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Filling successive technologically-induced governance gaps: meta-organizations as regulatory innovation intermediaries

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Abstract

Successive digital innovations create technologically-induced governance gaps that make public regulation quickly obsolete and that might be filled by sectoral governance. The literature has shown that most sectoral governance happens at the level of meta-organizations, organizations whose members are themselves organizations, although we lack a temporal understanding of this phenomenon. Further, while regulation is generally understood as a salient function of innovation intermediaries, the literature on innovation intermediaries has focused mostly on other functions such as idea sourcing, knowledge sharing, or capacity building. We know relatively little about regulatory innovation intermediaries, especially how they might evolve in response to the emergence of technologically-induced governance gaps. In this paper, we conduct an in-depth case study of the evolutions of the FinTech sector in France over almost 30 years, using more than 3000 minutes of interviews, 4500 pages of archives, and non-participant observations. We study three successive (non)digital financial innovations: business angels, crowdfunding platforms for SMEs, and blockchain technologies. We develop a meta-organizational analysis to investigate meta-organizations as regulatory innovation intermediaries. We describe the evolutions and interrelations of new technologies and meta-organizations, and unpack mechanisms of meta-organizational capacity building for multiple contributors, effects of innovation on organizationality and trajectories of meta-organizational filiation.

Keywords: meta-organization; innovation; governance gap; technologically induced; innovation intermediaries; regulation

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Introduction

The acceleration of the rhythm of digital innovations poses crucial regulatory challenges around the world (Ford, 2017; Tæihagh et al., 2021). The emergence of innovation per se, such as digital platforms of the sharing economy or the Internet of Things, renders governance structures and regulatory frameworks inadequate (Schulz & Dankert, 2016; Tæihagh et al., 2021) and calls for new forms of self-regulation (Sundararajan, 2016). But even further, the sheer speed of innovations itself increases the rate of technological disruption. This disruption then hastens the obsolescence of regulators and regulations, including in incumbent, heavily regulated industries like oil and gas (Fitzgerald, 2018). This obsolescence creates governance gaps which we call “technologically induced” governance gaps. Sectoral governance, i.e., collectively organized regulation, appears useful to close these gaps (Brescia, 2016; Cohen & Sundararajan, 2015). Even so, little research has closely examined how organizations might jointly respond to these governance challenges over the long term. Temporality is of importance here, as successive digital innovations might aggravate regulatory obsolescence. In particular, the question of how sectoral governance might evolve, maintain itself, break apart, or change, in response to new technologies’ emergence remains largely unanswered.

Our research seeks to contribute to this debate and provide a deeper understanding of the dynamics of sectoral governance in response to successive digital innovations and technologically-induced governance gaps. We focus here on innovation intermediaries. Few studies have investigated the role innovation intermediaries can play in regulating successive digital innovations, despite the importance of innovation intermediaries and industry self-regulation (Bartley, 2007; King & Lenox, 2000; Short & Toffel, 2010). Regulation is one of the functions played by innovation intermediaries (Howells, 2006). Nevertheless, the literature has neglected this aspect, focusing rather on other functions that more directly add value to innovation processes and product development (Howells, 2006; Tran et al., 2011).

Sectoral governance, on the other hand, has been extensively studied in management research. Works have shown that sectoral governance is often conducted by a variety of meta-organizations, organizations whose members are themselves organizations (Ahrne & Brunsson, 2008; Berkowitz et al., 2022), such as trade associations (Spillman, 2018) or associations of digital platforms (Megali, 2022). Meta-organization theory argues that the three characteristics of meta-organizations, 1) being an organization, 2) having organizations as members, and 3) being a voluntary association, have significant implications for the functioning of these specific social actors. These implications, especially helpful for sectoral governance (Berkowitz, 2018), include specific structural and entitative organizationality, i.e., what makes meta-organizations organizational (Grothe-Hammer et al., 2022), like membership composition (Cropper & Bor, 2020), or decidability tensions among members and meta-organizations (Berkowitz & Grothe-Hammer, 2022). Some works have studied meta-organizations as innovation intermediaries (Berkowitz, 2018; Radnejad et al., 2017). However, the challenges of successive digital innovations in an industry call for a better understanding of meta-organizations’ evolutions as innovation intermediaries. We are especially interested in innovation intermediaries playing a role in regulation, and we call these “regulatory innovation intermediaries”. We believe that neglecting this aspect might lead to an incomplete picture of both sectoral governance and innovation intermediaries’ temporal dynamics.

To address this gap, this paper conducts an in-depth case study of the FinTech sector in France over a 29-year period, using more than 3000 minutes of interviews, 4500 pages of archives and non-participant observations and focusing on three successive (non)digital financial innovations: business angels (BAs), crowdfunding platforms for SMEs, and blockchain technologies. We focus on this sector because it has seen the emergence of various innovations over time. These innovations precisely created what we suggest calling technologically-induced governance gaps.

We developed a meta-organizational analysis to study the evolution of innovation intermediation, in response to the emergence of new technologies.

Our paper highlights how players reconfigure meta-organizations and transform sectoral governance over the long term. Our findings show the evolutions and interrelations of new technologies and meta-organizations, and reveal mechanisms of meta-organizational capacity building for multiple contributors, effects of innovation on organizationality and trajectories of meta-organizational filiation. We contribute to the literature on innovation intermediation and the literature on meta-organizations and sectoral governance, in a rapidly changing technological landscape.

Our paper is structured in the following way. It starts with a literature review on emerging technologies, sectoral governance and meta-organization. Then we describe our methodology as a meta-organizational analysis of the evolutions of regulatory innovation intermediation. After this, our findings show how meta-organizations can fill technologically-induced governance gaps and describe several concepts underpinning our meta-organizational analysis, such as meta-organization-to-meta-organization capacity building, meta-organizational contributors and meta-organizational filiation. We end the paper with a discussion of our contributions.

Theoretical framework: Emerging technologies and sectoral governance

The emergence of digital innovations, and their rapid pace, raises specific regulatory concerns (Ford, 2017; Taeihagh et al., 2021). Indeed, innovations often emerge in a regulatory vacuum or governance gap (Taeihagh et al., 2021), as demonstrated in the case of digital platforms of the sharing economy (Sundararajan, 2016) or the Internet of Things, for instance (Schulz & Dankert, 2016). In light of these challenges, some scholars advocate for new forms of self-regulation to balance the need for governance with the development of digital innovation (Sundararajan, 2016). The emergence of digital technologies like robotics, IoT, artificial intelligence, and blockchain technologies introduces three key dimensions that present challenges for governance (Yoo et al., 2012): the creation of new players in the form of digital platforms, distributed or open innovation processes, and combinatorial innovation practices. Digital innovation not only shapes, but is also shaped by organizations (Kohli & Melville, 2019). The unpredictable and disruptive nature of emerging technology has significant implications for norms, policies, and the relationships between actors and intermediary organizations. This results in a need for new forms of collaboration, open networks, meta-organizations (Bailey et al., 2022), and specific intermediary organizations (Caloffi et al., 2022, 2023; Rossi et al., 2021).

Innovation and intermediary organizations

Innovation intermediary describes various types of organizations that contribute to innovation diffusion and processes of innovation intermediation (Howells, 2006). Most intermediaries contribute to knowledge sharing and value creation (De Silva et al., 2018). They allow actors to articulate offer and demand (Klerkx & Leeuwis, 2008; Van Lente et al., 2003), to articulate multiple stakeholders (Klerkx & Aarts, 2013), and to orchestrate collaborations (Hernández-Chea et al., 2021). Recent works have attempted to provide different typologies of intermediaries. For instance, Agogué et al. (2017) identify three types of intermediaries based on their roles: problem-solving, technology transfer, and network coordination in innovation systems. However, the origin of funding (Klerkx & Leeuwis, 2008), scope, and action targets can also affect intermediary organizations (Mignon & Kanda, 2018). In the sustainability transition literature, the transformation of socio-technical systems and, in particular, of relationships between actors increasingly requires intermediary organizations (Kivimaa, Boon et al., 2019) to facilitate change (Moss, 2009; Van Lente et al., 2003). Mignon and Kanda (2018) argue that the sustainability intermediaries studied—business or industry associations, private consultants, research centers—are generally highly diverse. In that perspective, various scholars have conceptualized categories based on transitional stages and how the intermediary contributes to system transitions (Janssen

et al., 2020; Kanda et al., 2020; Kivimaa, Boon, et al., 2019; Kivimaa, Hyysalo, et al., 2019). Other categories have been based on the level of intervention: systemic intermediaries, regime-based transition intermediaries, niche intermediaries, process intermediaries, and user intermediaries (Kivimaa, Boon, et al., 2019).

Innovation intermediaries serve multiple functions, including regulation (Howells, 2006). Despite the significance of this role, the academic literature has mainly concentrated on other functions such as ideas sourcing (Howells & Thomas, 2022) or knowledge sharing (De Silva et al., 2018). While these functions can add value to innovation processes and product development (Howells, 2006; Tran et al., 2011), regulation remains an integral aspect of innovation intermediaries. The intermediaries are instrumental in interpreting and adapting norms (Moss, 2009) or creating new norms and standards (Selviaridis et al., 2023). Intermediaries thus contribute to a varying degree to sectoral governance. These regulatory functions of innovation intermediaries can influence the development of innovative products and services and ensure their conformity to prevailing norms, regulations, and ethical standards, thereby supporting the functioning of the innovation system. Regulatory innovation intermediaries can increase efficiency and trust in the innovation process and contribute to a supportive environment for innovation. This phenomenon further highlights the importance of sectoral governance and self-regulation for developing emerging technologies (Brescia, 2016; Cohen & Sundararajan, 2015). However, we still understand relatively little about the temporal dynamics of innovation intermediaries and their regulatory functions. Some works have examined the evolution of intermediaries and the conditions for their maintenance (Kant & Kanda, 2019), but we still need more research on the effects of temporality (Kanda et al., 2020; Kivimaa, Boon et al., 2019; Mignon & Kanda, 2018; Van Lente et al., 2003).

Challenges of self-regulation in technologically-induced governance gaps

Sectoral governance refers to the joint and organized regulation of a specific sector. The literature has emphasized the value of sectoral governance as a solution to address the governance gaps created by technological advancements or what we call “technologically-induced governance gaps”. These gaps result from the inability of existing regulations, policies, and regulators to keep up with rapid technological advancements and successive disruptions (Brescia, 2016; Cohen & Sundararajan, 2015; Fitzgerald, 2018). Despite the importance of sectoral governance (Chaffee & Rapp, 2012; King & Lenox, 2000; Short & Toffel, 2010), little work has closely examined the evolution of regulatory innovation intermediaries or how organizations can collaborate in filling technologically-induced governance gaps over the long term. The issue of temporality is particularly relevant in this context, as new digital innovations may exacerbate regulatory obsolescence (Fitzgerald, 2018; Ford, 2017; Taeihagh et al., 2021) and raise questions about evolution, maintenance, break up, or transformation in sectoral governance.

Innovators and entrepreneurs often need to twist or break regulatory rules to develop innovations (Lucas et al., 2022). Existing laws and regulations may not be suitable to accommodate new technologies, leading innovators to either operate in a regulatory grey area or even clearly bypass and violate existing laws (Lucas et al., 2022; Whelan, 2017) and therefore raise concerns about risks for consumers. For instance, Zrenner (2015) demonstrated that digital platforms like Airbnb and Uber raised various ethical concerns over market competition impacts that might require policymakers to protect careers in the hotel and taxi industries. Similarly, concerns over consumer safety have resulted from Uber’s strategy to increase prices. Another concern relates to taxes. Hildebrand, Puri, and Rocholl (2016) emphasize regulators’ and academicians’ fear of peer-to-peer lending via digital innovations, including unethical lenders taking advantage of platform investors. Such behavior leads to a relative reticence to trust unregulated platforms, Brescia (2016) further argues. Moreover, this lack of trust may impair their growth and profitability. Governments and regulators also struggle to monitor and frame new business models based on emerging technologies (Rauch & Schleicher, 2015). Consequently, some studies have emphasized the importance of more stringent regulatory frameworks to protect consumers (Chaffee & Rapp, 2012). In this respect, the literature has focused on designing policy instruments and mixes to encourage innovation (Borrás & Edquist, 2013; Caloffi et al., 2022). Conversely,

other works have argued that industrial or economic self-regulation is necessary for innovation and growth (Cohen & Sundararajan, 2015), and that is also where innovation intermediaries' regulatory function might play a key role (Howells, 2006).

Meta-organizing sectoral governance

Previous studies have established that sectoral governance operates through a range of meta-organizations—organizations whose members are themselves organizations (Ahrne & Brunsson, 2008; Berkowitz et al., 2022)—such as trade associations (Spillman, 2018), associations of digital platforms (Megali, 2022), multi-stakeholder groups (Berkowitz et al., 2020), employers' organizations (Helfen, 2022), and global union federations (Garaudel, 2020). According to meta-organization theory, the fact that meta-organizations are organizations themselves, with members that are also organizations, has important implications for the behavior of these social actors. Such implications include tensions over autonomy and an emphasis on rule-making and consensus, making them valuable devices for sectoral governance (Berkowitz et al., 2022). Recently, some works have focused on the impact of digital platforms on meta-organizations, particularly in their sectoral governance capacity (Berkowitz & Souchaud, 2019; Megali, 2022). However, the difficulties posed by successive digital innovations in a particular industry necessitate a deeper understanding of the role played by and the evolutions of meta-organizations as regulatory innovation intermediaries.

Self-regulation through meta-organizations appears not only as a natural way of functioning but also as a strategy for firms to partially organize their environment and reduce uncertainty (Ahrne & Brunsson, 2008; Rasche et al., 2013). Owing to their nature, meta-organizations operate more horizontally, as opposed to more hierarchical structures (Ahrne & Brunsson, 2008; Malcourant et al., 2015). The identities and individual agendas of the member organizations shape and intertwine in the functioning of meta-organizations (Ahrne & Brunsson, 2008). A meta-organization is a decided social order generally lacking certain organizational elements, such as a centralized hierarchy or a sanctioning system (Ahrne et al., 2016). Meta-organizations have various functions conducive to self-regulation, from service provision to members, co-management activities, advocacy work, and boundary and category work (Berkowitz et al., 2022).

Recent literature has highlighted that meta-organizations can act as innovation intermediaries (Berkowitz, 2018; Radnejad et al., 2017; Webb, 2017). Indeed, in examining systemic intermediaries, for instance (Kanda et al., 2020; Kivimaa, Boon, et al., 2019; Van Lente et al., 2003), we see that some of them are meta-organizations (for instance, the Finnish Clean Energy Association in Kanda et al., 2020) while others are regular, individual-based organizations (for instance, the Energy Agency in Kanda et al., 2020). However, we do not suggest that meta-organizations are a new category of innovation intermediaries. We suggest that meta-organization theory is a useful theoretical lens to analyze innovation intermediaries across or within categories. Taking a meta-organizational lens has two major implications, making it a valuable approach to further conceptualizing regulatory innovation intermediaries. Regardless of the existing categories of intermediaries, meta-organization theory invites first, to focus on the meta-level actor as an organized actor (Ahrne & Brunsson, 2008) and second, to analyze its specific organizationality, that is, how being an organization and having organizations as members might affect the structure (membership, hierarchy, rules, monitoring, and sanctioning) and the entity (actorhood and collective identity, in particular) (Ahrne et al., 2016; Berkowitz et al., 2022; Garaudel, 2020; Grothe-Hammer et al., 2022; Lupova-Henry et al., 2021). This is what we suggest doing here. We propose developing a meta-organizational analysis to understand both sectoral governance and regulatory innovation intermediaries' evolutions in response to successive innovations and technologically-induced governance gaps.

Methodology: a meta-organizational analysis of the evolutions of regulatory innovation intermediation

Research design.

We conducted an in-depth case study of the French FinTech sector to investigate how sectoral governance evolves in response to the multiplication of new digital technologies. Given the focus on the regulatory role of meta-organizations in response to waves of digital innovations, we considered case study appropriate to describing this new phenomenon rather than test propositions (Eisenhardt, 1989b; Yin, 2012). This method is particularly relevant since the innovation intermediary literature has overlooked the regulatory role of innovation intermediaries, temporality, and the articulation with meta-organization studies. Additionally, Eisenhardt recommends that studies concentrate on single industries to construct theory and identify the limits of findings generalization (Eisenhardt, 1989a).

To address our research question, we chose to study the FinTech sector, and FinTech in particular, for SME funding and various meta-organizations accompanying the acceleration of digital innovation in that sector. We chose this case for two main reasons. First, it is a highly innovative and changing industry that has had to confront the double challenge of digitalization and intermediation. Second, this sector is closely monitored by the public authorities, as regulatory issues and concerns are extremely important.

Within that industry, we selected cases of innovation intermediaries by looking for key actors with mutual relations (Kivimaa, Hyysalo et al., 2019). We identified 10 actors with such mutual relations, either meta-organizations themselves or linked to a meta-organization, all acting to some extent as regulatory innovation intermediaries, i.e., contributing to or attempting to contribute to the regulation or self-regulation of innovation.

Table 1 synthesizes the selected intermediaries' history, nature, and general characteristics. We observed various forms (some informal groups and some meta-organizations with legal status) and formation processes (i.e., created from scratch or merged). We also distinguished three different forms of innovation: non-digital financial innovation (the introduction of the business angel model) and two digital kinds of innovation, namely, crowdfunding platforms and blockchain technologies. We included the non-digital innovation phase for comparison purposes. The underlying relation between all three is the objective to fund SMEs or start-up developments.

Table 1: Description of the innovation intermediaries used in the case study

Name	Date of creation	Organizational form	Members	Objectives
Essor 92	1992-...	Meta-organization	<ul style="list-style-type: none"> - Île-de-France Regional Council; - Île-de-France Développement; - HEC Management School; - Aérospatiale Développement; - Hauts de Seine General Council; - Chamber of Commerce and Industry; - Chamber of Trades; - Employers' Unions; - Commercial Court; - Various regional firms and economic players. 	To provide regional economic support for entrepreneurs.
Invest Essor Group	1998-...	Started as an Informal group within Essor 92 and became an autonomous meta-organization	Members of Essor 92, led by an economic officer of Île-de-France.	To make business angel investment legal and to promote it in Île-de-France Area.

France Angels	2001-...	Meta-organization created by Invest Essor	<ul style="list-style-type: none"> - Business angel regional networks (Invest'Essor, Efacea, Fontainebleau Ventures, France Finance, MBA Capital, Planet Start-up, and others); - The Agency for Business Creation; - Arthur Andersen and other consulting firms; - The CNRS; - The Chambre Syndicale des Conseils et Experts Financiers; - France Telecom; - HEC Paris Business School; - A college of individuals and experts. 	To promote business angels for start-ups all over France.
France Angels internal Crowdfunding Group	2009-2011	Informal group with no legal status created within France Angels and then expelled from it	Only three individuals, one civil servant from Île-de-France Regional Council, one chair of a business angel network, and one entrepreneur.	To make crowdfunding legal and to promote it.
FinPart	2010-2012	Informal group with no legal status	Grouping of very different players (including the three people from France Angels internal crowdfunding group).	To make crowdfunding legal and to promote it.
FPF	2012-...	Meta-organization	<ul style="list-style-type: none"> - People that were expelled from France Angels because they wanted to promote crowdfunding; - Rewards-based crowdfunding platforms; - Equity-based crowdfunding platforms; - Loan-based crowdfunding platforms; - Public and private organizations, individuals, and experts sharing an interest in this initiative (they gathered in an internal body: the Ecosystem College). 	To make crowdfunding legal and to promote it.
AFIP	2013-2015	Meta-organization, a spin-off from FPF, then dissolved itself to rejoin FPF	- Some equity-based crowdfunding platforms, some of which were still members of FPF.	To promote equity-based crowdfunding.

FBGC	2017-2020	Meta-organization	<ul style="list-style-type: none"> - Crypto-assets funds; - Eiffel Investment fund; - Gide and other Law firms; - Ledger; - Caseis; - PWC; - Päymium; - Caisse des dépôts et consignment. 	To make crypto-assets investment legal and to promote it.
Blocktech	2016-2017	Meta-organization	<ul style="list-style-type: none"> - Blockchain Partner; - Coinhouse; - ConsenSys France. 	To make crypto-assets investment legal and to promote it.
TANA	2020-...	Meta-organization, the merger of FBGC and Blocktech	<ul style="list-style-type: none"> - All the former members of FBGC and Blocktech. 	To promote crypto-assets investment.

Data collect.

The study builds on an in-depth investigation into the emergence and intermediation of digital innovation in Fintech in France. Our investigation covers a 29-year period from 1992 to 2021, although our live data collect ran from 2015 to 2022. The authors collected data ex post for the period running from 1992 to 2015, primarily through archival and retrospective interviews (number of interviews: 45). Then, regarding the period from 2015 to 2021, in addition to interviews (number of interviews: 26) and archives, the authors also conducted non-participant observations. The multiplication of evidence sources allowed us to triangulate results and provide construct validity (Eisenhardt, 1989b).

Overall, we conducted 71 semi-structured interviews (see Table 2) with various actors in the field: members of meta-organizations, non-members like entrepreneurs and regulators, among others, in order to identify alternative explanations for our analyses (Eisenhardt & Graebner, 2007; Yin, 2012). Interviewees represented all kinds of stakeholders in the field, and some of them emerged as key players since they appeared to have participated in several meta-organizations and had followed the regulatory evolution of innovations in the industry. Their position titles included: founder, president, vice-president, treasurer, meta-organization secretary, and board members. Interviews were recorded with the consent of the interviewees, and detailed notes were taken throughout the interviews. This facilitated the later transcription of the interviews (totaling 1200 pages). In addition to these interviews, we also collected data through non-participant observations in three of the studied meta-organizations' board meetings (FPF, FBGC, and TANA). Though detailed notes were taken, the events were not recorded. These initiatives added value to the interviews as they allowed us to observe the various evolutions in the meta-organizations further, gain a deeper understanding of their functioning, and identify additional interviewees.

Lastly, we also collected archives and other documents. These included 3000 pages of printed archives concerning the oldest meta-organizations. In some cases, we gained access to the meta-organizations' internal emails and shared drive documents (FPF). We also had access to one meta-organization's Slack channels, Telegram and Facebook groups, and Dropbox accounts (FBGC). These documents allowed us to enrich the analysis, gain access to information that otherwise would have been lost regarding the study's earlier period, and observe more informal functioning and interactions through various communication channels. Some collectives have been anonymized in this manuscript.

Table 2: Data collection

	Study periods	
Data collected	Ex post exploration for the 1992-2015 period	Live exploration for the 2015-2021 period
Interviews	45 interviews; 2490 minutes	26 interviews; 1410 minutes
Archives	3000 pages of printed archives, internal emails and drives.	1500 pages of internal emails, drives, slack, Facebook groups, Telegram groups and Dropboxes.
Non-participant observations	None	38 observations; 4000 minutes

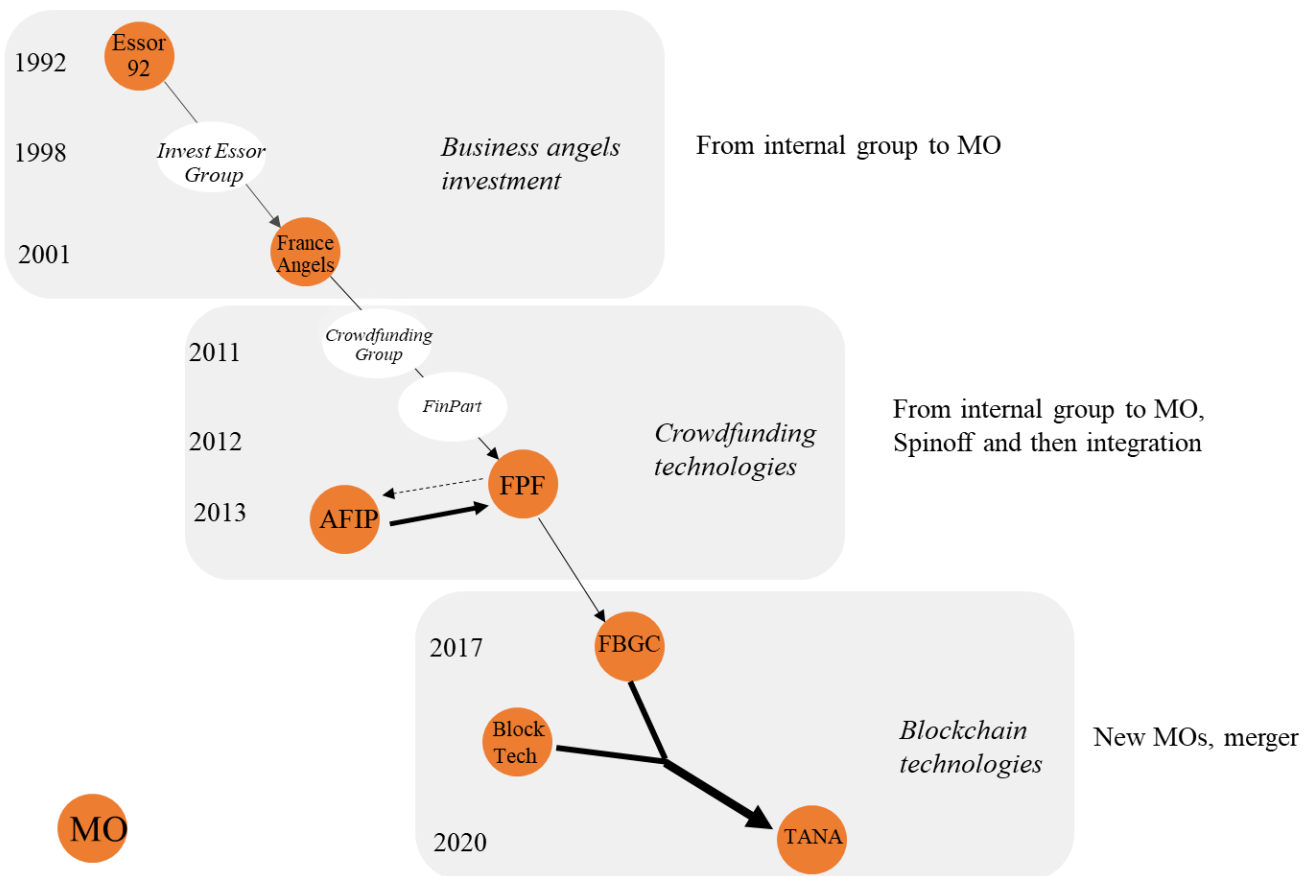
Analytical strategy.

To analyze this rich material, we first constituted a narrative as an organizing device (Langley, 1999) to get an in-depth understanding of the evolutions and dynamics of the field. To do so, we read the material several times and met regularly to discuss key elements, phases, and changes. Then, we developed a specific “meta-organizational analysis” to organize and prioritize findings in the wealth of material we had through large spreadsheets that we used as a basis for more abstract analysis. This means that we drew on meta-organization theory’s fundamental approach, concepts, and implications to analyze regulatory innovation intermediaries in the FinTech sector. We focused first on the collective itself, whether it was a meta-organization or not, and analyzed what kind of innovation intermediation it was providing, with a focus on regulation-related activities. We then analyzed the specific organizationality of meta-organizations by highlighting key elements of structural organizationality (membership, hierarchy, rules, monitoring and sanctions) and entitative organizationality (actorhood and collective identity). Several studies have used organizationality to study the organizational attributes of collectives (Dobusch & Schoeneborn, 2015; Garaudel, 2020; Grothe-Hammer, 2019; Lupova-Henry et al., 2021). Finally, we added a temporal analysis and unpacked the more evolutive dynamics of the collective in reaction to the emergence of new technologies. The objective was to gain a deeper understanding of the temporal dynamics or to identify critical junctures and major evolutions in how meta-organizations support regulatory innovation intermediation.

Findings: Meta-organizations filling technologically-induced governance gaps

We identified three phases with two critical junctures based on two digital innovations. As synthesized in Figure 1 and detailed hereafter, we observe various evolutions of meta-organizations in response to the emergence of digital innovations. Some are incubated within other meta-organizations. These new meta-organizations seem better geared to intermediate digital innovation. Meta-organizations also appear flexible enough to allow spin-offs and mergers in response to regulatory challenges. We first described the various phases before delving into the meta-organizational analysis in more detail.

Figure 1: The evolution of meta-organizations and digital innovation in the field of FinTech (1992-2020)



The emergence of digital innovation and meta-organizational response

We identified the first phase as running from 1992 to 2001, organized around non-digital financial innovation, namely, the appearance of BAs in France (See Figure 1). In 1992, this innovation was illegal: individuals could not be brought together to invest in start-ups. Doing so would contravene investor protection rules, incurring prison sentences. Our case starts with a first meta-organization, Eссор 92, bringing together companies, universities, chambers of commerce, and public authorities to promote economic development in the Île-de-France region. Within Eссор 92, an informal group with no legal status was formed to promote the development of business angel investment in France. This informal group took the name Invest Eссор. In 1998, it succeeded in setting up an investment process tacitly validated by the regulator, allowing the first investments of BAs in France. In 2001, this informal group formed a new meta-organization, France Angels, with actual legal status. Its objective was to develop business angel networks throughout France.

The second phase we identified runs from 2011 to 2014 and is organized around a specific digital financial innovation, the emergence of crowdfunding in France. This is essentially the same activity developed in phase 1, but using digital platforms and accepting very small investors with small individual tickets. Again, in 2011, crowdfunding in the form of equity or loans was prohibited. Founders of crowdfunding platforms could go to jail, and that is why, within France Angels, an informal group formed to promote crowdfunding and find a way to make it legal. This group included former members of Eссор 92 and Invest Eссор, and it left France Angels due to internal conflicts: the leaders of France Angels did not believe in the crowdfunding innovation. An informal network outside France Angels, FinPart, was therefore created. This network gradually became a real meta-organization, Financement Participatif France (FPF). It co-

constructed a regulatory framework with the regulator authorizing crowdfunding in France starting in October 2014. In the meantime, a spin-off meta-organization (AFIP) was set up, spawning from FPF, but it rapidly re-integrated the meta-organization.

We identified the third phase as running from 2017 to 2020 and organized around a final digital financial innovation, the emergence of crypto-assets in France. In essence, this is the same activity as financing start-ups developed in phases 1 and 2, but this time, issuing crypto-assets or “tokens” built on blockchain technology. Once again, the legality of this digital financial innovation arose. The first meta-organization, the FBGC, was created by sector players to try to make this innovation legal and better known. The FBGC was hosted in the offices of one of the founders of FPF. The meta-organization managed to obtain the legal status for investing in crypto-assets while benefiting from a highly favorable tax regime compared to the previous situation. This was possible thanks to a technical note written by the FBGC that the public authorities appropriated. In 2020, the FBGC merged with another meta-organization in the same sector, Blocktech, to form a third and final meta-organization, the TANA (Association for developing digital assets).

Meta-organizational analysis of regulatory intermediation evolutions

For each phase, we highlight key functions of regulation-related intermediation activities, specific structural and entitative organizationality and whether and how this is affected by digital innovation and temporal meta-organizational evolutions.

a- Phase 1: Introduction of BAs for SMEs (1992-2001)

In this first phase, BAs for SMEs entered the field with three key collective players: Essor 92 (meta-organization), Invest Essor Group (internal group), and France Angels (meta-organization). Essor 92 brought together different organizations wishing to promote the economic development of the Île-de-France region. It provided start-ups with both a network and offices. Invest Essor Group took over previous activities for members but added the provision of large groups of employees to start-ups and investment kits for BAs to finance start-ups. In terms of governance, Invest Essor Group conducted an honest dialogue with the sector’s regulators, who originally considered offering individuals the possibility of investing in start-ups an illegal act justifying a prison sentence. Invest Essor overcame this opposition from the regulator by presenting investment procedures that protected investors and limited the risks. Invest Essor developed the business angels sector in Île-de-France. Directly rooted in Invest Essor experience, France Angels, a new meta-organization, was created. It had national scope and supported projects throughout France to set up a network of business angel associations, following the example of Invest Essor. France Angels also developed a sectoral ethical charter which it then presented to regulators.

Advocacy and dialogue with regulators intensified throughout this period. Regulators faced contradictory aims: protect investors while facilitating the financial innovation of BAs’ direct investment in start-ups. To build its legitimacy and also embody some form of public good, Invest Essor organized public events, inviting newspapers, regulators, members of civil society, and researchers. France Angels also wished to welcome an internal body of civil society members, civil servants, and researchers. However, economic players who feared losing control over the meta-organization thwarted this attempt. On the other hand, Invest Essor contributed to capacity building by developing tools to monitor BAs and investments in start-ups. It trained regulators in this financial innovation. France Angels perpetuated this action by extending it to citizens via investment kits and start-up monitoring tools (See Table 3).

Table 3: Regulation-related activities in the phase of business angels for SMEs emergence (1992-2001)

Essor 92	Invest Essor Group	France Angels
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| <ul style="list-style-type: none"> - Connecting BAs, economic players, public institutions and start-ups; - Lobbying for local pro-start-up initiatives. | <ul style="list-style-type: none"> - Connecting BAs, economic players, public institutions and start-ups; - Advice and provision of tools to get BAs to invest in start-ups; - Setting, adoption and dissemination of a process of investment for BAs; - Lobbying and dialogue with regulators so that they do not veto the BAs investment process; - Public events, friendly invitations to stakeholders, consultations, and joint meetings with regulators; - Provision of new knowledge to regulators and public opinion. | <ul style="list-style-type: none"> - Provision of tools to create BA clubs throughout France; - Adoption of a sectoral ethic charter; - Single point of contact of the French BA sector with regulators; - Failed attempts to create an in-house organizational body to welcome third parties and scholars; - Provision of new knowledge and tools to regulators and public opinion. |
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There was an initial desire to have open, democratic structures that functioned by consensus, except at the end of the period, when opposition between economic and civil society players sometimes led to significant tensions at France Angels. The opposition was related to the emergence of crowdfunding, which affected the collectives' structural and entitative organizationality (See Tables 4 and 5). Indeed, from Essor 92 to Invest Essor to France Angels, there was debate regarding the perimeter and definition of the collective identity of these collectives. More specifically, the question of balancing the economic interests of the sector's players and the Common Good for society, in general, arose. Should a meta-organization promote an innovation solely through business interests, or should it, on the contrary, take a more political view of the consequences of innovation for society as a whole? At the end of the period, business interests took precedence over the general interest at France Angels. Interestingly, all three players in this period were externally recognized as social actors. Nevertheless, in the case of Invest Essor, with no legal existence, their actorhood was still unofficially acknowledged by regulators.

Table 4: Structural organizationality in the phase of business angels for SMEs emergence (1992-2001)

Essor 92	Invest Essor Group	France Angels
<ul style="list-style-type: none"> - Open membership, low hierarchy, few rules; - Internal democratic principles. 	<ul style="list-style-type: none"> - Open membership, low hierarchy, few rules; - Internal democratic principles. 	<ul style="list-style-type: none"> - More hierarchical organizing and less democratic; - One Co-head is a VC, the other is a civil servant.

Table 5: Entitative organizationality in the phase of business angels for SMEs emergence (1992-2001)

Essor 92	Invest Essor Group	France Angels
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- Actorhood;
- collective identity around the idea of Common Good.

- No legal existence per se but acknowledged actorhood
- collective identity around the Common Good goals above all.

- Actorhood;
- Less Common Good goals and more business objectives.

What is particularly interesting about this first phase is that we can see a form of transmission from Essor 92 to France Angels via Invest Essor (See Table 6). Indeed, the financial and human resources of Essor 92 are made available first to Invest Essor and then to France Angels. The networks formed by Essor 92, their contacts with regulators, a certain vision of the Common Good, feedback from foreign examples, organizational experience, and lobbying activities were directly transmitted to France Angels. Above all, the Essor 92 management team consisted of highly skilled individuals who continued to be committed to France Angels. An obvious form of benevolent relationship was assumed and maintained between these two structures.

Table 6: Temporal evolutions in the phase of business angels for SMEs emergence (1992-2001)

Essor 92	Invest Essor Group	France Angels
N/A	- Transmission of the resources of Essor 92	- Transmission of networks, reputation, and legitimacy from Invest Essor; - Transmission of a collective identity, vision of the general interest that goes beyond the interest of the sector (transmission only at the beginning); - An ability to make heterogeneous players work together; - Key previous individual members involved in Essor 92 management.

b- Phase 2: the emergence of crowdfunding platforms (2011-2014)

In the second phase, platforms of crowdfunding for SMEs entered the field. As mentioned, four key players with deep ties intervened: an informal crowdfunding group inside France Angels, then the FinPart network, before two meta-organizations, FPF and AFIP. In that phase, the financial innovation of crowdfunding appeared, this time digital. Within France Angels, an informal group sought to promote it. This group carried out the first reflections on the potential and concrete deployment of the innovation. This internal group failed to persuade France Angels to adopt the defense of crowdfunding as a collective and strategic goal. However, this initial work aimed at members was developed and disseminated, first within the FinPart network and then within FPF.

Within France Angels, there was so much internal discord about crowdfunding that they could not address the subject publicly. However, within FinPart, public workshops and casual exchanges with regulators were developing. Thus, began the dissemination of knowledge to both the public and the regulator. This movement intensified with FPF, entering into a logic of training the regulator and co-constructing a specific regulatory framework in which crowdfunding could be legal. This process involved a logic of partnership and co-regulation of the sector. The regulator had a say in FPF's internal tools in monitoring, controlling, and sanctioning its platform members. FPF even used its member platforms to submit audit reports to the regulator and send alerts to civil servants when necessary.

FPF provided increasing services to members, especially by implementing good practices and training guides, drafting and adopting a code of ethics with an ethics officer, implementing self-regulation, and developing the first legal statute for crowdfunding platforms. AFIP would not be able to deliver the same quality of regulation-related work, which would be one reason for its reintegration into FPF (See Table 7).

Table 7: Regulation-related activities in the phase of crowdfunding platform emergence (2011-2014)

France Angels internal Crowdfunding Group	FinPart	FPF	AFIP
<ul style="list-style-type: none"> - The very preliminary exploration of crowdfunding innovation, its potential, and its consequences regarding regulation; - Failed attempts to get France Angels to endorse the regulatory lobbying for crowdfunding. 	<ul style="list-style-type: none"> - Connecting people and organizations that were interested in the crowdfunding sector development; - A first (illegal) experience with crowdfunding platforms in France (these platforms were quickly closed by the regulators); - First public workshops on crowdfunding; - Unformal and light exchanges with regulators; - Provision of new knowledge to regulators and public opinion. 	<ul style="list-style-type: none"> - Connecting crowdfunding players and friendly third parties; - Provision of best practices and tools for platforms and investors; - Adoption of a sectoral bending ethic charter; - Reporting to the regulators of unethical or uncompliant crowdfunding platforms; - Definition and publication of platforms activity indicators; - Creation of a MO ethic officer who can audit members; - Credible self-regulation experience; - Co-construction of a tailored regulation for crowdfunding platforms; - Supporting regulators in their controls and investors in their complaints against platforms. 	<ul style="list-style-type: none"> - Connecting crowd equity players, excluding loans and pre-sales crowdfunding platforms, as well as civil society representatives; - Tensions and conflict with regulators and public authorities.

Regarding collective identity, it is interesting that crowdfunding supporters considered themselves an elite and pioneering group within France Angels. However, the leaders of France Angels did not believe in financing start-ups through a crowd of small investors. Crowdfunding supporters in France Angels shared the feeling of being pioneers, which would continue within FinPart and FPF. Defending crowdfunding meant defending a strong identity, a social project and a vision of the Common Good, an attempt to put people back at the heart of finance, as they stated. This strong collective identity allowed FPF to set up an “Ecosystem college”, bringing together all who believe in crowdfunding without wanting to create a platform. These included civil servants, citizens, investors, researchers, philosophers, and people from the non-profit world. Inside FPF, this college had the same voting rights as platforms. In that sense, crowdfunding affected both entitative and structural organizationality of FPF (See Tables 8 and 9). Those not believing in this social project or adhering to this pioneering identity would withdraw from FPF. A spin-off appeared partly in reaction to this preponderance of the general interest over the

economic interest of the platforms (AFIP). The AFIP wished to unite the crowd equity platforms by removing the influence of civil society. Nevertheless, this spin-off failed, mainly because of its weak legitimacy with public authorities.

Table 8: Structural organizational in the phase of crowdfunding platform emergence (2011-2014)

France Angels internal Crowdfunding Group	FinPart	FPF	AFIP
- Membership based on true faith in the development of the crowdfunding sector.	- Open membership as long as one is a crowdfunding believer; low hierarchy, few rules; - Internal democratic principles.	- One organizational body per type of crowdfunding (equity, loan, pre-sales), and one body for civil society representatives (ecosystem); - Sanctions and potential eviction of unethical or non-compliant platforms.	- Strong membership, hierarchy, rules and sanctions that led to failure and collapse.

Table 9: Entitative organizational in the phase of crowdfunding platform emergence (2011-2014)

France Angels internal crowdfunding group	FinPart	FPF	AFIP
- Minority and elitist group of individuals inside an unfriendly meta-organization; - No actorhood.	- Lack of actorhood; - Identity of a pioneers of crowdfunding purists who want to contest traditional players and to put the human being back at the heart of finance.	- Actorhood; - Equilibrium between Common Good goals and business objectives.	- Business-oriented meta-organization ; - limited actorhood; - Tensions, competition, and lack of trust between members.

This phase reveals significant transmission from meta-organization to meta-organization (See Table 10). The contacts initiated at Essor 92 were still present and active at FPF. The same vital people were also still in charge. A civil servant, the first president of France Angels, was among the co-founders of FPF. Companies, public authorities, researchers, civil servants, and players from the non-profit sector were present and active throughout the period in these different structures. France Angels embodies the counterexample, missing out on crowdfunding because of undemocratic internal organization and a failed attempt to promote civil society inside the meta-organization. Disputes and tensions within France Angels are recounted and passed on as traumas not to be repeated within FPF. The need to move away from informality in the cohabiting of business and general interests is also a legacy of the FPF experience. Both business and civil society actors must institutionally support digital innovation, which must be recognized and protected within the meta-organization.

Table 10: Temporal evolutions in the phase of crowdfunding platform emergence (2011-2014)

France Angels internal crowdfunding group	FinPart	FPF	AFIP
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<ul style="list-style-type: none"> - Transmission of networks, reputation, and legitimacy from France Angels; - Counterexample of France Angels and its lack of both respect for internal democracy and openness; - Key individuals involved in the management of France Angels. 	<ul style="list-style-type: none"> - Transmission of networks and reputation from FA internal Crowdfunding group; - Transmission of enthusiasm and willingness to change the world of finance from FA's internal Crowdfunding group; - Key individuals also move to FinPart; - Transformation into FPF. 	<ul style="list-style-type: none"> - Transmission of networks, reputation, and legitimacy from previous players; -Counterexample of France Angels and its lack of both respect for internal democracy and openness; - Transmission of a collective identity - Awareness of the limits of informal cohabitation between business representatives and representatives of civil society; - Key previous individuals. 	<ul style="list-style-type: none"> - Spin-off with limited exchanges; - Reintegration in FPF.
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c- Phase 3: Disruptive digital innovation: the introduction of blockchain technology and the emergence of cryptocurrencies (2017-2020)

In the third phase, blockchain financing platforms and tools for SMEs entered the field. As mentioned earlier, three key meta-organization players with deep ties intervened: FBGC, Blocktech, and their consecutive merger: TANA. In this last phase, a third digital and rather complex innovation appeared: investments in start-ups made via blockchain technology. Very young players who joined forces with large groups and formed the first meta-organization, the FBGC, initially championed this radical innovation. They aimed to make this financing mode legal to develop their business. They provided their members with contacts, best practice guides, and training to create a new profitable business sector. In parallel, much older IT experts organised themselves in another meta-organization, Blocktech. Here, the services offered to members were of a high technical level and were not necessarily intellectually accessible to everyone. Their objective was not commercial nor regulatory but technological: to master and develop the blockchain and its applications. When these two meta-organizations merged, the challenge would be to connect these two worlds and create a zone of exchange between the entrepreneurs and the IT experts to convince regulators to support the sector.

The role of the FBGC was to focus on organizing public events, workshops, and writing notes for public authorities. This strategy was very fruitful, as one of their notes was fully endorsed by the public authorities and gave rise to a favorable tax status for investments in blockchain technology. Blocktech members also tried to lobby regulators more intensively; however, a lack of shared vocabulary and understanding caused a form of contempt to settle in their exchanges. They nevertheless tried to provide the general public with tools for understanding blockchain. After the merger between FBGC and Blocktech, TANA still sought to provide regulators and the general public with adapted analyses and operational tools (See Table 11).

Table 11: Regulation-related activities in the phase of cryptocurrencies emergence (2017-2020)

FBGC	Blocktech	TANA
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| <ul style="list-style-type: none"> - Connecting crypto players and friendly third parties; - Provision of best practices and tools for crypto businesses and investors; - Providing training and best practices; - Lobbying for tailored specific legal and fiscal status; - Public events, friendly invitations to stakeholders, joint meetings with regulators; - Provision of a “turn-key” tax reform project directly endorsed by regulators. | <ul style="list-style-type: none"> - Connecting crypto purists and geeks; - Providing training and best practices; - Lobbying for tailored specific legal and fiscal status; - Tensions and conflict with regulators and public authorities; - Provision of new knowledge and tools to public opinion. | <ul style="list-style-type: none"> - Connecting crypto players and friendly third parties; - Provision of best practices and tools for crypto businesses and investors; - Providing training and best practices; - Lobbying for better fiscal and legal status; - Public events, friendly invitations to stakeholders, joint meetings with regulators; - Provision of new knowledge to regulators and public opinion. |
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The same question returned as previously of the balance between business and general interest in constructing the collective identity of meta-organizations when the innovation they promote has strong social consequences. The FBGC was very peculiar in this. They understood that a meta-organization is not credible as an innovation intermediary if it only defends business interests. The FBGC organized itself into committees on specific subjects. The organization relied on a Telegram group of more than 1,300 anonymous crypto asset investors who could give feedback on the draft notes and the regulators’ responses. In addition, a non-public Facebook group brought together senior civil servant officials wishing to support the FBGC anonymously. These senior civil servants guided the FBGC by telling them whom to contact inside the administration, how to contact them, and by reviewing their notes. Digitalization, therefore, clearly affected the structure and rules of the meta-organization. At Blocktech, on the other hand, members saw themselves as an intellectual and technological elite whose vocation was to revolutionize finance; still, it seems that members had less capacity for action than those of the FBGC. The functioning of Blocktech was very democratic but lacked efficiency. TANA, here again, attempted to combine FBGC’s decentralized logic and Blocktech’s democratic logic in the hope of forming an ideal synthesis, especially drawing on the Telegram and Facebook groups of the FBGC that were also mobilized within TANA (See Tables 12 and 13).

Table 12: Structural organizationality in the phase of cryptocurrencies emergence (2017-2020)

FBGC	Blocktech	TANA
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<ul style="list-style-type: none"> - Organizing its activities through internal committees on technical subjects; - Openness; - Distribution of responsibilities according to work capacity; - Mobilization of a Telegram group of over 1300 anonymous members to improve FBGC documents and react to regulators' proposals; - Mobilization of a hidden group of civil servants on Facebook who want to strongly support the crypto sector in a discreet way. 	<ul style="list-style-type: none"> - Open membership as long as one is a crypto believer and geek, low hierarchy, few rules; - Internal democratic principles. 	<ul style="list-style-type: none"> - Organizing its activities through committees on technical subjects; - Distribution of responsibilities according to work capacity; - Mobilization of a Telegram group of over 1300 anonymous members to improve FBGC documents and react to regulators' proposals; - Mobilization of a hidden group of civil servants on Facebook who want to strongly support the crypto sector in a discreet way.
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Table 13: Entitative organizationality in the phase of cryptocurrencies emergence (2017-2020)

FBGC	Blocktech	TANA
<ul style="list-style-type: none"> - Actorhood; - Equilibrium between Common Good Goals and business objectives. 	<ul style="list-style-type: none"> - Limited actorhood; - Strong identity of the pioneers. 	<ul style="list-style-type: none"> - Actorhood; - Equilibrium between Common Good Goals and business objectives.

Surprisingly, even though people who had nothing to do with FPF created the FBGC initially, the whole story described in this paper, from Essor 92 to FPF, was passed on to them with detail and precision. Indeed, from the moment of its constitution, the FBGC was hosted on the premises of a former president of FPF, who told them this story and introduced them to his/her networks. The former president brought them organizations and people from Essor 92, France Angels, and FPF, who got involved in the FBGC. They gave them feedback and transmitted knowledge and experience. FPF, therefore, inspired the internal organization of the FBGC, which benefited from FPF's experience. This long-term transmission of experiences and networks spread among the members of Blocktech after the merger with TANA (See Table 14).

Table 14: Temporal evolutions in the phase of cryptocurrencies emergence (2017-2020)

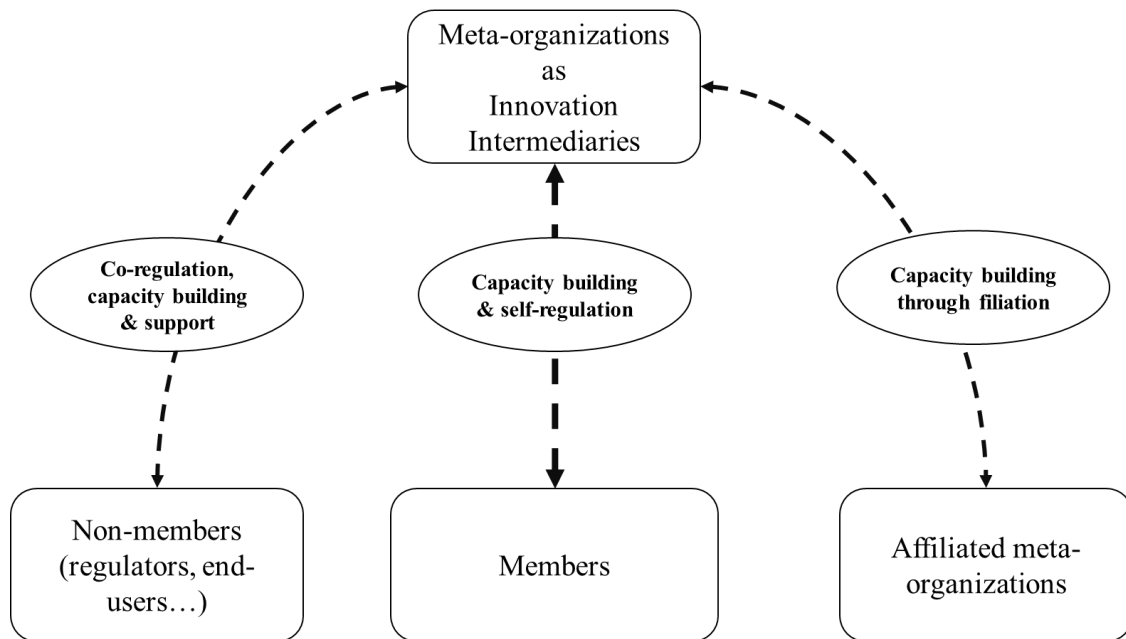
FBGC	Blocktech	TANA
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| <ul style="list-style-type: none"> - The whole history of the internal structuring of FPF is passed on by one of the founders of FPF to the founders of the FBGC; - Transmission of networks from FPF; - Key individuals from previous meta-organizations; - Merges with Blocktech | <ul style="list-style-type: none"> - Merges with FBGC. | <ul style="list-style-type: none"> - Transmission of the whole history of the internal structuring of FPF; - Networks, reputation, and legitimacy from previous MOs; - The Telegram group of 1 300 crypto users and the hidden Facebook group of pro-crypto civil servants; - Key previous MOs managers. |
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d- Meta-Organizations as regulatory innovation intermediaries: functioning and evolving in response to technologically-induced governance gaps

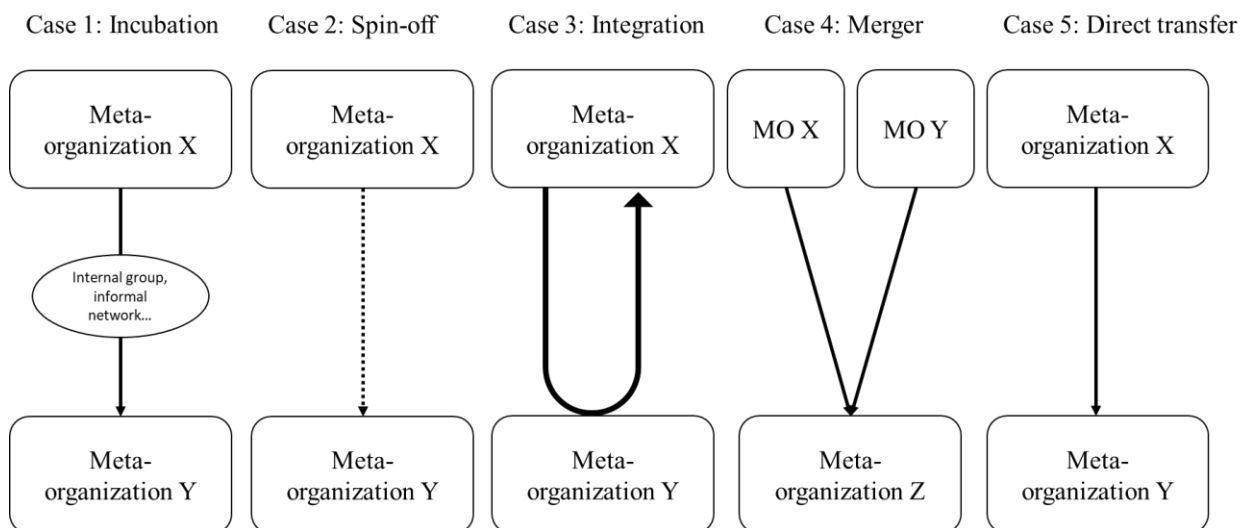
In these three phases, meta-organizations could conduct specific activities toward multiple stakeholders that other collectives of the case (informal internal groups or networks of individuals) could not do as efficiently (See Figure 2). As these activities involve both the meta-organization itself and the stakeholders themselves, we view these as meta-organizational contributors, i.e. members, nonmembers and affiliated meta-organizations. Our results show that through advocacy, meta-organizations participated in co-regulation activities with regulators and other members as civil society associations, either by jointly producing regulations or self-regulating. Meta-organizations also conducted activities for members, leading to capacity-building and self-regulation. But most importantly, meta-organizations can help build non-members' capacities for digital innovation. For instance, this was the case for FPF, which helped both regulators and end users (SMEs) understand or use the innovation. Non-members can also support the meta-organization's role as an innovation intermediary under certain conditions. Such was the case of some civil servants, who unofficially supported the work of meta-organizations for the diffusion of innovations (crowdfunding and cryptocurrencies) through unique digital tools (Telegram, Facebook). Our findings also show that as innovation intermediaries, meta-organizations have the advantage of sharing and transmitting strategic and crucial expertise, information, and resources and borrowing material and immaterial resources (e.g., offices, reputation). In this sense, meta-organizations contribute to other meta-organizations' capacity-building for innovation intermediation (see Figure 3). In our cases, they do so through boundary spanners, namely, key individuals who participate in several meta-organizations and enable knowledge transfer, thus serving as entry points to facilitate borrowing activities. Borrowing activities seem particularly important in meta-organizations as regulatory innovation intermediaries. In the specific frame of regulatory innovation intermediation, we suggest calling this phenomenon "meta-organization-to-meta-organization" capacity-building through meta-organizational "filiation".

Figure 2: Relations between meta-organizations as innovation intermediaries with their contributors (nonmembers, members and affiliated meta-organizations)



Next, our findings show that the specific evolutionary dynamics of meta-organizations in response to technologically-induced governance gaps (see Figure 3) enable this capacity-building, creating ties between different meta-organizations. These ties are what we suggest calling filiation. Our findings allow us to identify at least five potential situations of evolutions or meta-organizational filiation in response to new technologically-induced governance gaps: incubation (France Angels, incubated in Essor 92 through Invest Essor), spin-off (AFIP, a spin-off of FPF), integration (AFIP, integrated into FPF), merger (between FBGC and Blocktech), and direct transfer (between FBGC and TANA). These trajectories produce field-level reconfigurations of meta-organizations and innovation intermediation.

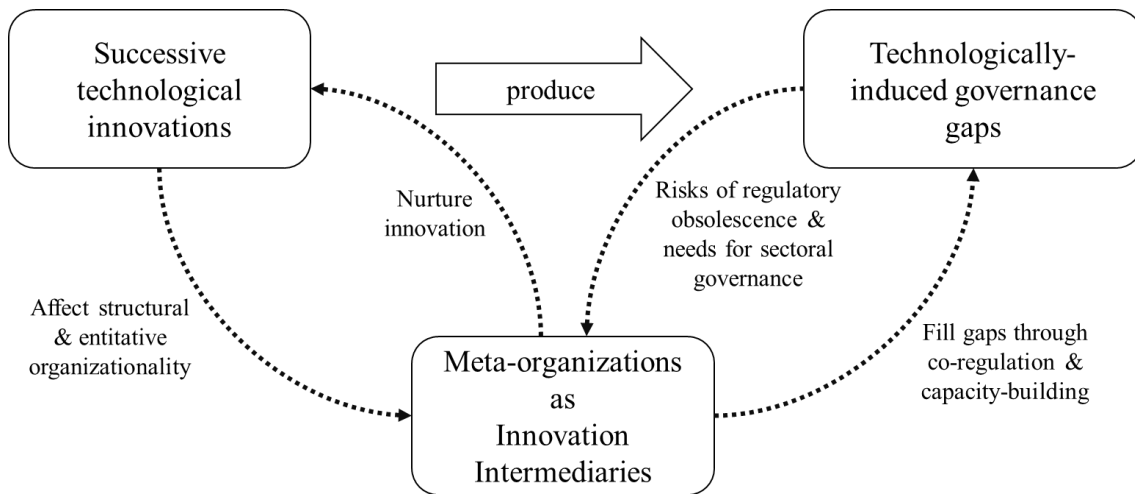
Figure 3: Evolutions of meta-organizations through five trajectories of meta-organizational filiations in response to technologically-induced governance gaps



These reconfigurations of meta-organizations as regulatory innovation intermediaries highlight not only the diversity of the trajectories of meta-organizations, but also the plasticity of the field of intermediaries in response to successive innovations and technologically-induced governance gaps.

In that perspective, lastly, it is worth noticing that the meta-organizational nature of these innovation intermediaries is not anecdotal. Having organizations as members affects both the structural and entitative organizationality of meta-organizations (See Figure 4). This was visible in cases of digital innovation, for instance, with FPF and FBGC. In the former, the innovation affected both the structural and entitative organizationality as the philosophy of crowdfunding was inscribed in the meta-organization’s rules, functioning, and collective identity. In the latter, blockchain’s distributed and decentralized nature also strongly affected the meta-organization. We can conclude that meta-organizations can fill technologically-induced governance gaps created by successive innovations. Meta-organizations as innovation intermediaries can nurture technological innovations, which also affect meta-organizations’ structural and entitative organizationality.

Figure 4: Interrelations between successive innovations, governance gaps and meta-organizations as regulatory innovation intermediaries



Discussion

Synthesis of the findings

In this paper, we analyzed the evolutions of meta-organizations as regulatory innovation intermediaries in response to successive innovations. We conducted an in-depth case study of the FinTech sector in France and of 10 innovation intermediaries, whether in the form of meta-organizations, informal groups, or networks of individuals. We identified three phases of innovation and their regulatory innovation intermediaries with different dynamics, revealing interrelations between successive innovations, meta-organizations and their contributors. We synthesize our findings hereafter, before moving to the discussion.

During the first phase of the business angel (BA) industry in France, three key players emerged: Essor 92 (meta-organization), Invest Essor Group (internal group), and France Angels (meta-organization). Essor 92 served as a resource hub for start-ups in the Île-de-France region, while Invest Essor Group provided more significant investments and investment kits to BAs, as well as developed a governance structure that established a dialogue with regulators to overcome legal opposition to BA investments. France Angels was then created, building upon the experience of Invest Essor, with a national scope and a sectoral ethical charter, and aimed to set up a meta-organization of business angel associations throughout France. During this period, the regulators faced the challenge of protecting investors while facilitating the financial innovation of BAs, which led to advocacy and dialogue among these players. Despite an initial desire for open and

democratic structures functioning by consensus, opposition between the economic and civil society players sometimes led to significant tensions at France Angels, particularly regarding the balance between economic interests and the Common Good of society. Interestingly, a genealogy can be seen from Essor 92 to France Angels via Invest Essor, with resources, personal networks through some key individuals, and organizational experience transmitted directly to France Angels, while maintaining a link of kinship between these structures.

During the second phase, the emergence of crowdfunding platforms for SMEs was facilitated by four key individuals with deep ties: an informal crowdfunding group inside France Angels, the FinPart network made up of individuals, and two meta-organizations, FPF and AFIP. FPF played a critical role in training the regulator and co-constructing a specific regulatory framework for crowdfunding. FPF also provided its members with various services, such as best practices and training guides, a code of ethics, self-regulation, and the first legal statute for crowdfunding platforms. The strong collective identity of crowdfunding supporters allowed FPF to create an Ecosystem college for those who believe in crowdfunding, which had the same voting rights as platforms. The need to move away from informality in the cohabitation of business and general interests was a legacy of the FPF experience. In their view, business and civil society actors must be recognized and protected within the meta-organization to support digital innovation institutionally.

In the third phase of blockchain financing, three meta-organization players (FBGC, Blocktech, and their merger TANA) played a key role. A new innovation emerged: investment in start-ups via blockchain technology. The FBGC, formed by young players, aimed to make this financing legal and provided members with contacts, guides, and training. Blocktech, formed by older IT experts, focused on mastering and developing blockchain technology. After merging, TANA aimed to connect the worlds of entrepreneurs and IT experts, provide regulators with adapted analyses and tools, and balance business and general interests. The FBGC organized itself into committees and relied on anonymous feedback from a Telegram group and support from key individuals, especially senior civil servants, drawing on the contribution of many non-members. The FBGC benefited from the transmission of experiences and networks from FPF, which inspired the internal organization of FBGC and spread among members of Blocktech after the merger with TANA.

Over the period, meta-organizations conducted unique activities for a variety of contributors (members, non-members and other meta-organizations) that informal groups or networks could not perform. Meta-organizations participated in co-management or co-regulation activities with members and nonmembers through advocacy, resulting in the joint production of legislation and self-regulation. Additionally, meta-organizations helped non-members, especially regulators and end users, increase their own capabilities about digital innovation. Under certain conditions, non-members could support the meta-organization's role as an innovation intermediary. Further, our findings show that meta-organizations contribute to other meta-organizations' capacity-building for innovation intermediation, often through boundary spanners that facilitate knowledge transfer. This capacity-building enables sustained transmission between different meta-organizations and can occur through different meta-organizational evolutions in response to technologically-induced governance gaps. Indeed, meta-organizational filiation can occur through incubation, spin-offs, integration, mergers, and direct transfer. While meta-organizations appeared well geared to accompany the regulation of new digital innovations, the digital nature of innovation also affected the collectives' structural and entitative organizationality, which directly influenced their regulatory innovation functions.

Theoretical contributions

Our study provides a novel long-term perspective on how meta-organizations as regulatory innovation intermediaries evolve in response to successive innovations and technologically-induced governance gaps. We add to the previous research on intermediaries' survival over time (Kant & Kanda, 2019) or the roles of intermediaries (Kivimaa, Boon, et al., 2019; Mignon &

Kanda, 2018). We show that meta-organizations can play a crucial role in building the capacity of other meta-organizations to act as regulatory innovation intermediaries. This capacity-building occurs at the field level in response to the emergent innovations. This capacity-building enables new meta-organizations to fill new technologically-induced governance gaps provoked by successive innovations. Various meta-organizational trajectories and evolutive mechanisms, including incubation, spin-offs, integration, mergers, and direct transfer facilitate such capacity-building through what we called meta-organizational filiation. Our findings suggest that meta-organizations are intricate and interconnected agents that nurture emerging innovation. Here we bring a complementary perspective to the extensive literature on innovation intermediaries by showing the interrelations between technologies and regulatory innovation intermediaries over the long term. Future studies may explore how different meta-organizational trajectories and evolutive mechanisms may produce different forms of regulatory innovation intermediation. Additionally, more research is needed to understand 1) whether other trajectories are possible, 2) the boundary conditions for the success or failure of meta-organizations as regulatory innovation intermediation, and 3) what success would mean exactly.

Our work also has implications for meta-organization theory. First, we contribute to the multi-level analysis of meta-organizations by highlighting the specific roles of key individuals (Berkowitz & Bor, 2018). We call these persons “meta-organizational boundary spanners”. They keep reappearing in different meta-organizations, through successive innovations. These individuals preserve collective memory, diffuse knowledge and build collective capacities in meta-organizations, thus contributing to innovation intermediation. Interestingly enough, they may belong to member organizations or to other contributors. In that perspective, we describe additional roles that non-members can play in meta-organizations. These roles, especially as external meta-organizational capacity-builders, tend to blur the line between members and non-members in meta-organizations (Cropper & Bor, 2018). We therefore extend Grothe-Hammer’s (2019) work on contributorship by showing that membership and contributorship are complementary notions in understanding meta-organizations as innovation intermediaries. Further analysis of members’ and non-members’ roles in meta-organization evolutions and functions is warranted.

Lastly, we contribute to recent works on the temporal evolutions of meta-organizations (Berkowitz & Souchaud, 2019; Saniossian et al., 2022) by highlighting specific trajectories and situations where meta-organizations evolve or are established. We have called “meta-organizational filiation” the relations that are created between these meta-organizations. This filiation is enacted through a meta-organization-to-meta-organization capacity building. A critical line of research would be to investigate the connections between meta-organizational evolutions and trajectories. It would be interesting to understand whether, for instance, mergers or spin-offs are more likely to happen under certain contextual or organizational conditions, and whether there can be specific sequences of trajectories and situations. This questioning is relevant to the meta-organization literature as meta-organizations are increasingly set up to solve and propose intermediary action on a range of issues, from innovation regulation to ecological and social problems (Berkowitz, 2018; Berkowitz et al., 2020).

Our contributions require careful consideration of the limitations of our work. Although we integrated one non-digital innovation and two digital innovations to enable comparison, additional comparative studies are necessary to better understand what drives meta-organizational trajectories and transmission mechanisms. Our findings reflect a range of dynamics as a byproduct of our analysis, but various trajectories and mechanisms could exist across different sectors, contexts, and types of innovations. Another important topic is the spatial embeddedness of meta-organizations (cf. Berkowitz et al., 2020). Some of the analyzed meta-organizations had distinct spatial boundaries and were entrenched in specific territories. This raises questions about our theoretical framework that we were unable to answer. For example, do meta-organizations with spatial mandates function differently than national or transnational ones and do they evolve differently? Does adopting a spatial perspective allow us to identify specific trajectories,

obstacles, functions, and mechanisms of meta-organizations as innovation intermediaries? While a spatial perspective has been established in other fields, it is much less common in meta-organization theory, innovation intermediation and sectoral governance, and it may offer valuable insights. Future research could expand, enhance, or challenge our findings by analyzing and comparing meta-organizations as intermediaries at the territorial level (e.g., third places or regional clusters, Berkowitz, 2018; Lupova-Henry et al., 2021).

Managerial and policy implications

The practical implications of this research are multi-fold. First, the study sheds light on the complex and interconnected nature of regulatory innovation intermediaries in response to successive waves of digital innovations, providing insights into how sectoral governance might evolve. The findings suggest that meta-organizations can play a crucial role in building the capacity of other meta-organizations to act as regulatory innovation intermediaries. Taking into account this role is important for policymakers and industry practitioners when designing policies or developing strategies to nurture and foster emerging innovation. Meta-organizations also enhance the capabilities of external stakeholders, including regulators and end-users. This capacity-building might mitigate the risks associated with regulatory obsolescence, but might also raise risks of regulatory capture. Second, the study contributes to a deeper understanding of the role of contributors, whether individual or organizational members, non-members or external meta-organizations, in building and preserving collective capabilities for innovation intermediation.

From a public policy perspective, it would be crucial to remember that individual lobbying can occur informally, even in meta-organizations. In our case, most prominent regulatory innovation intermediaries seem to remain open to all contributors, embracing new ideas with curiosity, and avoiding the illusion that they are dealing with a peak of innovation that cannot be surpassed. This openness to novelty might constitute a key trait for regulatory innovation intermediaries, allowing them to remain adaptable to the emergence of new technologies or innovations. Our study challenges the notion that there is a clear separation between regulators and advocates of new innovations. Our research shows that some officials of regulatory authorities may unofficially embrace and support innovations that they may be required to oppose or monitor in their daily work. This highlights the need for a more nuanced understanding of the role of regulators and their relationship to innovation intermediaries and for implementing checks and balances to avoid forms of regulatory captures. These findings deeply resonate with ongoing debates about regulating generative artificial intelligence tools like ChatGPT. The recent acceleration of innovations in that field creates technologically-induced governance gaps and regulatory obsolescence worldwide. These gaps have led to growing concerns, especially in Europe, where most economic players lobby in favor of weak regulation but have not yet organized themselves into meta-organizations. Based on our findings, we outline regulatory innovation intermediation as an alternative to either purely top-down regulation or the complete lack of regulation defended by businesses. We argue that creating meta-organizations, and especially multi-stakeholder ones, gathering various organizations from the economic sphere to civil society and public governments, among others, would be an important step in regulatory innovation intermediation.

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