\(^1\) p.13). In terms of research valuation and patents reports consider that France is doing worse than countries such as US, UK or Germany. This socially constructed “lack of innovation” influences actors’ perception of academic research vs. industrial research and increases the pre-conception of incompatibility between these two communities. The French state wants the various stakeholders in their field, to join forces.

A first investment (PIA\(^2\)) is launched in 2010. One of the initiatives is the creation of IEED\(^3\) later re-labeled ITE\(^4\). The key objective of the state is to incent academics, industrials and SME to work more closely together, by co-designing, co-owning and co-running collaborative research organizations. They are distinct from existing research organizations or programs in their field in several aspects. They need to have their own legal entity, industrials need to be shareholders and co-managers together with academics, they need to include societal objectives and state’s funding cannot exceed 50%. In 2013, this results in the creation of thirteen ITE institutes. After three years, only eight ITE institutes still exist with their label.

An institutional field is defined as “a community of organizations that partakes of a common meaning system and whose participants interact more frequently and fatefully with one another than with actors outside the field” (Scott, 1995) (p.56). We consider this definition of institutional logics as “the socially constructed, historical patterns material practices, assumptions, values, and beliefs, and rules by which individuals produce and reproduce, their material subsistence, organize time and space, and provide meanings to their social reality” (Thornton & Ocasio, 1999) (p.804). Based on these definitions, this research explores the French collaborative research energy field. Referring to a pattern matching method for qualitatively capturing institutional logics (Reay & Jones, 2015), three “ideal type” logics

\(^1\) Stratégie nationale de recherche et d’innovation (2009), Rapport Général, Ministère de l’Enseignement Supérieur et de la Recherche
\(^2\) PIA: Plan Investissement Avenir (Future Investment Plan)
\(^3\) IEED: Instituts d’Excellence en matière d’Energies Décarbonées
\(^4\) ITE: Transition Transition Energétique
emerge from the field and the data collected: state (regulatory public authorities), profession (academics) and corporation (industrial large and small companies).

Four ITE are selected in this research, two of them are still running with their label, one was dissolved start 2017 and one is still existing but without ITE label and with reduced state funding. The four ITE have three different legal forms, they have different TRL\textsuperscript{5} and different technologies, also all in the renewable energy sector.

My choice for an in-vivo case study research method fitted an interpretative approach capturing the perspectives of different participants (Yin, 2014). This method also allows process type of research, concerned with “understanding how things evolve over time and why they evolve in this way” (Langley, 1999) (p.692).

Data collected in 2015 and 2016, consists of onsite interviews, direct observations such as notes taken during board and working meetings, written reports of events, administrative documents such as progress reports and formal evaluations related to the field and PIA initiatives. 25 interviews were conducted among managers of the various ITE and representatives of the stakeholders, of which 21 recorded and transcribed. This represents 31.5 hours of recoding and 658 pages of transcription.

In order to answer my research question, I refer mainly to literature on institutional logics, complexity, plurality, hybrid organizations and to a lesser extend to organizational governance structures. Despite a growing academic interest in institutional pluralism and complexity (Dunn & Jones, 2010; McPherson & Sauder, 2013; Murray, 2010; Pache & Santos, 2010), there is still modest empirical research on structural arrangement strategies that organizations adopt to navigate institutional complexity (Raynard & Greenwood, 2014). In particular, there is little research in exploring to what extend organizational governance structures can facilitate hybrids’ sustainability.

The institutional view of governance models stands for articulated systems of meaning, explaining and justifying the proper allocation of power and resources (Fiss, 2008). They are concerned with the choices regarding the generation and use of resources between multiple

\textsuperscript{5} TRL: technology readiness level or degree of technological maturity
stakeholders (Ocasio & Radoynovska, 2016) and associated risks. The hierarchical governance based on balanced boards, votes, resources, rights and responsibilities helps collective engagement towards multiple objectives. This type of governance also meets state and corporation norms and demands, decreases pressures and increases legitimacy towards those powerful players. Heterarchical governance structures establish organized interdependencies, lateral accountability, which decreases risks of opportunism behavior and increases individuals’ engagement (Stark, 2001, 2009). They leverage organizations heterogeneity, by organizing distributed knowledge. They establish multiple systems of valuation, depending on evolving needs, which increases collective legitimacy, focuses on individuals motivation and engagement (Beunza & Stark, 2006).

This general problem and theoretical context motivate the following research questions:

*Through which progressive steps do actors establish governance structure that enables a sustainable coexistence of multiple institutional logics within a hybrid organization? How do organizational governance design and execution influence a balance between logics within a hybrid organization?*

My findings show that organizations structures, such as governance evolves through ongoing organization responses to the multiple institutional demands (Pache & Santos, 2010). During the design phase, hybrid organizations mobilize a mix of relational and contractual organizational governance mechanisms. As hybrid organizations are being created, they establish hierarchical governance structures focused on legal form, boards, votes, IP mechanisms. The organization strategy is to respond to coercive demands from most powerful actors, while securing the voice of the minority one. As these new practices are executed, challenges associated with conflicting goals and means, lack of legitimacy, perception of threats and opportunistic behavior emerge. As part of a reflective step, some hybrid organizations learn and attempt to improve their various governance mechanisms of previous governance structures and to adjust management and hiring policies. This may results in organizations’ break in case these improvements do not suffice in convincing key stakeholder(s). If this succeeds, hybrid organizations may improve its chance of sustainability, through heterarchical governance mechanisms. In this governance structure, actors depend on each other resources and co-manage projects in practice. This reduces risks associated with tensions due to conflicting goals, norms and value and increase “dissenting hybrid”, i.e. with dual balanced logics, to sustain.
Combined and evolving organizational governance can address the tensions inherent to hybrids, by balancing rights, responsibilities and by mitigating tensions due to multiple norms and values. Organizations dynamic capabilities to develop combined and evolving governance models, can represent a critical resource for maintaining balanced logics co-existence and hybrid organizations sustainability.

After defining the key theoretical concepts and explaining the case study and methodology, the current paper will present preliminary findings and discussions before concluding with short key contributions and future research opportunities.

RQ: Through which progressive steps do actors establish governance structure that enables a sustainable coexistence of multiple institutional logics within a hybrid organization? How do organizational governance design and execution influence the balance between logics within a hybrid organization?

CONCEPTUAL BACKGROUND

In order to answer the above research question, the key construct of institutional logics, complexity and plurality and governance strategies in hybrid organizations are now explored.

Institutional field, logics, meanings - institutional complexity vs plurality

The central construct of neo institutional theory has been the organizational field. The behavior of organizations within fields are guided by structures, practices, procedures from their institutional environment, in order to survive and to gain legitimacy (Meyer & Rowan, 1977). In order to understand the cognitive and cultural processes that guide field members’ behavior, researchers sought to uncover the material practices and symbolic constructions that serve as organizing templates (Friedland & Alford, 1991) and guide behaviors: institutional
orders or field-level logics. The first two institutional orders developed were the market and
the profession (Thornton & Ocasio, 1999), then markets, corporations, professions, states,
families, Christian religion (Thornton, 2004) and community (Thornton, Ocasio, &
Lounsbury, 2012).

Many organizations operate in fields characterized by the longstanding coexistence of
multiple, shared but also often divergent institutional logics, on which they draw (Greenwood,
Raynard, Kodeih, Micelotta, & Lounsbury, 2011; Kraatz & Block, 2008). For instance,
bio technological companies often combine the “market” and “academic science” logics
(Murray, 2010); and community banks incorporate the “financial” and “community” logic
(Almandoz, 2012).

However, studies report various types of tensions, for example in hybrid organizations.
Tensions can be experienced between profits and purpose or mission (Ashforth & Reingen,
2014), “commercial” and “social” logics (Pache & Santos, 2013), or between care and science
logics (Dunn & Jones, 2010). This create contradictions (Seo & Creed, 2002). When these
contradictions are too high and organizations perceive the multiple institutional logics and
demands as incompatible, this may result in paralysis or break (Glynn, 2000) or may force
organizations to focus on complying with demands from the most powerful constituents over
others (Raaijmakers, Vermeulen, Meeus, & Zietsma, 2014). In some cases, tensions between
logics can also result in shift in dominant logics. The case study of the health care system of
Alberta, adopts a longitudinal approach for identifying how competing logics were reconciled
over time and how this resulted in a shift from a previously dominant or prevailing
institutional logic of medical professionalism, to a logic of business-like health care (Reay &
Hinings, 2005). In that research, conflicts between logics are first reconciled at the
organizational level, which results in a shift in dominant logic in the field.

Facing such environment, various forms of organizational strategies are suggested: adopting,
acquiescing, compromising, avoiding, defying or manipulating strategies (Oliver, 1991).
Strategies may result in different hybrid organization, such as “dissenting hybrids” (resisting
identification with a single institutional logic) or “conforming hybrids” (identification to a
single logic) (Mair, et al. 2015). In some cases, organizations manage to overcome paralysis
or break but without taking advantage of dealing with multiple meanings, cultures and goals.
Examples of such strategies are multiple. Decoupling (a form of loose coupling) is suggested
when organizations choose to adopt a legitimating program or policy, but fail to implement some of the requisite practices (Misangyi, 2016). Another means of reconciling conflicting institutional demands can be to keep logics’ duality “continually in play over time through oscillating decisions and actions that shift power from one group to the other” (Ashforth & Reingen, 2014) (p.474).

Rather than just overcoming paralysis or breaking, organizations can manage to leverage the existence of multiple logics in their field. Recent studies (A.M. Vermeulen, Zietsma, Greenwood, & Langley, 2016; Ocasio & Radoynovska, 2016) distinguish institutional complexity from institutional pluralism. Organizations experience institutional complexity when confronted with multiple logics that prescribe divergent cultural expectations, values, understanding, and identities (Greenwood et al., 2011). The level and type of institutional complexity may depend on the degree to which the logics are compatible, the extent to which they are widely accepted and prioritized in the field, and if the level of the jurisdictional claims of the logics overlap (Raynard, 2016). But institutional plurality is the situation faced by an organization that operates within multiple institutional spheres. Various studies explored organizational strategies for turning institutional plurality into strategic opportunities and resource for action (Durand & Jourdan, 2012; Marquis & Lounsbury, 2007; McPherson & Sauder, 2013; Murray, 2010). Understanding how the same institutional pressures that threaten to divide the organization may, in some circumstances, hold it together instead is thus an interesting topic. Kraatz and Block (2008), claim that in a pluralistic environment, organizations ability to tie together disparate institutional worlds is a major source of organizational distinctiveness and competence (Kraatz & Block, 2008). The authors suggest that that collaborative organizational governance is a critical condition for sustaining. This research aims to address to explore to what extend and how governance structures of new hybrid organizations, can influence their capacity to sustain as “dissenting hybrids”.

Organizational governance within institutional plurality:

The term organizational governance is often used to refer to structures, systems and processes concerned with ensuring the overall organization direction, control. It also refers to the framework of responsibilities and accountabilities in which organization operates. These
include regulatory and reporting requirements and relations with key stakeholders (Cornforth & Spear, 2010). In this research, the definition of governance is “the determination of the broad uses to which organizational resources will be deployed and the resolution of conflicts among the myriad participants in organizations” (Daily, Dalton, & Cannella, 2003) (p.371).

Various forms of governance are proposed in this literature. Hierarchical governance models are based on contracts, formal governance structures and top-down control. Market governance models are based on autonomy and output reward to those doing the work (Makadok & Coff, 2009). If empowerment is the norm in academia, controls and authority are more common in bureaucratic and industrial logics (Chaddad, 2012). A third form of governance is called heterarchy. “Heterarchy represents an organizational form of distributed intelligence in which units are laterally accountable according to diverse principles of evaluation (...) reflecting the greater interdependencies of complex collaboration and no hierarchical ordering of the competing evaluative principles” (Stark, 2009) (p.19). Example of hybrid and intermediate governance forms between hierarchy and market are proposed, based on three dimensions: authority, ownership and incentives (Makadok & Coff, 2009). For example the organizational governance of consortium, is market-like except for having relatively weak productivity incentives.

In alliance governance literature, two different theoretical perspectives have yield insights into effective and efficient governance. The first perspective focuses on the structural design and emphasizes the importance of contracts and the second focuses on relational processes and emphasizes the importance of trust for safeguarding and coordinating alliances (Faems, Janssens, Madhok, & Van Looy, 2008). The relations between those two perspectives are also analyzed, as well as the link between trust (defined as the “expectation that an exchange partner will not behave opportunistically” (Puranam & Vanneste, 2009)(p.11) and governance mechanisms like contracts.

Governance is important to institutional plurality, in order to protects hybrid organizational from the risks of pressure from stakeholders with multiple demands and different cultures. Organizations can attempt to navigate plurality by mapping stakeholders, by balancing relative power (Durand & Jourdan, 2012), resource, goals and expectations, in order engage the multiple stakeholders to collaborative over time. Organizational governance is also critical
for ensuring the internal and external legitimacy, which can have influence on hybrid organization’s capacity to sustain (Mair, Mayer, & Lutz, 2015).

Organization governance define how it captures value (governance model) for the multiple stakeholders (Ocasio & Radoynovska, 2016). Although we have limited understanding of the processes leading to the creation of these mechanisms (Greenwood & Suddaby, 2006), they are critical for navigating multiple institutional logics. For example, they can align potentially conflicts between stakeholders with multiple objectives (Ebrahim, Battilana, & Mair, 2014) and they can signal compliance with the prescriptions of dominant logic, while ensuring the support of other stakeholders (Mair et al., 2015).

The institutional logics approach highlights how institutional logics and the cultural dimensions of institutions both enables and constrains material means and ends, such as organizational governance (Thornton & Ocasio, 2008). In that sense we can posit that hybridity influences governance structure (Cornforth & Spear, 2010). If multiple studies analyze how multiple institutional logics influence organizations’ governance strategies, limited research explores to what extent organizations structures, such as governance can facilitate the co-existence of multiple logics and influence hybrids capacity to maintain they hybrid nature and sustain.

This two literature reviews, combined with the empirical setting, motivate my research questions:

RQ: Through which progressive steps do actors establish governance structure that enables a sustainable coexistence of multiple institutional logics within a hybrid organization? How do organizational governance design and execution influence a balance between logics within a hybrid organization?

RESEARCH SETTING AND METHODS:
Based on the same public PIA criteria and simultaneously compliance process, 13 ITE were selected. Only 8 still exist as ITE today. I selected 4 ITE cases, in order to identify patterns and differences in their governance design, execution and results. They are based on the same PIA bid offer roadmap, but they have three different legal forms, different TRL\(^6\) and different evolutions since their creation. Two of them (IPVF, Efficacity) still exist with ITE label, one was dissolved after three years (PS2E) and one lost its ITE label (FEM).

I define the institutional field of these ITE and the institutional logics in which they are embedded.

In order to identify the institutional field of my research, I refer to Scott’s definition of a field (Scott, 1995). The field at stake is the collaborative research organizations in the French energy sector. Players include French large industrial energy companies, SME providing specific services and technologies related to energy sector, private and public academics research organizations, public consortium and associations, regulatory agencies involved in the energy sector (either at regional, national level). The French energy field is dominated by few industrial actors with high legitimacy and by a prescriptive state in the energy sector. However, the field studied in this research counts a multitude of collaborative arrangements, characterized by dual institutional logics, each of them with a dominant or prevailing logic (corporate or professional).

In order to identify the underlying institutional logics at stake in this field, I refer to a pattern matching method for qualitatively capturing institutional logics (Reay & Jones, 2015). It consists of referring to “Ideal type” logics (Thornton & Ocasio, 2008) and I compare them with the data collected to deduce the logics at stake.

Data were collected in 2015 and 2016 and consist of onsite interviews, direct observations such as notes taken during board and working meetings, written reports of events, administrative documents such as progress reports and formal evaluations related to the field and PIA initiatives. As of today, 25 interviews were conducted among managers of the various ITE and representatives of the stakeholders (state, large industrial, SME, academics and experts in this field). They include twenty-one recorded and transcribed, which represents

\(^6\) TRL: technology readiness level or degree of technological maturity
31.5 hours of recoding and 658 pages of transcription. Among the 21 interviews and for triangulation purpose, 2 of them refer to managers of non ITE collaborative research organizations. Further interviews shall follow, as the paper will be further developed.

My choice for an in-vivo case study research method was motivated by multiple criteria. First its fits the multiple sources data and the “why” and “how” explanatory questions (Yin, 2014), which embrace an interpretative epistemological orientation, capturing the perspectives of different participants. Second, this method also allows an element of process oriented type of research, concerned with “understanding how things evolve over time and why they evolve in this way” (Langley, 1999) (p.692). This method allows also to perform both single and cross-case analysis, to bring about similarities and differences between ITE governance designs, executions and results. Data reveal that two of the ITE lost their ITE label or stopped. As the two other ITE still develop, it is difficult to predict for how long they will sustain with dual balanced logics. However, we refer to the various stakeholders’ comments regarding trust of the hybrid future, shared identity and increasing reputation to assume that hybrid’s sustainability is likely to continue over time.

Based on the previous definition of governance considered in this research, the analysis will be focused on two main dimensions: mechanisms within the four ITE:

- To determine how the organizational resources are used to move the organization forward
- To resolve conflicts between the various stakeholders and incentives to motivate the various players to collaborate.

DATA ANALYSIS, FINDINGS:

“(In the French Partnership research field), public research and private research are only too weakly connected. This is one of the weaknesses of France, which other countries, such as Germany, have managed to circumvent. At stake? Feeling hoaxes in some, fear of a distance that would be more and more difficult to fight in others, and which may go so far as to call into question the very idea of the legitimacy of fundamental research, "too onerous" And "unnecessary". "The most developed countries are able to file large numbers of patents and to
combine high-level interdisciplinary skills on the same site, combining higher education, industrial research and development": it is clear from this observation that the Investment Plan D'Avenir (PIA) has sought to stimulate the development of a so-called "partnership" research that works hand in hand with public and private organizations". (Rocard, 2014) (p.41)

Institutional field and logics: ITE specificities:

This research explores the institutional French collaborative research energy field. Three “ideal type” logics emerge from the field and the data collected: state, profession and corporation. The dominant groups of these logics are respectively: regulatory public authorities, academics and large and small industrial companies.

Potential tensions due to multiple objectives, goals and norms are highlighted by both academics and industrials:
- "The duality of cultures and objectives really exists, and even it arises. Thus, "do I have best interest in making a record and increase my reputation in a scientific committee, to exist on the big academic community, whereby the name IPVF would be distinguished, or is it better to concentrate on a less visible technique, but which will address the industry faster and respond to industrial needs... This questioning is existing and will stay in front of us to deal with..." Industrial Partner 5

- "We have environments which are not governed by the same constants of time, nor the same logic of finality. For the industrialist, the finality are the products to pay its shareholders, there is little choice. For the academic, what counts is his personal development, in the intellectual sense, and to be recognized as a specialist in the third layer of a product that counts 10. The logic of a researcher is his intellectual, personal achievement and career Professional that includes his academic production. To succeed in combining these attitudes, these very different missions is not easy, not to be taken for granted." Academic Lead 3
The ITE bid offer from 2010\(^7\) define them\(^8\) as “having its own legal entity, resulting from a strategic balanced public-private partnership, with the objective of designing and implementing mid-long term research programs, depending on the roadmap jointly agreed between private and public partners. Compared to the existing collaborative arrangements in this field, the originality of ITE lays in the design of a shared R&D strategy between public and private partners, binding them jointly on long term, with shared identifying key markets, as well as technologies”. Before ITE creation, collaborative research organizations are largely based on bilateral research contracts between universities, public labs and industrials. While dual professional and corporate logics co-exist, one is dominant, as either public labs or industrials are driving contracts and research. The state requirement of creating organizations with independent legal entities and with a balanced public-private partnership aims to create new collaborative research, without dominant institutional logics. Additionally, a third (isn’t it a fourth?) minority is added, as the state funds up to 50% of ITE. Without being neither shareholder nor present on the boards, the state has influence regarding ITE structures, as funding is conditional on compliance at the time of the creation and through an annual reporting. However, it has not voting rights in boards.

INSERT TABLE 1 ABOUT HERE

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\(^7\) Investissements d’avenir, convention Etat-ANR Action : « instituts d’excellence » programme : instituts thématiques d’excellence en matière d’énergies décarbonées » Journal Officiel 30/7/2010

\(^8\) ITE: Institut Transition Energétique
1. Mobilizing projective governance:

Data reveals that the initial design of the new collaborative organizations started at least three years before ITE’s effective creation. Except for Efficacity, other ITE had developed an initial collaborative project by dominant actors in their field. Those sponsors (which sponsors?) influenced the way organizations would manage resources and objectives, by imposing their preferred legal form. IPVF project was sponsored by industrials and selected a private SAS form. PS2E project was initially designed by a public lab and selected a public FCS form. FEM was sponsored by public regions and selected a public GIP form. Efficacity selected the legal form recommended by the state, a private SAS form, since the French authorities focused on improving research valuation through patents and licensing.
Industrials (PS2E, IPVF) and public regions (FEM), influenced largely the technology choices. Technology strategies influenced the need for specific knowledge and the choice of academics and new private players in the boards. They also influenced the selection of industrials in order to avoid competition effects on specific technologies.

Historical relationships between industrials and previous partnership experiences between industrial/academics sponsors facilitated trust and discussions over organizational governance during the design phase (IPVF, FEM).

**INSERT TABLE 3 ABOUT HERE**

Based on the initial project of three ITE (IPVF, PS2E, FEM), the key sponsors had then to adapt their project in order to comply to bid-offer conditions and submit a project according to an imposed format.

According to the state bid-offer criteria, ITE need to have their own legal entity. They must include industrials (with min 50% funding), academics, small and medium sized enterprise (SME) and they should combine economic and societal (such as environmental, educational) objectives. They need to integrate and strengthen an eco-system, while having global expertise ambitions.

**INSERT TABLE 4 ABOUT HERE**

Based on the initial project and the above conditions, a long negotiation process took place both among initial actors and between these initial actors and the state. Based on the initial sponsors’ project (IPVF, PS2E, FEM), complete redesign took place in order to comply with the state societal and financial objectives. Compromise efforts varied according to stakeholders’ capacity to adapt vs. their initial plans and according to stakeholders’ capacity to reach win-win agreements.

ITE projects were not submitted directly to the state for approval. The central state had organized for an international jury of experts of this field to neutrally review the proposals and decide whether they were worth labeling and financing. Following this review, only two ITE (IPVF, Efficacity) received directly an approval from the jury. Other ITE studied had to
rework and re-adapt their organizational proposal in order to better comply with jury and state requirements.

The first set of requirements (A in data table) related to public/private balanced co-management and independent legal entity. It had several influences on organizations’ governance, mainly on boards’ structures and voting rights. Organizations designed their governance according to several aspects. Governance structures were designed to respect prescriptions associated with their legal form and to reassure the majority funders through voting rights and boards. The governance structure of FEM (public GIP) gave the majority of the votes to public actors and regions authorities were included in the boards, on their request to not only be shareholders but also to co-pilot the organization. IPVF (private SAS) gave the majority of the votes to private actors. The two historical industrial sponsors have equal rights and they have the majority of the rights. But governance structures were also designed to include minority shareholders. In these two ITE, voting rights do not equal shareholders proportion. At IPVF, academics have one symbolic share but they have 10% of the voting rights in order to ensure their engagement in co-piloting organizations and increase their legitimacy. At FEM, even though public funding was over 70%, voting rights to public actors are not more than 50,1% in order to reassure private actors.

The second set of requirements (B in data table) refers to bureaucratic influences. First, financial structure legal constraints, influenced organizations governance structure. Given the state’s funding, each ITE had to adapt their financial structure to comply with French and European legal prescriptions. Second, governance structures include a strict budgetary steering. The objective is to be able to report to shareholders and the central state. The central state demands to receive various KPI’s on an annual basis.

The third and fourth set of requirements (C and D in data table) refer to societal and environmental objectives imposed by the state. One of the missions of ITE was to be involved in educational training (to students or companies) together with academics partners. Another mission was to be integrated into the eco-system. A formal labeling and signed-off of a cluster was requested, even though in most cases (except FEM), this was only a formality as
clusters did not work on the organization project nor its governance design. Moreover, SME had to be included in the governance as shareholders and with voting rights.

2 Constituting a hierarchical governance

After three years of negotiations between the multiple stakeholders, the four ITE are created and their governance structures implemented. These governance structures include also non-shareholder members through partnership committees. The central French state is not part of this formal governance but request annual reviewing. Reporting over compliance is included in these formalized reviews.

INSERT TABLE 6 ABOUT HERE

INSERT TABLE 7 ABOUT HERE

In the four cases, organizational governance structures reflect the objective of balancing the voices of the multiple players: academics, industrials, SME and even regional public authorities (FEM). These formal structures and control measures (multiple boards, key performance indicators, patents focus, objectives referring to various types of values etc.) reflect a hieratical governance structure. It fits demands from the state and industrial stakeholder, for top-down control. Formal independent scientific boards secure academics’ voice and rights to influence technology choice and resource allocation in order to meet technological objectives. The design of these governance models differs among the ITE, varies depending on the number of stakeholders, the technology and TRL. Efficacity has a higher TRL and need many different types of knowledge and actors, in order to feed each other around the sector of cities energy efficiency. Even though their TRL is very low, FEM also needs to rely on many different resources (knowledge and financially with the regions) to work collectively around the topic of marine energies.

The various boards meet on a regular basis, agenda is prepared in advance. Documentation and reports are being communicated to all members prior to, during and after the board meetings. Mechanisms for deciding how organizational resources are being used and prioritized are clear for all. Progresses is reviewed independently in various boards and results
are being shared between the boards (for example the results of the scientific council meeting is presented for approval to the board of directors on the other hand). All shareholders are represented in the board of directors. However, the scientific board may not include the top management of the organization in order to keep it purely scientific and independent from other organizational pressures.

Even though these governance mechanisms are meant to have an organized structure to resolve conflicts between the various stakeholders, these new practices introduce execution challenges associated with conflicting goals and means, as well as governance inefficiencies and limitations.

**INSERT TABLE 8 ABOUT HERE**

At IPVF and Efficacity, some challenges are mentioned but they do not appear as insurmountable. In both cases, some actors recognize the challenge of setting priorities between communities with different demands and expectations. For example IPVF board needs to make a call and decide to invest on a technology that is useless for industrials but can be published in academics and help IPVF reputation’s worldwide in the academic community. Two recommendations emerge. The first is to give more voice to the scientific board and promote more dynamics between this board and the board of directors. The other is to for the top management to invest more time to identify shareholders interests and to keep improving governance mechanisms to solve conflicts.

At PS2E and FEM, conflicts on objectives and means emerge without visions on how to move forward. A challenge they face, is the technology selected by those companies, which does not meet the state and/or industrial expectations over financial returns. Additionally, deficits in board structure balance, mechanism and legitimacy appear at PS2E.

3 Management focus and enforced governance mechanisms, challenges on norms & values:

As a result, some organizations respond by reinforcing the designed hierarchical governance mechanisms, for example, the authority of the scientific board compared to the board of directors.
At IPVF and PS2E, the scientific directors start about a year and a half after the ITE creation. In one case (PS2E), the scientific director is largely accepted as legitimate because he understands the technology. However, he struggles to lobby with the academic community because he comes from one of the major industrial stakeholder. In the other case (IPVF), the scientific director comes from the academic organization with the highest reputation in the field and he still works there 50% of his time. His experience and legitimacy helps strengthen the scientific board and increase the legitimacy of academics’ players.

At PS2E, the chairman is changed. An industrial executive with long experiences in collaborative research and with dual academics and industrial experiences is taking over. The prior chairman did not come from any of the industrials shareholders and lacked scientific legitimacy in the academic community.

Despite changes at the board levels, challenges remain related to disagreements and misunderstanding due to different norms and languages. At PS2E, some academics fear that their voice is not being heard. At IPVF, some academics disagree with proposed HR practices, as these are perceived as too different from HR norms of their community. At IPVF and FEM, some actors regret having at the state level, interlocutors who are rather bureaucratic or not knowledgeable in their technology or requesting demands (eco-systems) not tying to research needs. Governance structures seem insufficient to incent and motivate the multiple actors to move forward collectively. At PS2E, opportunism behavior surfaces, as some academics feel like they invest too much resource on a collaborative project with insufficient expected return. They lack motivation to move forward on a collaborative project.

- "In my own lab, we have our research identity, which is a bottom-up system - the system they (PS2E) imposed is a top-down system. That does not work." Academic Lead at PS2E
"The people sent are not very good because there is no identity. As long as there is no adherence to this concept there of ITE ..." Academic Lead at PS2E

"I feel a certain skepticism about the transition to the ITE structure, which is not completely achieved. There has been a tremendous amount of effort in the development of records, while the simplest would have been to define a base with a very simple and generic financial regulation for all ITEs”. Manager at FEM

At PS2E and FEM, governance structures and ITE concepts lack legitimacy internally and externally. This results in state disengagement. FEM loose its ITE label and the majority of the state funding. PS2E dissolves.

**INSERT TABLE 12 ABOUT HERE**

4. Developing governance structure to enhance employees’ incentive and motivation to collaborate and engage:

One of the challenges of organizations is to find incentive mechanisms that motivate academics to engage more fully in ITE. In many cases, researchers only work 20% or 50% of their time with the ITE. They are not hired by the ITE, they are not located at the ITE site and consequently, they relate only to their original academic community, with its strong identity.

In order to motivate both academics and industrials to engage, IPVF and Efficacity strengthen the heterarchical aspect of their governance structures. Boards already have an aspect of heterarchy, as they rely on opposed yet complementary knowledge and authorities. As organizations develop and collective projects take shape, those two ITE establish heterarchical governance mechanisms between industrial and academics researchers.

**INSERT TABLE 13 ABOUT HERE**

"We have no role attributed precisely to academic or industrial; I think it is better not to singularize the objectives according to the industrialists, the academics. "The industrialists do this and the academics do that?" Not, on the contrary!” Manager at IPVF
- "This direct co-management, down-level by researchers themselves, is the added value of the IPVF. What we see otherwise, in structures of this type, (but not at the IPVF), is that we are very far away from this logic. In a number of these structures, the logic is that those types of organizations will mediate relations between an industrialist and an academic. And that is just no! Because you do not need an intermediate structure to have direct relationships with an industrialist." IPVF Academic Lead 4

- "Projects are co-owned by a senior researcher and a young engineer or post-doctoral fellow, or a senior academic who works with young people who are at the disposal of a research office. R & D, it works quite well.(...) There is not one researcher who deals with public research, the other research in private, but there is a different binomial that co-operates each of the six projects". Manager at Efficacy.

The organization governance is based on lateral accountability, distributed intelligence where coexisting evaluation methods are organized. At ground levels, projects are co-owned and co-managed directly by dual teams of academics and industrial researchers. This governance structure decreases hierarchy of knowledge and resource and leverages organizational heterogeneity. It also flattens differences of norms between academics and industrial researchers. Through inter-dependencies, researchers rely on each other’ resources and motivate to engage jointly into projects.

This increases engagement and trust between players. By leveraging actors’ differences and organization heterogeneity, organizations increase collective creativity production and knowledge. They also reduce risks of conflicts due to incompatibility on conflicting objectives and norms.

ITE organizations keep developing. Therefore, this research cannot predict whether the current governance strategies will indeed success in sustaining “dissenting hybrids”. However, collective engagement in these two ITE indicates promises of success in maintaining balanced and co-existing logics.

- “Now we are more in a dialectic between push and pull”. Academics at IPVF
“After setting up the first level of governance ... now, it's another step. There is indeed trust and teamwork that really comes into play. It also includes really learning how to work between different communities” IPVF Industrial partner 4

“Now that the principles of contractual governance are acquired, we can now also evolve. (…) A success of the IPVF passes through these two levels where effectively, the formal is a necessary condition at the level of the board of governance and the informal, teamwork. Trust is really the necessary connection Industrial partner 5

“I feel more and more a growing confidence in the IPVF” Manager at IPVF

"It is built slowly and you have to be patient, it will be done little by little. It is really a goal, that there is what is called affectio societatis, that the members really feel part of something new and collective, and therefore it passes through, in a very concrete way, to find all of which are of interest to each other by overcoming the sometimes divergent interests of competing companies”. Manager at Efficacy

DISCUSSION

Through which progressive steps do actors establish governance structure that enables a sustainable coexistence of multiple institutional logics within a hybrid organization?

Boundary research organizations, defined as institutions that are neither laboratories nor conventional corporate or political organizations play increasingly important roles in managing the interactions between science, economics and politics (Miller, 2001). These organizations (Perkmann & Walsh, 2007) pursue multiple goals, such as open-data consortium between universities and industries (Perkmann & Schildt, 2015). But they are often temporal organizations, traditionally not-for-profit and aimed at serving a public mission. In this study, collaborative organizations are meant to be committed long-term. Under conditions of compliance, the state acts as a guarantor of this engagement for at least
10 years. This forces industrials long-term engagement, whereas traditional research contracts are usually shorter (funding a PhD student for example is usually 3 years). It results in increased stability for academics.

In this research, a temporal development is reflected through the progressive steps observed in the development of organizations governance structures. Each step has consequences on organizations capacity to reach a balanced and sustainable co-existence between institutional logics.

The first design phase is based on relations between stakeholders and this phase has multiple effects on players and on organizations’ objectives and means. On the one hand, the initial long and difficult negotiation process demotivated some actors who decided to leave the project. On the other hand, this step allowed interactions, questioning and reflexivity between actors. This increased their mutual understanding regarding their respective objectives and their preferred way to drive the organizations. It increased mutual trust and decreased risks of later tensions, as conflicts were addressed prior to the organizations being creation. However, conflicts unsolved during this phase could re-emerge later, in case actors considered that their voice was not heard, resulting in exit (Hirschman, 1970).

The second period is focused on organizations response to coercive institutional demand from powerful constituents, such as state and industrials, bringing financial resource (Raaijmakers et al., 2014). This period is focused on contracts. Governance structures are being executed according to the agreed plan at the time of organizations approval and creation. Negotiations continue over equipment contracts, project financing and IP formal agreements. Contracts are being signed also regarding employees provided by the various shareholders. The implementation of the formal organization governance crystallizes stakeholders’ design efforts and reassures them.

As implementation continues, the management and the few employees of the core ITE structures develop a start-up culture, as they feel they are collectively creating something unique, never done before in the field. But despite positive effects of this entrepreneurial spirit, conflicts emerge over multiple objectives and over means to reach them. While the governance structure is designed to balance the multiple voices, tensions remain regarding the allocation of resources. Contradictions between multiple demands create debates during those board meetings and contribute to a perception of institutional complexity. But through these
debates, organizational commitment to multiple logics become subject to reinterpretation (Ocasio & Radoynovska, 2016). The capacity of the organizations’ management and boards to animate these reflections and re-framing, to collectively learn and to adapt the governance structures is tested. In this phase the management and the boards lean on governance structures to drive these negotiations. But the legitimacy of the management appears very critical to maintain the coherence of the hybrid organization (internally and externally).

In this third phase organization responds to conflicting demands by strengthening its governance mechanism and its management, in order to improve the balance between multiple stakeholders’ objectives and cultures. A collective leadership group is established in order to represent and balance the various voices, to play complementary roles and to re-assure the key shareholders and communities (Denis, Lamothe, & Langley, 2001). The chairman in particular, must incarnate high legitimacy for all stakeholders to increase collective trust. He must also be able to understand various norms and cultures and in order to communicate with each community. As in the first phase, this step is largely based on relational governance.

At this point, if contractual and relationship governances mechanisms did not succeed in reconciling conflicts over multiple objective and means, the risks of organization break is high. Powerful stakeholder may decide to exit. In that case, the organization may survive but without its objectives of balanced logics. Or the organization may collapse, if the other stakeholders do not find sufficient interest or trust with the new organization objectives and means.

Once the combined contractual and relationship governance succeeds in balancing demands at the board level and increase trust, the organizations can then enforce new governance practices at the ground level by establishing heterarchical governance mechanisms. Social interactions, inter-relations and shared project responsibilities between industrial and academics researchers increase mutual understanding which mitigates risks of conflicts associated with multiple cultures. It promotes cooperative behavior thus becomes a self-enforcing outcome (Carson, A., & T., 2006).

Organizations respond in different ways to multiple and simultaneous institutional demands (Oliver, 1991). Different dimensions are suggested for explaining which responses hybrid
organizations will be more likely to adopt, such as the nature of demands, (goals or means) and the type of internal representation of demands (Pache & Santos, 2010). The process perspective of this research suggests that organizations’ responses evolve over time and that they can be multiple. During the first phase of organizations’ development, governance structures reflect an acquiescence response, by reproducing norms of the original sponsors. In order to leverage its heterogeneity and to avoid incompatibility between multiple demands, governance structures develop as organizations learn and respond differently to evolving challenges.

How do organizational governance design and execution influence the balance between logics within a hybrid organization?

Contractual governance of collaborative organization rests on the assumption that alliance partners tend to act opportunistically. In particular in specifying what is allowed and what is not allowed or inflicting penalties in case of violating behavior (Faems et al., 2008). It reassures actors bearing the highest financial risks (state and major industrials), in how they will capture values. For example IP contracts with co-ownership, gives visibility in how multiple players capture future value, as patents are being created. Contractual governance agreements reduce concerns about future potential conflicts between parties. They increase players’ trust and motivation in engaging into collaborative projects, especially actors hardly contributing financially (academics and SME).

Hierarchical governance structures are particularly efficient in environments characterized by uncertainty, as actions and plans can be adjusted by a central coordinator (Grandori, 2016). Hierarchical governance helps organizing and communicating how the organizational resources are used to move the organization forward. It helps actors engage as they have visibility over boards structures and feel reassured, as they can express their concerns. Both contractual and hierarchical governance structures can help mitigate conflicts over objectives and means, but they do not help reconciling conflicts over conflicting norms and values.

Contractual governance is assuming that the initial structural design of the hybrid organization is the most crucial. A relational perspective focuses on the governance as relationships and transactions evolve over time (Faems et al., 2008). Relational governance
strategy relies on trust between partners in order to address issues of coordination. Management competence helps increasing trust between partners, but it raises the question of competence criteria in hybrid organizations hosting multiple community and norms. Who can be considered as legitimate? ‘Boundary spanning’ executives (Smink, Negro, Niesten, & Hekkert, 2015) can help increasing mutual understanding between stakeholders from various communities. In exploitative environments with high number of players, the chairman may need to be known and accepted in the eco-system and among multiple communities (like previous executive role in a cluster). Hybrid organizations involved in explorative technology, may better benefit from a chairman with dual experiences in both institutional logics. Both executive profiles can facilitate the hybrid group identification process towards its management (Richter, West, Van Dick, & Dawson, 2006). By bridging multiple cultures and norms, risks of conflicts related to multiple norms and values are mitigated. By bringing legitimacy and trust into the hybrid organization, executive can forge productive working relationships.

The heretical governance is based on inter-dependency and lateral collaboration between heterogeneous actors. They are the sites of competing and coexisting value systems. They maintain and support an active rivalry of multiple evaluative principles (Beunza & Stark, 2006). By sharing project co-management and by depending on each other to share accountability, researchers are self-motivated to help each other and compromise on a shared goals, without further top sanctions. “Hybrids must be reconsidered as emerging from conflict and produced through boundary work to maintain the distinction and resilience of logics” (Murray, 2010) (p.341). In this perspective, heterarchical governance can be a hybrid organization mean to organize those “productive conflicts”, to leverage of logics differences and distinctiveness. Hybrids can be produced through the pursuit of differentiation and maintained in productive tension. In this case, logics are not intended to be blend but rather to co-exist through productive tensions. A heterarchical governance organize this process, in order secure balance between logics. It also provides more autonomy, reflexivity and learning process then the hierarchical governance model, hence better fits academia norms. The challenge is to create sufficient culture to facilitate communication among the heterogeneous components without suppressing the distinctive identities of each. The combination a heterarchical governance together with a relational organizational governance can address this risk.
The combination of evolving combined organizations governance can help hybrid organizations respond to challenges related to multiple demands and norms, as well as legitimacy and trust between actors. These governance structures are complementary and dynamic as hybrid organizations develop, learn and adapt. Contractual and hierarchical organizational governance structures will facilitate the sustainability of the collaborative organization, through formal coordination mechanisms. Relational and heterarchical governances will facilitate the sustainability of the hybrid organization through informal coordination mechanisms and lateral accountability. They will respond, in particular, to risks related to institutional conflicts over norms and values. They are particularly well suited to reduce complexity associated with collective knowledge creation, as indicated in the case from an early-stage drug discovery team (Ben-Menahem, von Krogh, Erden, & Schneider, 2015). As in that case, this research suggests a dynamic relationship between formal and informal coordination practices and governances forms. It also suggests that even if contractual and hierarchical governance contribute to hybrid organization sustainability, they may not be sufficient. Relational and heterarchical may increase hybrid organizations chances to sustain with balanced institutional logics co-existence.

Institutional scholars suggest that the presence of multiple logics creates opportunities for the construction of unique organizational characteristics (Kraatz & Block, 2008; McPherson & Sauder, 2013). Combined and evolving organizational governance forms help hybrids to navigate institutional pluralism. Their establishment and development can constitute a unique organizational capability for the “dissenting hybrids” (Mair et al., 2015), with duals balanced logics, to sustain.

One limit of this research is its cultural aspect, as the field can be influenced by specific French norms. Future research could explore similar cases in countries with different culture, such as US, UK or Switzerland. Additionally, the importance of relationship governance might fit well to R&D sector, innovation and knowledge creation. The combined governance models proposed in this research could be tested in hybrid organizations of other institutional fields, for example in social hybrids.

Another limit of this research is the criteria for assuming the sustainability of the hybrid organization and its dual balance logics. As these hybrids develop and sustain, future research could investigate whether the hybrid governance models they developed is influences their
field. It would be interesting to see whether other collaborative research may be influenced by these new hybrids. Could they even represent threats to their initial models? We referred previously to the Alberta case, with a shift from medical professionalism to a business-like health care logic, first at meso and then at macro level (Reay and Hinings 2005)? In the same way, could the field be also influenced by balanced and co-existing logics at organizational level and resulting from new organizational governance practices?

This research focuses on effects of hybrid governance structure at meso level, i.e. on organization. It could be interesting to analyze also effects of this construction at micro level, referring to “constructing a shared governance logic: the role of emotion” (Fan & Zietsma, 2016).

This research contributes to the call by some scholars, to capture time as an important dimension to detect enabling and constraining conditions related to the organizational life and the external environment (Mair et al., 2015). Most studies are retrospective and examine already developed hybrid organizations. This study adopts a process perspective, which provides an analysis on how hybrid organizations develop and adapt their governance structures in order to navigate institutional plurality.

For management purpose, my findings highlight how multiple and evolving organizational governances can help develop hybrid and collaborative organizations. Based on the same bid-offer template and conditions, hybrid organizations develop different strategies. Findings suggest that the existence of historical relations and collaborative partnerships between key partners, top management legitimacy and past experience, as well as the technology can influence those organizational governance strategies. By using a case study method, which shows different evolutions and successes, the management of such organizations may consider critical factors. My findings highlight the positive effect of historical collaborative experiences between key sponsors. They show the importance of convincing strong industrial sponsors of the potential and future yield of a given technology or sector.

One of hybrids’ challenges is to hire new employees, who can fit in dual missions and cultures. Those hired often bring along their professional histories (Battilana & Dorado, 2010; Ebrahim et al., 2014; Pache & Santos, 2013). Finding employees with dual logics can be difficult. At management level, one suggestion is to establish a unified collective leadership
reflecting the plurality of the shareholders and in which each member of a “leadership constellation” plays a distinct role (Denis et al., 2001). This can ease tensions between cultures and increase hybrid legitimacy internally and externally. At ground level, socialization are also important policies to mitigate risks due to multiple cultures, norms and values (Pache & Santos, 2010).

CONCLUSION

Hybrid collaborative organizations face multiple challenges. They need to organize, set and communicate how the organizational resources are used between actors with multiple objectives. They need to prevent opportunistic behavior, develop trust and incent actors with multiple cultures and norms to collaborate in creating collective value. In this research, new hybrid organizations face another challenge, as their organization governance structures also need to sustain dual balanced institutional logics, while their field is characterized by a dominant logic. By adopting a process perspective, this study explores the various steps by which these hybrids develop multiple forms of organizational governance. Findings suggest that while contractual and hierarchical governance contribute to hybrid organization sustainability through coordination structures between stakeholders with multiple demands and means, they may not be sufficient. This is particularly important in particular in case of conflicts related to norms and values. Relational and heterarchical governances are more appropriate to respond to these risks and can increase hybrid organizations chances to sustain with balanced institutional logics co-existence. The successful implementation of combined and evolving organizational governance structures may represent a unique dynamic capability for hybrid organizations. They allow to mitigate the various challenges facing organizations with multiple and simultaneous institutional logics, while leveraging of organizations heterogeneity. But this is not all. Because they were created and established through collective learning and collective actions, these competences may be for for the “dissenting hybrids”, the best guarantee for survival.
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