The EU's Digital Identity Policy: Tracing Policy Punctuations

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ABSTRACT

This paper analyzes the development of the European Union's digital identity policy. The analysis focuses on the dynamics leading to a sudden shift from identity management as a sensitive topic under national competence towards a common, harmonized, user-centric European Digital Identity Framework layering on top of Member States' existing systems. We adopted a syncretic approach to Punctuated Equilibrium Theory and focused specifically on the concept of policy punctuations and policy image. Process tracing is used as a method to trace and interpret causal mechanisms of policy processes. The empirical analysis is grounded in elite interviews and policy documentation. To open up the black box of policy-making, we analyze and disaggregate the policy process. We thereby provide a better understanding of the historical-political and technological mechanisms that determine particular policy outcomes.

CCS CONCEPTS

• **Social and professional topics**; • **Computing / technology policy**; • **Government technology policy**; • **Governmental regulations**;

KEYWORDS

eIDAS, European Digital Identity Framework, Digital identity, Punctuated equilibrium theory, Process tracing, Policy process

1 INTRODUCTION

With rising concerns about citizens and businesses losing control over their data [22, 36], governments, and the European Union (EU) in particular, are engaging in the production of policies that regulate the digital sphere. A significant element of this 'cybernetic' [16] strategy is a pan-European digital identity management system

[12]. The European Commission's[1] legislative proposal introducing such system emerged as the result of a revision in June 2021.

As such, the European Digital Identity Proposal [12][2] builds on the 2014 electronic Identification, Authentication and trust Services (eIDAS) Regulation[3]. The Proposal follows extensive reviewing and consultation efforts on the eIDAS Regulation. The eIDAS review was anchored in Article 49 and thus determined to happen by law. However, prior to the start of the review, there were no officially announced plans to introduce a European Digital Identity scheme. Under the eIDAS Regulation, some Member States had already invested in their own electronic identification (eID) schemes [9]. Moreover, in the realm of identity management where identification is based on official electronic documents, the Treaty (TFEU) does not explicitly foresee regulatory competence for the EU to intervene in national affairs[4]. Plans to complement eIDAS with a European digital identity were first appearing on the legislative agenda in 2020. A Commission Communication of February 2020 [10] listed the 'review' of eIDAS as a 'revision'. In the Commission's Inception Impact Assessment, the European digital identity was introduced as one out of three 'policy options' to "strengthen Europe's technological autonomy [...] to compete globally" [15]. The speedy introduction of a proposal for a European Digital Identity Framework (EDIF), in a policy area where the EU's legal competence has been subject to interpretation, presents an interesting case of policy punctuation in the digital sphere. This gave rise to the following research question: *Why did a sudden step change occur in EU digital identity policy in the form of a substantial eIDAS revision?*

The importance of studying this phase of the policy process, the stage of '*agenda-setting*', lies in its function within the so-called '*policy cycle*' [21]. As the agenda-setting process defines which issues come to the fore in the first place, it determines to a large extent the chronology of events in subsequent phases. In light of the new EU digital constitutionalism and its increasingly complex legal construction [5, 7, 13], the necessity to thoroughly understand the process of a policy issue prior to its appearance on the political agenda becomes evident.

To answer our research question, we adopt a syncretic approach to theory. We study the policy development of the EDIF through

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[1]Hereinafter also referred to as 'Commission'.
[2]Proposal for amending Regulation (EU) No 910/2014 as regards establishing a framework for a European Digital Identity.
[3]Regulation (EU) 910/2014 on electronic identification and trust services for electronic transactions in the internal market.
[4]Legal identities fall in the scope of Member States' competences, especially as it concerns their sovereignty to identify their own citizens. Nevertheless, the EDIF proposal's stated objectives are to enable a digital single market, protect consumers and to create a space of freedom, due to the potential abuses of gatekeeper platforms and companies, while maintaining security cross-border contexts; areas that are included within shared competences between the EU and Member States according to Article 4.2 (a), (f) and (j) TFEU.

the theoretical lens of Punctuated Equilibrium Theory (PET) to understand the process of sudden policy change in the EU. This process of change takes into account the shift from identity management as a sensitive policy area exclusively dealt with on the national stage, towards harmonization efforts within a European framework. We explain and disaggregate this policy process using the Process Tracing (PT) methodology. We thereby open up the black box of policy-making and provide a better understanding of mechanisms that determine policy outcomes.

2 BACKGROUND

2.1 The EU Digital Identity Policy

With a variety of services offered online in the last decades, new pathways for remote identity verification emerged [18, 37]. Given the impact of digitalization on the international environment, one characteristic of eID services is typically the transcendence of national borders. In the EU, the eIDAS Regulation of 2014 provides the basis for remote cross-border identification and thus plays a fundamental role in this regard [24, 32]. To enable cross-border recognition of eID, the eIDAS Regulation relies on voluntary, notified national eID schemes. For identification and authentication purposes, however, eIDAS is limited to public sector services, despite a majority of use cases lying with the private sector [32]. This restrains the EU's range of possibilities to provide an alternative to citizens for private authentication schemes enabling equally convenient mechanisms such as Single Sign-On.

The 2021 evaluation of eIDAS highlighted that it had been highly successful in achieving technical interoperability for trust services, but it criticized the limitation to public sector services and the lack of incentive for Member States and private identity providers to connect to the infrastructure. These shortcomings had led to a low uptake by citizens and Member States, which paved the way for opportunities of private parties to build, offer and control user-friendly eID solutions. This raises particular concerns about a decline in individuals' control over their personal data [36], as well as a decline in governments' digital sovereignty and controlling power more generally [16]. Floridi highlights this 'poietic power' of companies that governments depend on for a variety of issues in the digital sphere. In the EU's eID landscape, this innovation asymmetry between states and companies is evidenced by another shortcoming. Not all Member States run eID schemes, and even fewer have notified them to the Commission. On top of that, individual national standards lead to large discrepancies between countries' eID schemes' implementations [24]. Overall, this means that cross-border transactions are limited and many services are not accessible under eIDAS.

In a Communication entitled *2030 Digital Compass: the European way for the Digital Decade* [11] published in March 2021, the Commission presented an update of its digital strategy, including an envisioned uptake of eID systems by 80% of citizens by 2030. In June 2021, the Commission put forth a legislative proposal with binding legal force throughout the EU. The EDIF proposal introduces digital wallets which would enable citizens to verify their identity online to access both public and private services without having to resort to commercial providers. Moreover, the Commission's proposal is "extraterritorial", as Recital 28 and Article 12b on the cross-border reliance on European Digital Identity Wallets mandate very large

online platforms, none of which being European, "to accept the use of European Digital Identity Wallets" for the provision of services where user authentication is required. It thereby exercises a de facto and de jure '*Brussels effect*' "with the consequence that market players must deal with EU regulations regardless of where they operate if such operations affect EU citizens" [7]. At the time of writing, this legislative proposal is awaiting the European Parliament's responsible Committee decision and will be transferred to the Council of the EU thereupon.
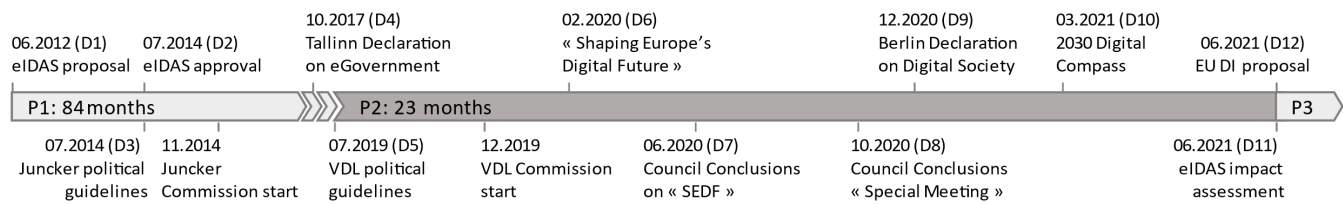
It may appear that - despite its high level of ambition to set out a harmonized legal framework across the EU - the development of the Proposal corresponds to a natural evolution of demands. Yet, in light of the dynamic evolution of this Proposal, this explanation might be oversimplified. The study of agenda-setting holds that there is a nearly unlimited amount of important policy issues and corresponding policy solutions that could rise to the top of the political agenda [4]. In reality, only a few policies will catch the limited attention spans of policy-makers [27], while the vast majority remains ignored. We thus look into agenda-setting theory to understand why the revision of the 2014 eIDAS Regulation was translated into a new legislative proposal for the EDIF in 2021.

2.2 Agenda-Setting in the European Union

We study the policy process of the EDIF through the theoretical lens of PET [1, 31]. PET is used to explain long periods of policy stability 'punctuated' by outbursts of policy activity resulting in major policy changes. In their seminal work *Agendas and Instability in American Politics*, Baumgartner and Jones elaborate on PET. In applying this framework to the European institutional set up, Princen [26, 27] refined some of the key concepts of PET.

The EU's policy on eID was stable throughout several years. This stability is reflected in the careful take on eID adopted by the eIDAS Regulation in 2014. This phase of stability marks a first period (P1, see Figure 1) in the EU's digital identity policy, starting with the legislative proposal for the eIDAS Regulation in 2012, and terminating with the end of the Juncker Commission in 2019. In contrast, the 2021 new legislative proposal is a striking and ambitious policy change. Under the Proposal, Member States are obliged to notify at least one eID scheme - a previously voluntary requirement. It further introduces obligations for specific private sector actors to accept the use of the proposed EU Digital Wallet. Based on legislative dynamics that oblige both public and private sector to engage substantial resources in an area where the EU's legal legitimacy was perceived to be limited, we argue that the EDIF proposal punctuates the equilibrium in the development of Europe's digital identity policy. We refer to this as the policy punctuation hypothesis (H_{pp}): *The introduction of a speedy and ambitious proposal on a European Digital Identity Framework is a clear step change in a previously stable European digital identity policy.*

Princen [26, 27] offers a detailed framework for policy change in the EU. He emphasizes '*policy venues*' and '*problem definition*', the latter consisting of the '*policy image*', or so-called '*frames*', as key concepts that oscillate between policy stability and change. The venue of a policy plays an important role as policy issues can be perceived differently by different audiences [4] and due to the fundamental difference between institutional arenas, such as the dynamics of participation, institutional authority, credibility,

| 06.2012 (D1) eIDAS proposal | 07.2014 (D2) eIDAS approval | 10.2017 (D4) Tallinn Declaration on eGovernment | 02.2020 (D6) « Shaping Europe's Digital Future » | 12.2020 (D9) Berlin Declaration on Digital Society | 03.2021 (D10) 2030 Digital Compass | 06.2021 (D12) EU DI proposal |

P1: 84 months   P2: 23 months   P3

| 07.2014 (D3) Juncker political guidelines | 11.2014 Juncker Commission start | 07.2019 (D5) VDL political guidelines | 12.2019 VDL Commission start | 06.2020 (D7) Council Conclusions on « SEDF » | 10.2020 (D8) Council Conclusions « Special Meeting » | 06.2021 (D11) eIDAS impact assessment |

Figure 1: Timeline of key events, publications (see Appendix 2, Table 2) and periods in the policy-making process. VDL = European Commission President von der Leyen. SEDF = Communication on "Shaping Europe's Digital Future".

the support base for a certain policy, political priorities, general interests and networks [26]. Therefore, it is important to specify the venue in which a policy will be taken up. The intentional selection of a venue by policy-makers to influence policy outcomes is called '*venue-shopping*', a key element in the policy punctuation dynamic [1]. The issue itself remains unchanged, but the environment of policy actors varies according to the institutional space and scope of participation of the venue. Political actors can shift the discussion of a topic horizontally from one policy sector to another, or vertically e.g., from the national to the supranational level [27].

Next to institutional venues, Princen highlights the bounded rationality of policy actors who are subject to cognitive limitations which are predetermined and reinforced by institutional structures [27]. Decision- and policy-makers can only dedicate their attention to one issue at a time and each governmental unit is usually allocated to one specific task. Within this limited attention span, policy issues compete by being defined in a way that convinces the audience of its urgency and priority [1]. This can be achieved through the 'problem definition' or the 'frame' of a policy issue, "a mixture of empirical information and emotive appeals" that defines how it is portrayed and placed in a context to get the most attention from the audience in the political debate [31]. Attention for an issue can also be gained by utilizing already existing public attention and placing the issue in that context. This allows issue proponents to accentuate the importance and urgency of one policy issue, while minimizing the attention in the established reference for another.

In the EU's policy process on digital identity, a decisive event was the new Commission mandate under President von der Leyen, appointed in December 2019. This defines a second critical period (P2, see Figure 1) for our analysis. The Commission put forth the idea of a European digital identity for the first time publicly in a Communication entitled *Shaping Europe's Digital Future* [10]. The Communication maps out future plans for one of the six political priorities of European Commission President von der Leyen. Specifically, it calls for "helping consumers take greater control of - and responsibility for - their own data and identity" through a "universally accepted public electronic identity [...] without having to use unrelated platforms [...] and unnecessarily sharing personal data with them". The differentiation of "them", i.e., large, mostly non-EU technology companies, is becoming an increasingly important motive in the communication strategy of the EU digital policy-making process. This also aligns with the novel inception of digital constitutionalism which Celeste [5] explains as "constitutional counteractions against the challenges produced by digital technology". From this emerges the politically-embedded notions

of *'digital sovereignty'* and *'strategic autonomy'* [6] as means of exercising controlling power and advancing the concept of European leadership in the global digital domain.

Importantly, actors across the entire political system shift policy attention collectively. As a result, such shifts are not the "province of one partisan camp alone" and cannot be accounted for and explained solely within "the confines of the standard model based in preference shifts caused by electoral change" [19]. Moreover, contrary to the agenda-setting perspective as a theory of policy dynamics, the comparative statics approach has "conflated the choice of policy issue (agenda setting) with the policy solution chosen given a policy problem" [19]. According to Jones and Baumgartner, political parties and partisan interests play a rather minor role at the problem stage. At the solution stage, on the other hand, ideology and partisanship are a far more relevant aspect to consider. From a problem perspective, the last decades witnessed rising power asymmetries between users and service providers [36] and a well-established digital corporate sovereignty built on the hegemonic positions of non-European multinational technology companies [16].

Considering the rising strategic importance of identity in the digital world, concerns are raised over the increasing power of these companies, their economic and social influence, and the threat they constitute to Europe's ability to act independently in this domain [22]. In response to these dynamics, the von der Leyen Commission identified a number of digital policy priorities that would sustain economic growth and strengthen the EU's global competitiveness. While the eIDAS Regulation aimed at facilitating digital cross-border administration, the proposed EDIF matured as a legislation to strengthen Europe's stance in the geopolitics of data. We posit that this shift in discourse signals a change in the policy image of eID: because the new policy image is linked to overarching political priorities of the Commission, the policy was able to expand to the macro-political level. This led to the June 2021 EDIF proposal, which marks the third and final period (P3, see Figure 1) of the policy process analyzed in this paper. We refer to this as the policy image hypothesis (H_{pi}): *The linking of the eIDAS Regulation with the European Commission's digital priorities punctuated the equilibrium of the European digital identity policy.* It focuses on the concept of policy image within PET, which allows us to highlight the role played by the framing of a policy within complex policy processes.

3 METHODOLOGY

3.1 Process Tracing

Process Tracing (PT) methodology is rooted in the logic of causal mechanisms for within-case accounts of policy change [2, 8]. Its objective is to move beyond the description of empirical narratives and instead identify causal mechanisms that link causes and outcomes to craft fine-grained explanations of policy change. In the field of policy studies, there have been increasing calls for analyzing causal mechanisms in policy-process theory [33]. Within many policy process theories, "causation is often claimed or implied, and at best supported by shallow explanations" [33]. Capturing causal mechanisms with PT methodology can strengthen the analysis of policy processes of single case studies by providing a robust method to understand causality. In practice, a nuanced understanding of policy-making disaggregates the policy process into cause-and-effect mechanisms between different factors, such as focusing events or policy-makers' attention to policy problems [2]. PT can be modelled as: X caused Y through a mechanistic process of A, B, C in case Z [20].

The typically theory-centric PT approach [2] requires the underlying theoretical model to be translated into a causal mechanism. In our case, each step in a sequence of policy development is explained by reference to PET. As a 'theory of policy dynamics' [19], PET seems to be a particularly well positioned theoretical foundation for unravelling causal mechanisms that lead to policy change. The mechanistic approach is central to PET, as episodic policy changes are triggered by, for instance, focusing events or changing actor constellations. In an introduction to a special issue on PET, Jones and Baumgartner [19] called for empirical in-depth analyses of policy processes in which "causes of punctuated equilibrium could fruitfully be studied by interviews and process tracing using government documents".

3.2 Data Collection and Data Analysis

The study builds on secondary evidence consisting of 10 semi-structured elite interviews and primary evidence drawn from policy documentation [30]. The interviews were conducted between March 2022 and April 2022, and lasted on average about 40 minutes. Only interviewees involved into the decision- and policy-making process were selected (see Appendix, Table 1). Their average professional experience is 25 years and 6 months. To triangulate our interview results, data has been gathered from 12 publicly accessible policy documents (see Appendix, Table 2). Using primary evidence allowed us to cross-check the causal inferences derived from our interview data. Two authors coded the interview transcripts and policy documentation using the qualitative analysis software MAXQDA [23]. Following our deductive theory-centric approach [2], we proceeded with closed coding using a pre-established coding scheme based on PET.

In order to test the two PET-derived hypotheses empirically, it is necessary to operationalize the variables in the causal mechanism of policy change. The eIDAS Regulation, published in 2014, constitutes the start of a period of policy stability and the status quo in the PET framework. Its policy image is expected to be a reflection of its functionalist purpose by enabling cross-border authentication

and interoperability of Member States' systems in the EU. Consequentially, we operationalize this status quo with the key concepts '*cross-border*' and '*interoperability*'. The EDIF is hypothesized to be a more political piece of legislation as it seeks to establish a more harmonized approach to digital identification, which is therefore argued to mark a punctuation in the policy equilibrium. '*Harmonization*' is thus operationalized as a key concept to embody this major policy shift. To test H_{pi}, the identified digital policy priorities are (1) '*Digital sovereignty*' (encompassing the independence from both foreign actors and powerful private sector actors), (2) '*Data control*' (referring to the aspects of user-centricity related to data, including control, privacy and data protection), (3) '*Digital single market*' (building a favorable environment for digital growth and better access to digital services), and (4) '*Competitiveness*' (referring to the capacity to sustain a high rate of productivity growth) of the EU.

As highlighted above, we identified three key points in time for the testing of our hypotheses (See Figure 1). The first one is the period starting in 2012 with the legislative proposal for the eIDAS Regulation until 2019 (P1) which marks the end of the Juncker Commission. The second period, from July 2019 to June 2021 (P2), starts with the transition to the von der Leyen Commission, officially inaugurated in December 2019. The third period starts on the 3rd of June 2021 (P3), when the EDIF proposal was published. These 3 periods form our investigation space: P1 plotting our initial situation, P2 encompassing the stage in which causal processes took place, and P3 the outcome of the causal process.

4 FINDINGS

4.1 Policy Punctuation

PET focuses on major policy changes after longer periods of stability. With the eIDAS Regulation in 2014 (P1) it was "the first time [...] that different regulations at European level were brought together to create more consistency and [...] provide a consistent trust framework for the single market in the electronic area" (I7). This meant that the objectives of the eIDAS Regulation as a "federated solution" in 2014 were to provide a long-lasting legal basis for a European identity ecosystem and enable interoperable cross-border electronic authentication (I1, I3, I4, I5, I6, I8, D1, D2, D4).

The situation fundamentally changed since 2014, as the facilitation of cross-border access to online public services was no longer the central issue (I7). We thus hypothesized that the new legislative EDIF proposal in P3 marked a punctuation in the European digital identity policy equilibrium (H_{pp}). The analysis of our data collected from both interviews and policy documentation supported this. The proposed European Digital Identity policy option "presents the highest level of ambition" (I2, D12) and a "quantum leap" that will "forever change the framework on electronic and digital identities [...] to be a model for the rest of the world" (I9). In this context, the proposal was considered a "substantial change" and "complete paradigm shift [compared to] eIDAS 1.0, which was [...] humble or shy in its ambition [towards] a clear mandate to step up" (I2) and "harmonize the provision of eID at the EU level" (I1). Our data further demonstrated that the legislative proposal evolved beyond a pure review obligation as outlined in Article 49 of the eIDAS Regulation (I1). By increasingly gaining "urgency and importance" (I2,

I3, I7, I9) backed up by "unusual" empowerment from the European Council (I9), the policy proposal "changed [the Commission's] entire mission related to the particular deliverable" (I1) in the course of P2. Drawing from the observed shift away from the legislation's functionalist purpose to regulate cross-border interactions and interoperability towards a harmonized digital identity ecosystem, we can confirm H_{pp} for the European Digital Identity proposal.

4.2 Policy Image

Digital sovereignty. In its Communication on Shaping Europe's Digital Future, published in February 2020, the Commission contextualized digital identity for the first time in the larger frame of "helping consumers take greater control of and responsibility for their own data and identity" by ensuring "clearer rules on the transparency, behavior and accountability of those who act as gatekeepers to information and data flows" (D6). It argued that "a universally accepted public electronic identity [...] is necessary for consumers to have access to their data and securely use the products and services they want without having to use unrelated platforms to do so and unnecessarily sharing personal data with them" (D6). In particular the "huge pressure" from large platforms (I2, I6) offering identification and authentication services to EU citizens for data exploitation purposes was confirmed as a large threat resulting in the importance and urgency for governments to act quickly and strategically (I1, I2, I3, I4, I6, I7, I8, D10). The Council Conclusions on *Shaping Europe's Digital Future*, published in June 2020, further acknowledged the power of large online platform companies as gatekeepers in the digital economy to draw vast amounts of data (D7). A clear need was stressed to establish limitations that would "prevent these big entities from scooping out the identity data that would be available in [digital] wallets" (I1, I7). This would "recover a little bit of the digital sovereignty that [the EU] had lost to these American platforms" (I6, I7, I8, D9). The purpose of digital sovereignty, in this context, was "to reduce [the EU's] dependency on other parts of the globe for most crucial technologies" (D6). This includes the objective "to make citizen and companies [...] regain their freedom to manage [...] data in the digital [world]" (I3). With "the realization that the power of the gatekeepers is just incommensurable" (I3), the eIDAS Regulation's raison d'être assimilated the legal objectives of the Digital Services Act and the Digital Market Act (I3, D12). The Impact Assessment accompanying the European Digital Identity proposal substantiated this by affirming that "technological sovereignty would [...] be enhanced through greater harmonization of the implementation of eIDAS" which "would [...] allow EU digital industry compete at equal footing with large online platforms in the provision of digital identity solutions" (D11).

Data control. Like digital sovereignty, data control figured prominently in all policy documents linked to the European digital identity. In February 2020, the Commission stressed that "people should also be able to control their online identity, when authentication is needed to access certain online services" (D6). In its conclusions on shaping Europe's digital future four months later, the Council of the EU not only stressed that EU citizens and businesses should retain control over their data, but also called "upon the Commission to [...] create a [...] framework for digital identity, safeguarding the competitive edge of European businesses and protecting the EU common values and fundamental rights, such as the protection of

personal data and privacy" (D7). Likewise, in October 2020, the European Council highlighted the importance of an EU-wide digital identity framework "to provide people with control over their online identity and data" and invited "the Commission to come forward with a proposal for a 'European Digital Identification' initiative by mid-2021" (D8). This was identified as a clear, unanimous "mandate from the Member States" to "come up with a new proposal on a European Digital Identity Framework" (I2, I7). In the Berlin Declaration on *Digital Society and Value-Based Digital Government* from December 2020, the Presidency of the Council expressed its commitment to "continue working towards developing an EU-wide Digital Identity framework allowing citizens and businesses to [...] access online public and private services, while minimizing disclosure and retaining full control of data" (D9). The Digital Compass published in March 2021 (D10), the Impact Assessment report (D11), the Proposal itself (D12), and interview participants (I2, I3, I4, I6, I7, I8, I9) further highlighted the shift of the policy problem away from cross-border access to online public services towards providing a framework which ensures data control, protection and privacy.

Digital Single Market. In June 2020, the Council of the EU acknowledged that a European digital identity will be an "essential enabler of the digitalized Single Market" (D7), thereby linking the policy area of digital identity to the third key concept in the Commission's digital policy priorities. This was also reflected in some policy documents (D6, D9), in the Proposal itself (D12), and in an interview, where it was argued that the functioning of the Digital Single Market cannot "avoid fixing the aspect of identity" (I1). A comparison between Juncker's (D3) and von der Leyen's political priorities (D5) reveals that while data control took a rather minor and digital sovereignty a non-existent role in Juncker's political guidelines, the pursuit of a connected Digital Single Market to "make much better use of the great opportunities offered by digital technologies" and "break down national silos" loomed large.

Competitiveness. A similar pattern can be found in the fourth key concept. Competitiveness is a political objective in both the current and the previous Commission mandate (D3, D5). In comparison with the previously analyzed political priorities, our data provided less evidence for the policy image of the European digital identity to be embedded in this priority. Still, the Impact Assessment accompanying the European Digital Identity proposal maintained that the EDIF proposal would "boost global trade and support competitive advantage of the EU-based enterprises" and "foster the competitive advantage of European businesses globally, through greater digitalization [...] of their service offering" (D11). The European Digital Identity proposal reflects the same argumentation (D12).

4.3 Agenda-Setting Factors

Next to the political priorities of the Commission, our analysis yielded further insights into other agenda-setting factors at play. It was frequently argued that the "acceleration by the [Coronavirus Disease (COVID-19)] crisis" (I3, I4) enabled "digital identity and electronic signatures [to] show their usefulness [...] for the continuity of [...] fundamental services for society" (I1, I2). Policy documentation highlighted "the need for fast development of online public services that allow citizens to deal with public authorities remotely" (D7, D8, D12). Moreover, there was a certain ambiguity with regard to the impact of technological progress in the sphere of

digital identity, specifically the Self-Sovereign Identity (SSI) movement. It was argued that clearly "[technological] developments since 2014 [such as the] concept of self-sovereign identities, [...] the wallet [and] verified attributes based on emerging [...] standards" caused a certain "political moment" (I1) and "inspiration" for the technical design (I10). Other interviewees maintained that "the push for [policy] has been [predominantly] the sanitary crisis" (I4), thereby imparting less importance to the role of "technological [breakthroughs]" in the agenda-setting process (I10). A third and final factor identified in our data relates to leadership dynamics at European level, with the overarching political priorities of the Commission being "green and digital" and an extensive focus on geopolitics and the EU's performance globally (I7). Moreover, it was mentioned that the innovation-oriented mindset and background of the European Commissioner for Internal Market helped to push digital policies, including the European Digital Identity proposal high on the political agenda (I4).

5 DISCUSSION

The EDIF has been considered an ambitious legislative proposal in many ways. Article 6a of the draft regulation requires Member States to issue a European Digital Identity Wallet under a notified eID scheme which, under Article 12b, private companies using strong authentication for online identification and 'very large platforms', are expected to accept [12]. The findings of this paper confirmed that the new proposal introduced at the beginning of P3 marks a major policy shift in the European digital identity policy. When looking back at the first two years of the von der Leyen Commission, few policy proposals and achievements in the digital realm exercise such a directly visible impact on the daily life of citizens. The European digital identity's impact will be felt on a range of topics touching every citizen including data protection, control and privacy. Despite these prospects, the proposal only made its appearance in the public sphere in early 2020.

By taking into account temporal processes for Hpi, we are able to provide an answer to our research question. We found that the reframing of the eIDAS Regulation with the incumbent Commission's digital policy priorities was largely responsible for policy punctuation. We also identified other contributing factors pushing the EDIF to the top of the policy agenda. The digital transformation of society and its acceleration triggered by the COVID-19 pandemic acted as a momentum for policy-makers to realize the need of providing citizens with secure, digital and user-centric conditions. The technological developments in the field, such as the concept of SSI and verifiable credentials, cannot be neglected. Neither can the political leadership under which digital policies are either slowed down or pushed ahead. So far, the role of technology and innovation in the policy agenda-setting process remains an interesting and under-researched phenomenon in the analysis of digital policy research. This compels us to make several observations, which we did not set out to analyze within the scope of this investigation, but could be worth exploring in further research.

First of all, the European digital identity's alignment with the Commission's digital priorities stands in contrast to its struggle to find its place on the political agenda until the beginning of the COVID-19 crisis in Europe. This raises the question of how many other such proposals with significant impact are waiting at the edge of the political agenda, due to dynamics that Rhinard [28] described as 'crisisification' of European policy-making [28]. A second observation is linked to the staggering speed - by European standards - at which the European Digital Identity Proposal was submitted. This policy punctuation demonstrates that, in contrast to past records of EU legislative processes, the Commission and the European Council can, when the right circumstances are present, act fast, decisively and ambitiously. Third, one of the key lever for policy punctuation highlighted by PET is venue-shopping. While Princen [27] found evidence that some venue-shopping can occur at EU-level, we could not identify any such dynamic leading to policy punctuation in this particular case. What we found however, is that the venue has shifted through the change of Commission leadership, leading to a de facto different venue with different priorities. These findings reinforce the significance of comparative analysis on venue-shopping in the USA, China and the EU [35] and feeds into the need for furthering research on the impact of the EU's institutional policy venue structures.

6 CONCLUSIONS

This article adopted a PT approach to trace the policy process dynamics that led to the speedy introduction of the EDIF proposal. The findings of our analysis validated both hypotheses. We found that political mechanisms during the von der Leyen mandate (P2) explain the process through which the new Proposal came to be. In fact, P2 was marked by a sudden urgency for a European digital identity aligned with the Commission's digital priorities (digital sovereignty, data control, Digital Single Market and competitiveness). In addition to that, other explanatory variables not captured by our hypotheses emerged during the analysis. This leads us to this study's main limitations.

Mapping our results against Collier's [8] PT test for causal inference highlights our first limitation: an affirmed but weak causal inference. Our analysis confirmed the policy image hypothesis, but it was not possible to completely eliminate rival hypotheses. This is visible in the three additional factors that were involved in the agenda-setting process described in section 4.3. Identifying causal mechanisms using PT is however subject to the typical caveat that hypothesis testing in social science rarely yields 'doubly decisive' causal inferences. This limitation could be weakened with a comparative follow-up study. Second, PET offers little explanatory value regarding the interaction between policy and technological developments in digital policy-making. Our findings on the digital acceleration through COVID-19, the development of the concept of SSI, and the influence of a techno-enthusiastic policy venue did not match any theoretical explanation in our study.

To set off this limitation, future research could be dedicated to the interplay between politics and technology against the background of PET. To this end, it can be helpful to borrow concepts from the Science and Technology Studies discipline. In answering our research question we found that rather than a single exogenous triggering event such as an innovation, a strategy to attract attention is the reconfiguration of the policy image through institutionalized policy priorities of a government's mandate. Hence, a constructivist approach [3] lends itself as an adequate theoretical point of departure to study technology, such as digital identities, in a broader societal and institutional context [34]. However, in the

evolution of digital identity management, the use of a digital wallet and verifiable credentials [29] was likely not initiated by policy choices alone, a dynamic that can be confirmed with Orlikowski's [25] structuration model of technology [34]. There is a clear elective affinity between policy issues and innovation in which policies influence and are influenced by technological innovation at both the problem and the solution stage of the policy process. For the punctuation of an equilibrium in the field of public policy, the concept of technological momentum, where the interaction between policy issues and technology are mutually reinforcing, appears to be appropriate [17]. This hybrid concept between 'soft' technological determinism and social constructivism encompasses the interest of governments to keep pace with technological innovation and its geopolitical implications, while recognizing institutional, cybernetic legacies [14, 16]. Questions such as, why a specific technology problem and not others attracts the attention of policy-makers, or why a specific technology is considered a potential solution to the policy problem, could be studied.

This would be an opportunity to empirically substantiate the role of technological innovations in public policy agenda-setting, by, for instance, looking into national contexts. An example could be Estonia's digital governance model and its chapter on digital identity policy as a hybrid product of government and private initiatives. Such discussions offer various avenues for future research in the fields of technology and public policy to reveal practical implications for the digital transformation of public services and governments.

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A APPENDICES

A.1 Interviews

Table 1: Interview Partners

#	Position	Affiliation	Interview Date
I1	Policy Officer	Government Institution	03.03.2022
I2	Policy Officer	Government Institution	16.03.2022
I3	Head of Unit	Government Institution	18.03.2022
I4	Head of Unit	Government IT Centre	18.03.2022
I5	ICT Consultant	Cybersecurity Consultancy	22.03.2022; 29.03.2022
I6	Researcher	University	29.03.2022
I7	Head of Unit	Government Institution	29.03.2022
I8	Legal Advisor	IT Services and Consulting Company	29.03.2022
I9	Director	IT Services Company	30.03.2022
I10	Director	IT Security Company	04.04.2022

A.2 Policy Documents

Table 2: Policy Documents Information

#	Document name	Publication
D1	Proposal for a Regulation on electronic identification and trust services for electronic transactions in the internal market	06.2012 (P1)
D2	Regulation (EU) 910/2014 on electronic identification and trust services for electronic transactions in the internal market	07.2014 (P1)
D3	(Juncker) Political Guidelines for the next European Commission 2014-2019 - A New Start for Europe: My Agenda for Jobs, Growth, Fairness and Democratic Change	07.2014 (P1)
D4	Tallinn Declaration on eGovernment at the ministerial meeting during Estonian Presidency of the Council of the EU	10.2017 (P1)
D5	(Von der Leyen) Political Guidelines for the next European Commission 2019-2024 - A Union that strives for more - My agenda for Europe	10.2019 (P2)
D6	Shaping Europe's Digital Future	02.2020 (P2)
D7	Council conclusions on shaping Europe's digital future	06.2020 (P2)
D8	Special meeting of the European Council (1 and 2 October 2020) - Conclusions	10.2020 (P2)
D9	Berlin Declaration on Digital Society and Value-Based Digital Government at the ministerial meeting during the German Presidency of the Council	12.2020 (P2)
D10	2030 Digital Compass: the European way for the Digital Decade	03.2021 (P2)
D11	Impact assessment report accompanying the document Proposal for a Regulation amending Regulation (EU) 910/2014 as regards establishing a framework for a European Digital Identity	06.2021 (P2)
D12	Proposal for a regulation amending Regulation (EU) 910/2014 as regards establishing a framework for a European Digital Identity	06.2021 (P3)