Platforming Public Administration: An Empirical Analysis on the Institutionalization of Digital Technologies

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Submitted: December 1, 2022
Accepted: May 13, 2024

Abstract
The integration of digital technologies within organizational settings is substantially impacting public administration (PA), reshaping its operational landscape and dynamics. However, prevalent approaches often adopt deterministic lenses, emphasizing techno-optimism and overlooking the nuanced, context-specific nature of PA digitalization. This paper looks at PA digitalization in a situated manner, by scrutinizing the use of digital technologies within specific organizational contexts. Focusing on a large-scale digitalization initiative within the Italian PA led by the Department for Digital Transformation (DTD), this study investigates how diverse governmental bodies endeavor to "govern" digitalization practices through a designated platform, *PA2026*. The DTD aims to homogenize digital practices across the Italian PA and the *PA2026* platform is central to this mean, thus raising crucial questions regarding the role and functionality of digital platforms within PA frameworks. By also contextualizing the DTD's initiatives within broader PA digitalization policies, this study aims to unravel the interplay between technology and institutionalization processes, shedding light on DTD's actions as a form of institutional entrepreneurship, seeking to institutionalize specific digitalization practices and technologies within the Italian PA.

Keywords
institutional work; public administration digitalization; digital platforms; institutional entrepreneurship; platformization.

1. Introduction

The increasing use of digital technologies in organizational contexts has led – to name but a few examples – to a redefinition of the circulation and production of information and content, the intermediation of services, and the management of logistics, work, and business processes. This phenomenon, known as digitalization, also affects public administration (PA), where it entangles procedures, practices, and issues of public and collective interest, influencing the machinery of the state apparatus (Janowski 2015; Plesner and Justesen 2022).

The digitalization of PA is often portrayed techno-optimistically, utilizing stage models and evolutionary metaphors that rely on normative definitions and the concept of technological assimi-

lation, presenting digitalization abstractly (Debri and Bannister 2015). PA digitalization remains scarcely analyzed in-depth, is mainly presented in grey and academic literature as unambiguous, desirable, or even inevitable, and discursively linked to organizational outcomes such as efficiency, transparency, and effectiveness (Barcevičius et al. 2019). However, with the synthetic term "digital" we define a variegated multiplicity of software and hardware that can be designed and arranged in differing ways for diverse scopes within or between organizational contexts, leading to various non-predetermined organizational outcomes (Plesner and Husted 2019). Hence, digitalization refers to heterogeneous socio-technical processes that assume diverse "shapes" and can (successfully or unsuccessfully) involve very different technologies, knowledge, actors, discourses, and practices.

This paper addresses PA digitalization by taking a closer look at how digital technologies are used in the re-articulation of PA in a situated manner, i.e., by considering the use of specific digital technologies in a well-defined organizational context. By conceiving PA digitalization as a technical and organizational phenomenon, we will examine the empirical case of a large-scale digitalization project taking place within Italian PA. Here, diverse governmental agencies – mainly the Department for Digital Transformation (DTD) – currently support the digitalization of *dispersed* Italian PA bodies (such as municipalities, schools or ministries) by leveraging economic, legislative and technological resources, including an *ad hoc* digital platform, PA Digitale 2026 (from now on, *PA2026*).

Relying on a specific conception of "good" PA digitalization, one of the DTD's main aims is to achieve the *capillary* and *homogeneous* digitalization of Italian PA. The goal is to induce PA bodies to digitalize by following certain technical and organizational norms and legal criteria established by the central state, intending to prompt digitalization processes with isomorphic outcomes throughout Italian PA (DiMaggio and Powell 1983). In this, *PA2026* plays a fundamental intermediating role, leading to questions about the functions, features, and uses of digital platforms within PA.

To address the empirical case discussed here, elements of neo-institutional theory and Actor-Network Theory (ANT) will be used. Neo-institutional concepts will be applied to locate the empirical case on an inter-organizational level and define DTD's actions as an attempt at institutionalizing *specific* ways of digitalizing within Italian PA. On the other hand, ANT's sensitivity to technological agency will be mobilized to highlight the active role played by the digital technologies deployed by the DTD.

To better account for the central role played by the platform *PA2026* within DTD's organizational strategy, we will briefly recall some of the technical and relational aspects that characterize digital platforms as an important organizational form of contemporary society (Stark and Pais 2020) confronting us with new questions about the organizational aspects of technology (Alaimo and Kallinikos 2021). Before discussing the case, to frame the DTD's actions and strategies an overall definition of the empirical context will be given. Collaterally, we will draw some conclusions on the potential role of technologies within institutionalization processes.

2. Neo-institutional theory and Actor-Network Theory: Friends or foes?

Neo-institutional theory focuses on how organizations deal with their *institutional context* and wider environmental pressures, it focuses on the inter-organizational level, and initially favoured analyses of macro- and meso-structures to those of micro-dynamics (DiMaggio and Powell

1991). Over time, new analytical and methodological sensitivities have been mobilized by neo-institutional scholars to enrich its scope and better account for human and non-human agency.

2.1 Foundational concepts and developments in neo-institutional theory

According to neo-institutional theory, organizations exist within "fields", recognized areas of institutional life with "a common meaning system and whose participants interact more frequently and fatefully with one another than with actors outside the field" (Scott 1995, 56). Here, organizations' behavior and notion of "appropriate action" are shaped by taken-for-granted *institutions*, i.e., "the cultural-cognitive, normative and regulative structures that provide[d] stability and collective meaning to social behavior" (Wooten and Hoffman 2017, 57). Organizations adopt similar *institutionalized* practices, structures, and processes to handle uncertainty and gain legitimacy, as they conform to *coercive*, *normative*, and *mimetic* pressures in their field. This allegedly leads to isomorphism – a convergence in their shape and function (Powell and DiMaggio 1983). In addition to these pressures, Benders et al. (2006) also define *technical* isomorphic "forces", i.e., pressures defined by the logic and features incorporated by specific technologies.

Isomorphism is a fundamental neo-institutional concept, together with the ideas of organizational fields and institutionalization, it seeks to explain stability, equilibrium, and similarities among organizations in the long run, without granting much attention to change, agency, and heterogeneity. Early neo-institutional theory characterized organizations as largely passive entities merely responding to external pressures, framing change as a process driven by the strive for legitimacy, and survival mainly taking place through the mimicking of established norms (Hirsch and Lounsbury 1997). Thus, organizations do not act "freely", and are instead thought to choose among a "narrowly defined set of legitimate options" (Wooten and Hoffmann 2017, 55) defining an "iron cage". This view has faced criticism for its failure to acknowledge the roles played by individual and organizational agencies in propelling change, and for neglecting the mechanisms behind the *diffusion* of institutions (DiMaggio and Powell 1991). Indeed, while diffusion was deemed as the main mechanism through which *institutionalization* takes place, for a long time almost no attention was granted to the work required to let diffusion happen (Lawrence and Suddaby 2006).

Based on these and other criticisms scholars started to connect institutional change to agency, emphasizing *how* specific actors play a role in the definition, maintenance and transformation of institutions, also concerning specific situated interests (DiMaggio 1988; Lawrence and Suddaby 2006). To highlight these mechanisms and frame organizations as reflexive goal-oriented actors, terms such as *institutional entrepreneurship* (Hardy and Maguire 2008) and *institutional work* have been developed (Lawrence and Suddaby 2006). Institutional entrepreneurship explores how organized actors *strategically* implement practical approaches to influence institutional contexts based on their interests, by "leverag[ing] resources to create new institutions or to transform existing ones" (Maguire et al. 2004, 657). Strategic interventions enacted by institutional entrepreneurs rely on the mobilization and recombination of "[...] materials, symbols and people in novel and event artful ways" and may be synthesized into three main issues: "[...] the mobilization of resources, the construction of rationales for institutional change, and the forging of new inter-actor relations to bring about collective action" (Hardy and Maguire 2017, 270).

Institutional work also refers to other "non-entrepreneurial" organizations and actors engaging in purposive action within fields and also emphasizes the work aimed at the *maintenance* of institutions (Lawrence and Suddaby 2006).

Fields and institutions now arise from the strategic or tactical engagement of actors, and a more interactive, conflictual, and agential interpretation of institutional stability, change, variety, and similarity emerges (Wooten and Hoffman 2017). Fields are conceptualized on a less ephemeral level as issue-based fields (Hoffmann 1999) or strategic action fields (Fliegstein and McAdams 2012) where social skills, interaction, and contention play a role and organizations *purposefully* engage in practical and discursive activities aimed at defining their broader environment, for instance through field configuring events such as award ceremonies or conferences (Lampel and Meyer 2008). These concepts focus on how the "pressures" organizations experience in their fields may be intentionally crafted (or strategically avoided).

Lawrence and Suddaby (2006) recognize different activities related to institutional work. For instance, institutional work aimed at *creating* institutions entails actions such as advocating, defining, theorizing, and constructing identities; while work that aims at *maintaining* institutions includes policing, deterring, valorizing, demonizing, "enabling work" and mythologizing, and work aimed at *transforming* existing institutions implies disconnecting sanctions and undermining assumptions and beliefs. Institutional work also entails what Zietsma and Lawrence (2010) define as "practice work" and "boundary work" – respectively, work aimed at creating, maintaining, and disrupting practices and affecting their recognition as legitimate within a field; and work that aims to shape, create or disrupt field boundaries or to set up coordination across boundaries (Bowker and Star 1999).

With this focus on agency, variety, and change, and the broader "practice turn" in social sciences (Cetina et al. 2005), neo-institutionalism started to show interest in micro-relational practices to explore *how* institutional work unfolds. This led to the use of new analytical and methodological lenses, generating more nuanced visions of agency concerning institutionalization and field change. For instance, Lawrence and Suddaby (2006, 247) suggest the use of approaches that bring "the practical, creative work necessary to make diffusion happen" to the foreground – among which, semiotics.

2.2 Non-humans and institutionalization

Semiotic approaches, such as ANT, may shed light on various underexplored aspects of institutionalization and may help to "open up the black box of diffusion". Lawrence and Suddaby (2006, 240) explicitly mention how ANT "holds considerable promise for extending our understanding of institutional work". The authors underline how ANT shifts the focus from outcomes to the ongoing "controversies" from which these outcomes emerge and how it enables a broader understanding of agency by focusing on micro-relations between human and non-human actors.

For instance, the concept of *translation* has been mobilized to explore the micro-relational aspects of institutionalization to avoid the mechanistic view of institutionalization through "diffusion" (Czarniawska and Sevón 2005), while another ANT concept – *inscription* – has been used to highlight how certain technologies may incorporate specific sequences of ac-

tion, roles, norms and values that contribute to the definition of programs of action and the pursuit of specific interests (Holmström and Robey 2005). Translation describes the movement, commensuration, and concomitant transformation of heterogeneous elements and the resulting emergence of actor-networks (i.e., a temporarily stable assemblage of humans and non-humans), which come into being through the *creation of connections* and the achievement of "convergences and homologies" (Callon 1981, 211).

Translation is a process of "heterogeneous engineering" whereby starting with the *problematization* of a situation, humans and non-humans are *enrolled*, *mobilized*, and *aligned* to follow specific interests and overcome the initial situation (Law 1987).

Institutionalization-as-translation has been synthesized by Lindgren and Czarniawzka (2006) through the concept of "action net", which focuses on the connection of different actions into chains through which stable actor-networks *may* emerge. The action net concept is "based on the assumption that organizing [...] requires that several different collective actions be connected according to a pattern that is institutionalized at a given time and in a given place" (*ibid*., 293) and that the connection between those collective actions and their resulting institutionalization takes place through translation. Artefacts and procedures may act as stabilizers by intermediating the connections between actions and actors, leading to the emergence of durable networks. This helps us to focus on *how* specific actions are translated *before* they stabilize into networks or "macro-actors" that appear institutionalized. As non-humans may be mobilized within processes of translation and participate in the definition of specific scripts of action, the idea of action nets helps us to explore the role non-humans play in the emergence and stabilization of institutions.

2.3 Digital platforms and institutionalization

Nowadays platformization, "the penetration of *economic*, *governmental*, and *infrastructural* extensions of digital platforms into the web and app ecosystems" (Nieborg and Poell 2018, 4276), characterizes production and distribution in many sectors. Digital platforms have been defined as "the distinguishing organizational form of the early decades of the twenty-first century" (Stark and Pais 2020, 47), and are increasingly used also in PA. In the empirical case presented here, a central organizing role is played by the specifically crafted digital platform *PA2026*. Through the *PA2026* case, we will consider how platformization takes place within Italian PA and explore how governments may deploy digital platforms.

According to van Dijck and Poell (2018, 4) "an online 'platform' is a programmable digital architecture designed to organize interactions between users". Digital platforms "materially" consist of two different kinds of interfaces: Graphical User Interfaces (GUIs) and Application Programming Interfaces (APIs) (Kelkar 2018). By combining text and visuals GUIs define how users can interact with the platform and with each other, while APIs are software interfaces used to technically define the interaction between the platform and other software. Through GUIs and APIs platforms set up specific technical and interactional rules and scripts that define the actions they enable, moreover, platforms trace interactions through data, which is also used to set up specific mechanisms of accountability or "value creation" (Decuypere et al. 2021). Digital platforms can be considered as *intermediaries* connecting

individual or organizational actors, enabling *and* defining their interaction (Srnicek 2017). As intermediaries, platforms do not just facilitate interaction, but organize and manoeuvre it (Nieborg and Poell 2018), enabling organizations to connect and manage actions, actors, and resources dispersed through time and space, co-opting them (Stark and Pais 2020).

Drawing on the ANT conception of actants as "any entity able to associate texts, humans, non-humans and money" (Callon 1991, 140), we will look at how platforms "act" within PA. From an ANT point of view, platforms define a "set of relations" (van Dijck 2013). Users enrolled in platform relations are often expected to "produce" something. This production may refer to content/data (e.g., Facebook), software applications (e.g., Android), or the delivery of services (e.g., Airbnb). Platform relations configure (i.e., define, enable, and constrain) users and their likely future actions (Woolgar 1990), providing them with the appropriate resources needed to perform and translate these relations into practice (Bruni and Esposito 2019).

In application development platform ecosystems (such as Android) this means providing technical resources and criteria for third-party application development. These resources, defined by Ghazawneh and Henfridsson (2013) as "platform boundary resources", are deployed to "transfer design capability to users" (von Hippel and Katz 2002, 824), but also to ensure that certain standards are followed. Through "resourcing", platform owners enable third-party production, simultaneously inducing adherence to specific technical and organizational criteria. The concept of platform boundary resources specifically refers to "the software tools and regulations that serve as the interface for the [...] relationship between the platform owner and the application developer" (Ghazawneh and Henfridsson 2013, 174), by broadening it to other kinds of platform-mediated user production, we may better grasp how "resourcing" configures users and their productive actions. For instance, in labour platforms, "boundary resources" may refer to tools platform owners offer to (prod-)users to manage and enact their work (calendars, chats, maps, etc.).

By examining *PA2026*, we will explore how platform boundary resources deployed by state organizations can orient and support PA organizations in productive actions required to enact specific policies, here, in the "production" of "good" PA digitalization.

3. Analyzing public administration digitalization as institutional entrepreneurship

Relying on the concepts presented above, we will explore an empirical case of PA digitalization regarding the strategies, technologies, and actions put in the field by the Department for Digital Transformation (DTD) of the Italian national government to govern the digitalization trajectories of Italian PA bodies. Here, the effort of operationalizing central state public administration digitalization policies to obtain "coherent, simple, inclusive – and thus efficient – digitalization"[1] throughout Italian public administration connects with diverse organizational strategies and practices carried out through – and supported by – digital technologies. By analyzing the technologies, relations, and connections of actions established and mobilized by the DTD, we will look at PA digitalization and the platformization of PA-internal relationships in a situated context.

Analytically speaking, the case presented may also tell something about how institutionalization can be supported by technological means *inscribed* with certain normative, legislative, and technical standards. By looking at the strategies and the *modus operandi* adopted by the DTD, it will also be possible to draw some insights into the role technological agency may play in institutional entrepreneurship.

By *de-scribing* DTD's technologies, we may be able to better account for technological agency within processes of institutionalization and for how inscription may relate to the purposive crafting of isomorphic pressures. However, attempts of configuration can be escaped, and *successful* translation requires the alignment of the mobilized actants, thus, here we will *not* address the (successful or unsuccessful) outcomes of DTD's institutional entrepreneurship, but rather the strategies and technologies deployed to support it.

3.1 Context

Also because of the Covid-19 outbreak, in the last few years Italian PA has witnessed a "new wave" of digitalization, characterized by an increase in the use of digital technologies in PA and massive public investments (ca. 6,7bn €[2]) in PA digital technologies, services and infrastructures through the "National Resilience and Recovery Plan" (PNRR) (Musella 2021). Due to the low level of Italian PA digitalization in comparison to EU "standards" and its fragmented and unequal distribution throughout the national territories and levels of government (ISTAT 2022), the financial investments of the central government are backed by diverse statal agencies (such as the DTD[3] or the *Agenzia per l'Italia Digitale* – AgID) whose aim is to ensure the coordination and enactment of the National Digital Agenda[4] and other national digitalization programs and objectives part of the Ministry's for Innovation, Technology and Digital Transition (MITD) three-Years plan, also known as "Italia Digitale 2026"[5].

One of the "Challenges and Opportunities 2023-2026" mentioned by the plan refers to "strengthen the design authority over the country's digital architectures and the intervention capability to standardize and interconnect them" (MITD 2022, 31). In this sense, AgID and DTD work to achieve the capillary and homogeneous adoption of standardized technologies and digitalization practices throughout Italian PA. The goal is an isomorphism in digitalization practices and the use of digital technologies, more specifically, technical isomorphism (Benders et al. 2006).

The main aims of governmental digitalization agencies' strategies are the enhancement of digital public services (DPS), the definition of unitary data classification and interoperability schemes, and the diffusion of so-called "enabling platforms". While AgID is focused on the production of guidelines and normative frameworks (such as the Code for Digital Administration, CAD), the DTD is more focused on the "technical", strategical, and operational dimensions concerning the enactment of national PA digitalization objectives, by "favouring the diffusion of simple, inclusive and efficient digital services [...][and] proposing technological solutions"[6]. Since its inception in 2019, the DTD has engaged in diverse activities about the national digital agenda. In 2021, it started work on the development and implementation of the digital platform *PA2026*, a tool deployed to convey the above-mentioned PNRR funds to PA organizations (such as municipalities, ministries, schools, etc.) to achieve a "digital PA"

by 2026. In the empirical part of this paper, we will briefly describe the above-mentioned "enabling platforms" and the DTD's main "projects and activities", later we will focus on how these and other elements are connected through the platform *PA2026*.

3.2 Methodology

The data presented here has been gathered between September 2020 and September 2022 within explorative doctoral research about Italian PA digitalization. Starting from an ethnographic case study centred on the digitalization of an Italian municipality, the field trajectory led to diverse research focuses, among which the relationship between local PAs and governmental digitalization agencies. The interest in the DTD's activities arose from some of the issues mentioned by local PA employees during in-depth interviews, as well as from the DTD's presence during the 2021 and 2022 editions of Forum PA. Forum PA can be considered a field-configuring event (Lampel and Meyer 2008), as it is "the most important national event dedicated to the issue of PA modernization"[7], where PA organizations, IT suppliers, and other stakeholders meet, engage in public discussions and fair-like activities.

Diverse qualitative techniques have been deployed to grasp the DTD's "point of view" (Becker 1996), actions, and strategies. Among the techniques used are document analysis (governmental documents, laws, and informative materials), observations at ForumPA, and analysis of talks, presentations, and discussions held by the DTD's spokespersons during the event. Further, during the 2022 edition of ForumPA, it was possible to meet some AgID and DTD employees and managers and engage in two formal (recorded and transcribed) and three informal (where dense fieldnotes were taken) in depth-interviews regarding the department's visions, strategies, technologies and practices.

This set of "traditional" ethnographic techniques has been coupled with more recent qualitative methods aimed at reconstructing and describing the DTD's online activities (e.g., its official websites and YouTube channel). By conducting graphical user interface (GUI) walkthroughs (Light et al. 2018) of the *PA2026* platform[8] and diverse web portals, tools, and online communities managed by the DTD it has been possible to describe how artefacts, conceptions of practices, and specific forms of knowledge are mobilized within its large-scale PA digitalization project.

4. The DTD and AgID as institutional entrepreneurs: The platformization of Italian PA

By illustrating some of the data gathered, we will now frame the digitalization of Italian PA as an attempt by the central government to institutionalize specific practices and technologies throughout PA. Here, the DTD and AgID, enact "institutional entrepreneurship" by deploying a network of artefacts, practices, and texts through which they address diverse PA organizations, trying to enrol them into specific action nets. In this process, digital platforms and tools seem to play a key organizing role. Indeed, by reprising O'Reilly's (2011) conceptualization, some authors (Cordella and Paletti 2019) defined the current Italian governmental digitalization strategy

as an example of "Government as a Platform", where "a bundle of platforms" is orchestrated by the state to create and deliver "public value". Also inspired by literature highlighting the fundamental role played by orchestration practices (i.e., connecting, facilitating, and governing) in vast, heterogeneous, and dispersed "networks" where organizational change occurs (Reypens et al. 2021), we will underline how platforms and other artefacts may act within processes of institutional entrepreneurship through the inscription of norms, the definition of roles, relationships, procedures and values, the distribution of agency, and the definition of organizational practices.

4.1 Enabling platforms: "The country's operating system"

The so-called "enabling platforms", defined by the DTD as "the country's operating system"[9], are central in current Italian PA digitalization. They aim to "improve the services offered to citizens and businesses by simplifying administrative action"[10]. "Enabling platforms" digitally redefine and nationally standardize procedures that are very common across PA, e.g., citizen identity verification. These technologies are defined as "enabling platforms" because they allow individuals and PA bodies to log into a *shared* software that *enables* them to perform the foreseen actions. However, we will not consider them strictly as platforms, but rather as *ostensive* definitions of practices, which at the same time enable their *performance*. Here three main enabling platforms will be briefly described:

- **SPID** (*Public Digital Identity Service*) – launched in 2016 – is a nationwide digital identity verification system. PAs must grant access to their digital services through SPID. As of today, ca. 37 Mio. SPID identities[11] have been produced and more than 12.000 PA organizations offer DPS through SPID.
- **PagoPA** (*PayPA*), is "an electronic payment system designed to make any payment to the Public Administration simpler, safer, and more transparent. [...], the platform enables citizens and businesses to make payments to public bodies, both online and offline, in a standardized manner"[12]. PagoPA, now mandatory, also "enables public administrations to manage collections in a centralized and efficient manner, offering automatic reporting and reconciliation systems [...]"[13]. Since its launch in 2016, PagoPA managed 1.014.286.532 transactions[14].
- **AppIO** (*appMe*), "the Public Services app", available since 2020, is a "single access point for simple and secure interaction with local and national public services, directly from your smartphone"[15]. PAs must offer their DPS *also* through "IO". PAs can send push notifications to citizens ("ID expiring soon"), and citizens can request services, make payments, or download documents. IO has been downloaded 36 Mio. times, it includes 272.489 services offered by 15.654 PA bodies[16].

The adoption of these and other "enabling platforms" by *all* Italian PAs is strongly recommended by the CAD, when not mandatory. These "platforms" configure standardized procedures defining "digital" practices to be performed by PA organizations (how to identify citizens, collect payments, offer DPS, etc.). The DTD doesn't directly manage these or other "enabling platforms", but their "diffusion" falls among its aim to "deploy standardized digital public services to accelerate the digitalization process of PA". Now, we will see how their "diffusion" is supported by a "network of procedures and artefacts" mobilized by the DTD to support their adoption.

5. "The country's design system", or the use of boundary resources in *PA2026*

Developers Italia (DevIt) and Designers Italia (DesIt), also defined as "the country's design system" are two projects (and two web portals) enacted by the DTD to follow the aim of "enabling citizens to benefit from DPS that are already tested, more secure, integrated with the enabling platforms and more consistent with each other"[17]. Here, we will see what these projects consist of, and how they relate to "enabling platforms", acting as boundary resources to the *PA2026* platform.

The DTD consists of an Office for the Technological Direction, an Administrative Office, and a Transformation Office "[...] supporting central and peripheral PAs through the platform PA2026" (MITD 2022, 33). What characterizes the DTD is that most of its employees aren't lawyers or bureaucrats, but product/service designers, UI/UX designers, data scientists, IT developers, and innovation/digital skills experts. This is important to notice, as the institutionalization of professional "IT" and "design" knowledge/practices is part of the department's activities aimed at achieving "a cultural leap in PA"[18].

DesIt and DevIt "represent" the DTD's professional communities: the former is defined as "the benchmark for the designers of DPS of the Italian PA"[19], while the latter is defined as "the benchmark for public administration software"[20]. By looking at the links present on Designers Italia's website banner (Figure 1), we can notice how these two projects relate to each other and to other initiatives (Forum, Docs, and GitHub – all linked on the upper right-hand side of Figure 1 and Figure 2) enacted to support the current *Three-Year Plan for ICT in PA* (linked on the left – "piano triennale"). If, e.g., we move from the DesIt to the DocsItalia website (Figure 1 and Figure 2), the URL changes, but the banner, the font, and the colours stay the same, conveying the impression of staying in the same environment.

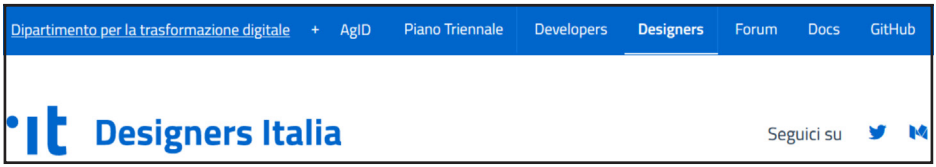

Figure 1.
The banner of Designers Italia's website (https://designers.italia.it/).

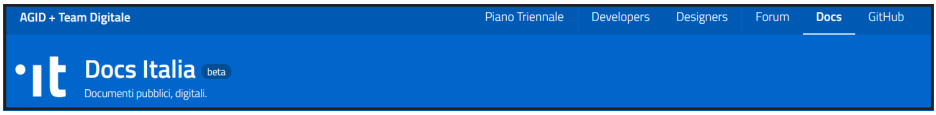

Figure 2.
The banner of Docs Italia's website (https://docs.italia.it/).

5.1 Designers Italia and Developers Italia, or how (we want you) to do what we want you to do

DesIT's primary aim is to "spread the culture of design in PA to achieve simple, accessible, fair and inclusive DPS for all citizens"[21]. It provides "work tools" to be used by local and central PAs to produce digital services and technologies, promotes collaboration between technicians and functionaries, and the exchange of experiences, best practices, and solutions. The "work tools" provided encompass operative guidelines for the design of PA's DPS; tools available to support the development of services; discussion and technical support environments, as well as design templates[22]. Here, the DTD stresses the *usability* and *accessibility*[23] of PA's digital websites and services and the need to conform to certain standards/criteria.

In the set-up of DesIT, "the main effort was to combine a regulatory approach with an equally indispensable set of practical tools and a community to support the use of these tools"[24]. The site offers a handbook of technical rules and criteria to be followed for the design and implementation of PA websites and DPS, and other theoretical and practical resources to translate the national digital PA regulatory framework into practice. For instance, the website proposes a design thinking UX/UI kit to orient the development of "user-centred" GUIs and services which encompasses five phases: organize, understand, plan/design, make, and validate. Each phase is accompanied by a description of what should be done and the tools to be used, e.g.: "make" includes tools to develop interfaces; "validate" offers guidelines to implement usability trials. Further, DesIT provides website templates for schools and municipalities inscribed with the technical guidelines defined by law (e.g., colours, categories, and fonts to be used). For instance, the template for "the website and digital services of Italian municipalities" encompasses "all the necessary resources to easily realize simple and accessible digital experiences for citizens"[25]: an HTML template and its source codes are provided; ontology, taxonomy, architecture, and vocabulary of the municipal websites are defined; five different "service flow" archetypes for municipal DPS are categorized (e.g., "request of permits or authorizations").

Developers Italia offers resources for IT developers working for PA: open-source software and libraries, code examples, documentation, and support environments. As stated on the website "if you are a PA, or a supplier working with PA, here you can find useful resources and community for the development of your digital services". For instance, "in DevIT you will find the libraries, SDKs, documentation, code samples, resources, and test environments you need to integrate the enabling platforms into your service"[26]. Moreover, DevIT encourages participation in its community "made up of public administrators, developers, technicians, students and citizens" that "promotes collaborative processes and tools that allow the best PA practices to emerge organically from below [...] offers the opportunity to make use of a large pool of IT solutions, thus reducing deployment time, costs and development risks thanks to the adoption of already tested and functioning solutions"[27]. Hence, apart from "resourcing", DevIT also seems to support the institutionalization of IT professional practices such as open-sourcing and the use of collaborative tools within PA.

The "community and technical support environments" linked to these two projects are mainly Docs Italia, Forum Italia, and GitHub Italia, managed by the DTD. Docs Italia – "the platform for PA's technical and administrative documents" – is an open document repository

managed by a team of developers, designers, and tech writers experienced in documenting projects through guidelines, FAQs, and technical-administrative documentation. Among other things, here technical and legal documentation about SPID or conformity criteria for DPS can be found. Forum Italia is a typical forum where issues and sub-issues revolving around PA digitalization are discussed and archived (e.g., issue: SPID, sub-issue: Node error 76). GitHub Italia is a GitHub[28] repository where codes, icons, templates, and other IT components defined by DevIT and DesIT are stored and freely accessible. For instance, here the UI design kit with "official components and templates for the Italia design system" can be found (Figure 3). These three projects are defined as "operative tools for the digital transformation of PA". DesIT and DevIT encourage participation in these "open" communities, however, every uploaded resource must be validated by the DTD.

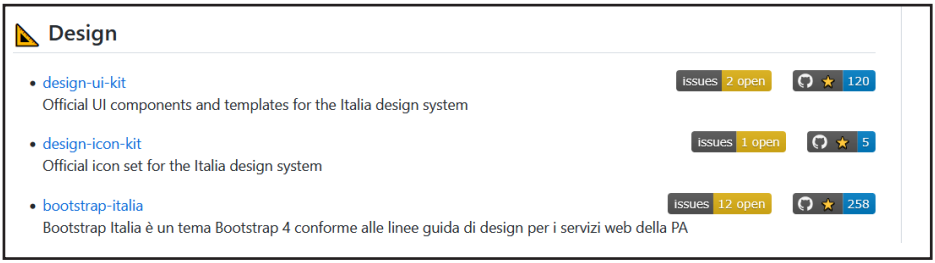

Figure 3.
A screenshot of https://github.com/italia.

Through these initiatives, the DTD offers boundary resources to be used by PAs when digitalizing: online repositories and interaction spaces where documents can be consulted, artefacts inscribed with CAD guidelines and regulations can be found and practices (such as design thinking) are defined. While these are distinct projects, altogether they constitute – also aesthetically – a single "ambience". Apart from exemplifying "good" PA digitalization ("this is how a PA website should look like" – see Figure 1 and Figure 2), through these web portals a network of artefacts, texts, and practices is set up to define how "things should be done". As highlighted by one of the DTD's head designers during a public discussion:

> We offer something similar to an IKEA instruction manual... where to find pieces, how to use them and in what order... especially for suppliers... you can't expect small PAs with six or seven employees to have interaction designers or computer technicians able to define taxonomies and ontologies for content type or stuff like that... we want to provide for those design phases for which small PAs have no resources. (DTD employee, ForumPA 2022)

In this sense, DevIT and DesIT offer resources to be used by PA bodies to enact digitalization according to laws/guidelines and instructions about how this process should take place, simultaneously exemplifying how outcomes of digitalization should look like.

5.2 Inscription, normativity, mimicry, and boundary resources

The DTD offers operative resources inscribed with normative definitions (e.g., controlled vocabulary and ontologies, service flow archetypes) for PA digitalization, inducing the imitative use of tools and procedures linked to specific professional cultures previously extraneous to PA. By encouraging mimicry and normatively defining practices and artefacts that should be part of digitalized PA (*desired outcomes*), the "design system" set up by the DTD also defines practices about how digitalization should take place (where to search for information and components, ...), thus actively defining both, desired outcomes and the process leading to those outcomes. DevIt and DesIt contribute to normative and legislative definitions of how PA digitalization should occur, while also providing a whole set of resources necessary to perform what the DTD values as "good PA digitalization". The boundary resources of DTD's "design system" seem to be deployed with the intent to configure PA organizations' digitalization. This strategy arises upon an initial *problematization* of the situation, well described by the words of another DTD employee, underlining "an incredible discrepancy arising upon the heterogeneity of commercial IT solutions and the fragmentation of PA into 22.000 different organizations". In this sense, the DTD envisions similarity as something desirable that must be actively achieved from heterogeneity. The resources deployed by the DTD seem to be part of a strategy supporting the *institutionalization* of specific digital technologies and procedures (e.g., "enabling platforms", open-sourcing, fonts) within PA. By looking at how the *PA2026* platform tries to enrol, mobilize and align PA organizations, and by taking economic resources into account, we will see how this is part of a broader organizational strategy aimed at achieving "technical isomorphism".

6. The *PA2026* platform

The *PA2026* platform, online since November 2021, is an *ad hoc* tool designed by the DTD as a "single access point to the resources envisaged by the PNRR for the digital transformation of PA", and to "simplify the interaction between central state and territories" (MITD 2022, 6). *PA2026* conveys 6,7bn € PNRR PA digitalization funds to central and local PA organizations. *PA2026* is the *only* way for PAs to access these public funds. In this section, we will briefly look at how – building upon the country's "operating system" and "design system" – *PA2026* establishes an action net that PAs must perform to successfully apply for funding.

As of April 2023 (Butti 2023), 83% of Italian PA organizations have a profile on *PA2026*, which has gathered 57.000 applications for funding and managed the allocation of 2.1bn €; currently, 50.000 projects are managed through *PA2026*.

6.1 How *PA2026* defines digitalization

By looking at *PA2026* it is possible to notice how the DTD tries to coerce PAs to adhere to its normative definitions of digitalization, by enrolling them into a preconfigured set of relationships and (inter)actions. As explained in an informative video[29] created by the DTD, through PA2026 "a guided procedure will help your PA to apply for public tender

notices". The platform "publishes notices to make PNRR resources available for PAs in a simple and standardized way, with disbursements pre-determined according to the characteristics of the PA" (MITD 2022, 6). Each of these specific *notices* ("avviso") refers to a different PNRR *measure* ("misura"), thus organizing PA digitalization as the interconnection of separate *projects*; for instance, *Avviso Misura 1.4.3* specifically refers to "PagoPA platform Adoption for municipalities" (Figure 4).

Among the most conspicuously funded measures, there are "enabling platforms" – e.g., SPID adoption (255m €) – and Citizen experience of DPS (813m €). Every notice (e.g., Figure 4) has an application deadline and a predetermined amount of available funding distributed to eligible PAs depending on definite criteria (here, number of inhabitants). The public notice ambience of the platform is openly accessible, while to apply PAs must go through a process of enrollment: the creation of a profile (the blue button in Figure 4 says "access to apply").

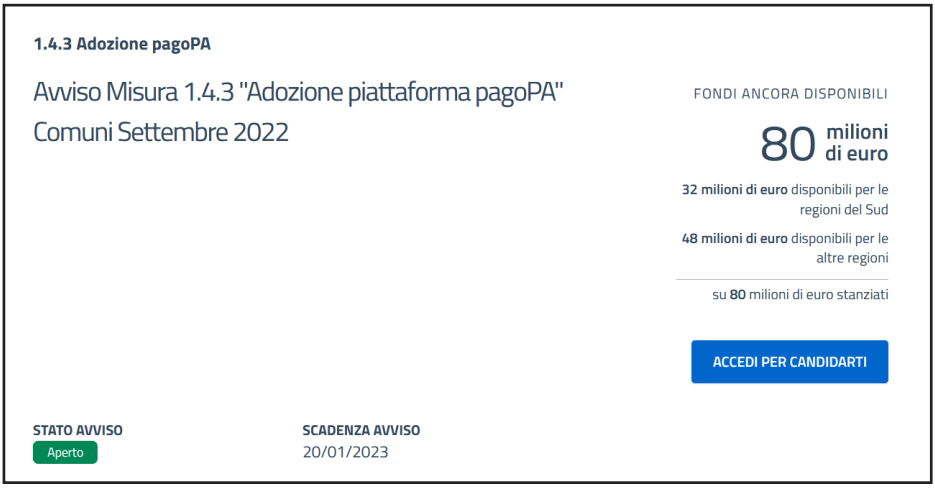

Figure 4.
A screenshot of the *PA2026* platform.

6.2 Configuring PA organizations as platform users

To create a profile on *PA2026*, a PA's legal representative must access the platform using SPID, submit an institutional e-mail address, and enter or correct information about the organization on the PA digital domicile Index (IPA). Once the profile is created, a dedicated *PA2026* "desk" area can be accessed. Here PA organizations can interact with the DTD. In this sense, the "desk" GUI connects users of the platform (PAs) with its owner (the DTD), defining the norms, possibilities, and sequences of their interaction.

Once logged in, a "data and service classification questionnaire" must be filled in, after this, through a guided procedure, PAs can compose and submit application documents for suit-

able notices appearing on *PA2026*, which must be electronically signed. Altogether, these steps configure applying PA organizations, as they oblige them to have some "items" (SPID, electronic signature, etc.) and to undergo certain procedures (questionnaire, IPA update, etc.) just to *apply* for funds. Effectively *getting* the funds requires PAs to do more.

6.3 Defining relations and practices

Since every application refers to one notice funding a project aimed at a *specific* desired outcome, every application is identified with a Unique Project Code (CUP) that must be created by the applying PA through another platform. PAs must then enter their CUP in *PA2026*, where for every CUP the *engaged suppliers* (and a "Do no Significant Harm" documentation) must be communicated within a *certain time*. Then, the PA has a predetermined amount of time to reach the predefined project objectives. The disbursement of funds *does not* require any timely reporting of expenses but *does* require the achievement of the objectives set out in the notice, which is not the "normal" accounting practice applied to the disbursement of public funds in Italian PA, but the norm in *PA2026*. The validation of the achievement of specific objectives also depends upon the adherence to conformity criteria (varying according to the notice) *strictly* defined by the DTD. To obtain economic resources, PAs must achieve the objectives and then upload an application for the disbursement of the funding via *PA2026*, certifying the achievement of the objectives.

Each project then undergoes automated or human "technical compliance checks" that can result in positive (all criteria are fulfilled), partially positive (criteria are not fulfilled *but* there is still time), or negative (one or more criteria are not fulfilled *and* time is out) judgments defining if funding is granted or not. For instance, *notice 1.4.1 "Citizen experience of Interface and DPS for municipalities"* (funded with 356m € for 7904 suitable municipalities) is audited depending on 38 criteria and 10 recommendations, all very specific, e.g., success for criterion 1.1 is defined as:

> All headings and all paragraphs of the pages of the website in the Italian language must exclusively use the Titillium Web, Lora, and Roboto Mono fonts, *and* the site must present the data attributes indicated in the Template Adherence Evaluation App Documentation for this criterion. (Conformity criteria for municipal websites, DocsItalia)

Here we can better understand how *PA2026* builds normative networks (a type of institutional work) by relying on the boundary resources of the "design system": the fonts listed are part of DesIT's "website and DPS template for municipalities", the conformity criteria, as well as other legal and technical documentation can be found on DocsItalia, and the Template Adherence Evaluation App can be found on GitHubItalia. This is true for many other notices/measures, also regarding the implementation of "enabling platforms".

In this sense, the "design system", insofar as it has to be used for the successful fulfilment of the "relationship" defined by *PA2026*, acts as a repository of information, artefacts, and procedures that enable work by encouraging (if not imposing) mimicry. As such, both, the boundary resources of the "design system" and *PA2026*, actively participate in DTD's strat-

egy by supporting and enacting various forms of institutional work. The "design system" supports diverse types of institutional work such as "defining", "incentivizing mimicry", "enabling work", "advocating", "educating" and "constructing identities". The way *PA2026* organizes and guides organizations' practical translations of the "design system" connects to other forms of institutional work, such as "constructing normative networks", "changing normative associations", "policing", "deterring, valorizing and demonizing" (see section 1.1).

In setting up an action net that PAs must perform to get funding, *PA2026* also tries to define and intermediate the relationship between PAs and their (internal or external) IT developers, inducing them to adopt *certain* practices and *specific* technologies. This happens by explicitly prescribing the use of the "design system" boundary resources, but also by setting up a platform-based funding system where funding depends on the fulfilment of specifically predefined objectives. Indeed, the fact that through *PA2026* funding is defined upon the achievement of certain objectives strongly linked to the fulfilment of mostly "technical" requirements, seems a way through which the DTD tries to encourage PAs to "oblige" IT suppliers to take its boundary resources into account while developing IT products and services for PA. This can be also read "between the lines" of this excerpt, part of an interview with a DTD employee:

> No one doubts about the fact that public buildings should have ramps, PAs know it's a legal requirement, but they also know it's ethically correct... While for digital products... nobody asks their IT suppliers if the interface or service they deliver is accessible... in fact, it should be common practice! You know, accessible or non-accessible, it costs pretty much the same, it's just a matter of taking the right things into account from the beginning... of being used to do certain things...
> (DTD designer, interview)

We can notice how the DTD links the institutionalization of the "right" practices (here, asking the supplier to consider accessibility) to certain desired outcomes (here, accessible digital products) that should lead to "good" PA digitalization (see "practice work", section 1.1). This happens by inscribing certain norms, values, professional practices and procedures into the resources of the "design system", which are subsequently linked to laws and funding criteria through *PA2026*'s intermediation, defining an action net that has to be performed by PAs to digitalize in a "legitimate" way.

PA2026, "enabling platforms" and the "design system" themselves *act* by defining relations among each other, by providing examples and resources, by ordering interaction in a way that prescribes obligations and normatively intermediates the relationship and boundaries between local PAs, IT suppliers, citizens (end users) and governmental funding. As such, the resources deployed by the DTD, intermediated by PA2026, establish a set of co-definitions and co-restrictions aimed at the institutionalization of specific digital practices and technologies within Italian PA. This refers to the outcomes of digitalization (legitimate practices and technologies – such as "enabling platforms" – that PA bodies should deploy in their daily activity), but also to the process itself (legitimate practices and technologies that should be used to digitalize).

7. Concluding remarks

Throughout the last sections, we described how the DTD tries to enact central state digitalization strategies through (among other things) the mobilization of digital artefacts inscribed with definitions, procedures, norms, relationships, and professional practices. This case exemplifies how platforms participate in PA, where they act as tools of governance on behalf of specific resourceful organizations. *PA2026* and its platform boundary resources have a central role in the DTD's effort to institutionalize determined digital practices and technologies within Italian PA. The *PA2026* example shows how digital platforms can be used by governmental agencies that try to induce PA organizations to translate policies into practice, as they set up a "space of governance" (Decuypere et al. 2021) where it is possible to communicate intentions, define desired practices and outcomes, enrol participants, enable and "guide" their work, evaluate outcomes and convey funds.

By looking at how the DTD tries to interest, enrol, mobilize, and align (i.e., translate) different kinds of actants into its aim of institutionalizing specific forms and features of PA digitalization, we can gain some insights into how non-humans can participate in institutional entrepreneurship. From an analytical point of view, the resources mobilized by the DTD – intermediated by *PA2026* – define actions, roles, procedures, and rules aimed at aligning PAs and IT suppliers to achieve "technical isomorphism" throughout Italian PA. Here, rather than as an "immediate" effect of the adoption of technologies, (technical) isomorphism emerges as an intentional organizational strategy linked to envisioned desirable outcomes on the field level (such as efficiency, interoperability, simplicity, or accessibility) actively pursued through institutional entrepreneurship.

In this, the DTD exemplifies *normative* definitions of digitalization technically operationalized through platform boundary resources inscribed with professional knowledge aiming to induce *mimetic* processes. Eventually, by incentivizing digitalization through massive economic resources, and by establishing *PA2026* as an obligatory passage point to get these resources, the DTD aims to impose their "digital institutions" upon all Italian PAs by *coercion*. By establishing an action net (the connection of different actants and actions into chains) with the intermediation of *PA2026*, the DTD tries to foster the institutionalization of specific practices and technologies. Hence, *PA2026* participates in DTD's institutional entrepreneurship insofar as it supports "[...] the mobilization of resources, the construction of rationales for institutional change, and the forging of new inter-actor relations to bring about collective action" (Hardy and Maguire 2017, 270).

While the data presented here has no claims of generalization and doesn't allow us to address the success or failure of DTD's institutional entrepreneurship nor the way Italian PA organizations translate the DTD's visions into action, it enables us to address technical isomorphism as an organizational strategy willingly pursued to induce institutional redefinition. The DTD case exemplifies how technologies may participate in the purposeful crafting of normative, coercive, and mimetic pressures that aim to induce other organizations to isomorphize, suggesting that technologies may play an active role in institutional entrepreneurship and that the knowledge about their potential role may be deepened by addressing other empirical cases through the combination of neo-institutional and ANT concepts. By combining the meso-focus of neo-institutional concepts with ANT's sensitivity to situated practice,

relational aspects, and non-human agency, it is possible to address this and further underexplored aspects of institutionalization. For instance, by connecting the ideas of inscription and translation to the role of institutional entrepreneurs, we may be able to better grasp how specific organizational actors mobilize non-human actants to create, maintain, or transform institutions, practices, and boundaries within organizational fields.

More generally, this case shows how a dialogue between Organization Studies and Science & Technology Studies may shed light on underexplored aspects of contemporary digital organizing, and how a revival of this disciplinary contamination (e.g, Czarniawska and Hernes 2005; Robichaud and Cooren 2013; Plesner and Husted 2019) could lead to new insights about the organizational role of technologies and the technological dimensions of organizing.

Notes

[1] Interview with a DTD employee.

[2] https://italiadomani.gov.it/it/home.html.

[3] https://innovazione.gov.it/dipartimento/la-struttura/.

[4] https://www.agid.gov.it/it/agenzia/chi-siamo.

[5] https://innovazione.gov.it/italia-digitale-2026/.

[6] https://innovazione.gov.it/dipartimento/cosa-facciamo/.

[7] https://www.forumpa.it/chi-siamo/.

[8] *PA2026* is accessible only by specific PA employees, and it has not been possible to access the platform as a user. However, through the interviews and other data – such as the tutorial videos uploaded by the DTD on its YouTube Channel and other information accessible on the *PA2026* website – it has been possible to reconstruct the platform's features and functioning.

[9] https://developers.italia.it/it/piattaforme.html.

[10] Objective 3.1 of the ministerial Three-Years Plan for ICT in PA.

[11] https://avanzamentodigitale.italia.it/it/progetto/spid (December 2023).

[12] https://www.pagopa.it/it/prodotti-e-servizi/piattaforma-pagopa.

[13] *ibid*.

[14] https://www.pagopa.gov.it/it/dashboard/.

[15] https://io.italia.it/.

[16] *ibid*.

[17] https://designers.italia.it/design-system/.

[18] The DTD also promotes its professional culture and "technical solutions" by participating in events and conferences such as ForumPA, the "Milano Digital Week", or the "Accessibility Days", here we will focus on their online presence.

[19] https://designers.italia.it/.

[20] https://developers.italia.it/.

[21] https://innovazione.gov.it/progetti/designers-italia/.

[22] *ibid*.

[23] Accessibility refers to websites, tools, and technologies designed and developed inclusively. For more information: https://www.w3.org/WAI/fundamentals/accessibility-intro/.

[24] https://innovazione.gov.it/progetti/designers-italia/.

[25] https://designers.italia.it/modello/comuni/.

[26] https://developers.italia.it/it/come-lo-uso.

[27] https://innovazione.gov.it/progetti/developers-italia/.

[28] GitHub, Inc. is an Internet hosting service for software development and version control commonly used to host open source software development projects.

[29] https://padigitale2026.gov.it/come-partecipare/candida-pa.

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