Designing for Digital Justice: an Entanglement of People, Law, and Technologies in Chilean Courts

Dissertation

zur Erlangung des akademischen Grades
„Doctor of Philosophy" (Ph.D.)
Fachgebiet Design in Internet Technologien und Systeme

eingereicht an der
Fakultät für Digital Engineering
der Universität Potsdam

von
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Potsdam, Germany
November 2022

Designing for Digital Justice

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Submission: 15.11.2022
Disputation: 18.07.2023

Published online on the
Publication Server of the University of Potsdam:
https://doi.org/10.25932/publishup-60417
https://nbn-resolving.org/urn:nbn:de:kobv:517-opus4-604178

ABSTRACT

At the beginning of 2020, with COVID-19, courts of justice worldwide had to move online to continue providing judicial service. Digital technologies materialized the court practices in ways unthinkable shortly before the pandemic creating **resonances with judicial and legal regulation, as well as frictions**. A better understanding of the dynamics at play in the digitalization of courts is paramount for designing justice systems that serve their users better, ensure fair and timely dispute resolutions, and foster access to justice. Building on three major bodies of literature —e-justice, digitalization and organization studies, and design research— Designing for Digital Justice takes a nuanced approach to account for human and more-than-human agencies.

Using a **qualitative approach**, I have studied in depth the digitalization of **Chilean courts** during the pandemic, specifically between April 2020 and September 2022. Leveraging a comprehensive source of primary and secondary data, I traced back the **genealogy** of the **novel materializations of courts' practices** structured by the possibilities offered by digital technologies. In five (5) cases studies, I show in detail how the courts got to **1) work remotely, 2) host hearings via videoconference, 3) engage with users via social media** (i.e., Facebook and Chat Messenger)**, 4) broadcast a show with judges answering questions from users via Facebook Live,** and **5) record, stream, and upload judicial hearings to YouTube** to fulfil the publicity requirement of criminal hearings. The **digitalization of courts** during the pandemic is characterized by a suspended normativity, which makes innovation possible yet presents risks. While digital technologies enabled the judiciary to provide services continuously, they also created the risk of displacing traditional judicial and legal regulation.

Contributing to **liminal innovation and digitalization research**, Designing for Digital Justice theorizes four phases: 1) the pre-digitalization phase resulting in the development of regulation, 2) the hotspot of digitalization resulting in the extension of regulation, 3) the digital innovation redeveloping regulation (moving to a new, preliminary phase), and 4) the permanence of temporal practices displacing regulation. Contributing to **design research** Designing for Digital Justice provides new possibilities for innovation in the courts, focusing at different levels to better address tensions generated by digitalization. Fellow researchers will find in these pages a sound theoretical advancement at the intersection of digitalization and justice with novel methodological references. Practitioners will benefit from the actionable governance framework **Designing for Digital Justice Model**, which provides three fields of possibilities for action to design better justice systems. Only by taking into account digital, legal, and social factors can we design better systems that promote access to justice, the rule of law, and, ultimately social peace.

ZUSAMMENFASSUNG

Designing for Digital Justice: eine Verflechtung von Menschen, Recht und Technologien in chilenischen Gerichten

Durch COVID-19 mussten zu Beginn des Jahres 2020 die Gerichte weltweit, um ihren Dienst fortzusetzen, Onlinekommunikation und digitale Technologien nutzen. Die digitalen Technologien haben die Gerichtspraktiken in einer Weise verändert, die kurz vor der Pandemie noch undenkbar war, was zu **Resonanzen mit der Rechtsprechung und der gesetzlichen Regelung sowie zu Reibungen führte**. Ein besseres Verständnis der Dynamik, die bei der Digitalisierung von Gerichten im Spiel ist, ist von entscheidender Bedeutung für die Gestaltung von Justizsystemen, die ihren Nutzern besser dienen, faire und zeitnahe Streitbeilegung gewährleisten und den Zugang zur Justiz und zur Rechtsstaatlichkeit fördern. Aufbauend auf den drei großen Themenkomplexen E-Justiz, Digitalisierung und Organisationen sowie Designforschung verfolgt „Designing for Digital Justice" einen nuancierten Ansatz, um menschliche und nicht-menschliche Akteure zu berücksichtigen.

Mit Hilfe eines **qualitativen Forschungsansatzes** habe ich die Digitalisierung der chilenischen Gerichte während der Pandemie, insbesondere im Zeitraum von April 2020 und September 2022, eingehend untersucht. Auf der Grundlage einer umfassenden Quelle von Primär- und Sekundärdaten habe ich die **Genealogie** der neuartigen Materialisierung von Gerichtspraktiken zurückverfolgt, die durch die Möglichkeiten der digitalen Technologien strukturiert wurden. In fünf (5) Fallstudien zeige ich im Detail, wie die Gerichte 1) aus der Ferne arbeiten, 2) Anhörungen per Videokonferenz abhalten, 3) mit Nutzern über soziale Medien (beispielsweise Facebook und Chat Messenger) in Kontakt treten, 4) eine Sendung mit Richtern, die Fragen von Nutzern beantworten, über Facebook Live ausstrahlen und 5) Gerichtsverhandlungen aufzeichnen, streamen und auf YouTube hochladen, um die Anforderungen an die Öffentlichkeit von Strafverhandlungen zu erfüllen. Hierbei zeigt sich, dass digitale Technologien der Justiz zwar eine kontinuierliche Bereitstellung von Dienstleistungen ermöglichen. Sie bergen aber auch die Gefahr, dass sie die traditionelle gerichtliche und rechtliche Regulierung verdrängen.

Als Beitrag zum Forschungsstrom zu **„Liminal Innovation" und Digitalisierung** theoretisiert „Designing for Digital Justice" vier Phasen: 1) Vor-Digitalisierung, die zur Entwicklung von Regulierung führt, 2) der Hotspot der Digitalisierung, der zur Ausweitung der Regulierung führt, 3) digitale Innovation, die die Regulierung neu entwickelt (Übergang zu einer neuen, provisorischen Phase) und 4) die Permanenz der temporären Praktiken, die die Regulierung verdrängt. Als Beitrag zur **Designforschung** bietet „Designing for Digital Justice" neue Möglichkeiten für die Gestaltung von Justizsystemen, indem es Spannungen und Interventionsebenen miteinander verbindet. Forscherkolleg*innen finden auf diesen Seiten eine fundierte theoretische Weiterentwicklung an der Schnittstelle von Digitalisierung und Gerechtigkeit sowie neue methodische Hinweise. Praktiker sollen von dem Handlungsrahmen „Designing for Digital Justice Model" profitieren, der drei Handlungsfelder für die Gestaltung besserer Justizsysteme bietet. Nur wenn wir die digitalen, rechtlichen und sozialen Akteure berücksichtigen, können wir bessere Systeme entwerfen, die sich für den Zugang zur Justiz, die Rechtsstaatlichkeit und letztlich den sozialen Frieden einsetzen.

RESUMEN

Diseñar para la justicia digital: una *maraña* de personas, leyes y tecnologías en los tribunales chilenos

A principios de 2020, con la COVID-19, los tribunales de justicia de todo el mundo tuvieron que ponerse en línea para continuar con el servicio. Las tecnologías digitales materializaron las prácticas de los tribunales de formas impensables poco antes de la pandemia, creando **resonancias con la regulación judicial y legal, así como fricciones**. Comprender mejor las dinámicas en juego en la digitalización de los tribunales es primordial para diseñar sistemas de justicia que sirvan mejor a sus usuarios, garanticen una resolución de conflictos justa y oportuna y fomenten el acceso a la justicia. Sobre la base de tres grandes temas en la literatura -justicia electrónica, digitalización y organizaciones, e investigación del diseño-, Designing for Digital Justice adopta un enfoque matizado para tener en cuenta los organismos humanos y más que humanos.

Utilizando un enfoque cualitativo, he estudiado en profundidad la digitalización de los tribunales chilenos durante la pandemia, concretamente entre abril de 2020 y septiembre de 2022. Aprovechando una amplia fuente de datos primarios y secundarios, he rastreado la **genealogía** de las nuevas **materializaciones de las prácticas de los tribunales estructuradas por las posibilidades que ofrecen las tecnologías digitales**. En cinco (5) estudios de caso, muestro en detalle cómo los tribunales llegaron a 1) trabajar a distancia, 2) celebrar audiencias por videoconferencia, 3) relacionarse con los usuarios a través de las redes sociales (es decir, Facebook y Chat Messenger), 4) emitir un espectáculo con jueces que responden a las preguntas de los usuarios a través de Facebook Live, y 5) grabar, transmitir y subir las audiencias judiciales a YouTube para cumplir con el requisito de publicidad de las audiencias penales. La digitalización de los tribunales durante la pandemia se caracteriza por una normatividad suspendida, que posibilita la innovación, pero presenta riesgos. Si bien las tecnologías digitales permitieron al poder judicial prestar servicios de forma continua, también crearon el riesgo de desplazar la normativa judicial y legal tradicional.

Contribuyendo a la teoría de la innovación liminar y digitalización, Designing for Digital Justice teoriza cuatro fases: 1) la fase de **pre-digitalización** que da lugar al desarrollo de la regulación, 2) el **hotspot de digitalización** que da lugar a la ampliación de la regulación, 3) la **innovación liminal** que vuelve a desarrollar la regulación (pasando a una nueva fase preliminar), y 4) la **permanencia de prácticas** temporales que desplaza la regulación. Contribuyendo a la investigación sobre el diseño, Designing for Digital Justice ofrece **nuevas posibilidades de intervención** para el diseño de la justicia, conectando las tensiones y los niveles para intervenir en ellos. Los colegas investigadores encontrarán en estas páginas un sólido avance teórico en la intersección de la digitalización y la justicia y novedosas referencias metodológicas. Los profesionales se beneficiarán del marco de gobernanza **Designing for Digital Justice Model**, que ofrece tres campos de posibilidades de actuación para diseñar mejores sistemas de justicia. Sólo teniendo en cuenta las agencias digitales, jurídicas y sociales podremos diseñar mejores sistemas que se comprometan con el acceso a la justicia, el Estado de Derecho y, en última instancia, la paz social.

ACKNOWLEDGEMENTS

I would like to thank the Hasso-Plattner Design Thinking Research Program for providing the context to develop this interdisciplinary research and for its generous funding. To the Supreme Court of Chile, its Administrative Corporation of the Judiciary, and the staff members of the courts that participated in this research.

Thank you, Professor Christoph Meinel, for your vision and belief that studying Chilean courts was a significant academic endeavour. Thank you, Professor Falk Übernickel, for introducing me to Information Systems and encouraging me to publish my research outputs early on. Four years later, your strategy has paid off. Thanks, Dr Julia von Thienen, for showing me the value of an institution that genuinely believes in interdisciplinary research. This gratitude extends to Dr Christian Dremel for guiding my first steps into the information systems research and community. I would also like to thank my reviewers, Professor Michael Doherty and Professor Pablo Hermansen, for putting your wisdom, knowledge and experience to the service of this work.

Thank you, María José Hermosilla and Nicolás Browne, for your collaboration and support during the data collection process. Thanks to my friends and colleagues from the Law School who gave me the first impression of what was happening in the Chilean courts after the lockdown. Those first exchanges are the beginning of Designing for Digital Justice. My gratitude extends to my Hasso Plattner Design Thinking Research Group colleagues at Potsdam and Stanford. Especially at the Research2Impact group, Babajide Owoyele. We started this journey together and have been supporting each other since then. Thank you, Hanadi Traifeh, for being a partner during the writing of the dissertation. Thank you, Reem Abou Refaie, for bringing the digital government perspective and your always sharp political diagnosis of situations. I am grateful for founding This is Legal Design with Lina Krawietz and Alisha Andert. The combination of practical insights on Legal Design projects and my theoretical insights from research significantly shaped this work.

The acknowledgements would not be complete without a special thanks to Dr Jonathan A. Edelman for always encouraging and supporting me from the beginning of my PhD until now. I could not have wished for a better mentor to learn about design and teaching.

Thank you to my parents, Hugo and Maria Amelia, and my siblings. You showed me the way, even before there was a way.

This work is dedicated to my family, my beautiful and brilliant wife, Kirstin, and our children, Theodor and Mathilde. Nothing of this would have been possible without your love.

Schwielowsee, November 2022

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CHAPTER I

1 INTRODUCTION TO DESIGNING FOR DIGITAL JUSTICE

Designing for Digital Justice addresses how digitalization is happening in courts of justice and the resonances and frictions arising among human and more than human agencies. While research on e-justice has reported on the success and failures of projects of courts digitalization, further theoretical development is needed (Yavuz et al., 2022). The rapid adoption of technologies due to the COVID-19 pandemic offers a unique opportunity to look at the entanglement of people, law, and technologies. Together with the emergence of a corpus of practices and studies at the intersection of law and design, Designing for Digital Justice contributes to the design of better justice, more accessible and fair.

The digitalization of justice systems is a process that is advancing worldwide. Under the promise of more efficient, fast and effective justice processes, courts worldwide have implemented digital technologies to develop their jurisdictional work (Lupo & Bailey, 2014; Yavuz et al., 2022). The digitalization of the courts speeded up with the limitations imposed by the response to the containment of the global COVID-19 pandemic since the beginning of 2020 (Fabri et al., 2021). However, the effects that the implementation of digital technologies has on the administration of justice far outweigh the gains this could have in terms of cost reduction and streamlining processes (Contini & Cordella, 2015).

> Each year, 1 billion people have a new justice problem. Shockingly, over 70% of those people do not find a satisfactory resolution. 30% do not even feel empowered enough to take action. This has a high impact on their lives and society: From violence to seriously damaged relationships and business conflicts.
>
> To make a long story short: justice does not deliver what people need in their most difficult moments. (The Hague Institute for Innovation of Law, 2022)

1.1.1 Access to justice has been a fundamental value of the rule of law

Accessible justice systems are crucial to sustaining the rule, directing the legal profession and promoting social justice for almost half a century (Cappelletti, 1975). This global search has been articulating different resources such as legal assistance, law clinics, changes in legal education, and other programs to make justice more accessible (Cappelletti, 1975; Cappelletti et al., 1982; Cappelletti & Garth, 1977; D. Rhode & Bam, 2010; D. L. Rhode, 2000, 2008). More recently, in the context of the climate challenges of our times, the United Nations has included access to justice and the rule of law as one of the pillars of sustainable development in its Sustainable Development Goal 16. In particular, SDG 16.3 aims to:

> *Promote the rule of law at the national and international levels and ensure equal access to justice for all (SDG16, 2015).*

In this context, with the increasing digitalization of society, information technologies are an integral part of justice systems. Digital technologies are changing justice systems, making them more efficient and profitable and reshaping the entire landscape of justice administration (Contini and Cordella, 2015). This has promised to make justice systems more accessible and less bureaucratic, more efficient and simple (Cerrillo & Fabra, 2008; Contini & Lanzara, 2014; Kallinikos, 2009a). In recent years, the value of access to justice has become more relevant in the digitalization of the legal profession (Webley et al., 2019). It emphasises how agreed values, such as access to justice and the rule of law, should be at the heart of the development and application of digital technologies in legal practice. This includes judicial practices conducted in the courts by different stakeholders, courts, lawyers, end users, collaborating organizations, etc.

According to the Digital 2022: Global Overview Report (2022), at the beginning of 2022, there were nearly 5 billion Internet users worldwide (4.95 billion). This means that nearly two-thirds (62.5%) of the world's population has access to the Internet, to varying degrees. This steady growth in internet access – which doubled in the last 10 years – has been facilitated by the availability of mobile devices such as *smartphones (67.1% of the world's population are unique users)* that function as a window to the network of networks. Likewise, in terms of use, this growth has been led by social networks (58.4% of the world's population). This phenomenon has occurred so many in industrialized countries with higher incomes, as well as in countries that have substantially lower incomes.

However, in today's increasingly digitized world "even if equal access to justice is the primary virtue of the rule of law (and the primary source of its legitimacy), it is clear that a large majority of people do not enjoy it" (Ghai and Cottrell, 2009, p. 1 emphasis mine). It would be easy to assume that this is a problem of developing countries, yet "equal justice before the law" is one of America's most proudly proclaimed and widely violated principles [...] millions of Americans lack access to justice, let alone equal access (Rhode, 2010, p.1). Despite half a century of work on access to justice, according to the World Justice Project, it is estimated that 5.1 billion people, almost two-thirds of the world's population (64.5%), are excluded from justice systems (Measuring the Justice Gap, 2019).

The numbers make it easy to say that a third of the world's population has access to the Internet yet does not have access to formal justice systems. This gap between internet access and access to justice shows that the internet's and digital technologies' potential are significant (see figure 1). No less than a third of the world's population who today do not have access to justice could access online judicial services. Some entrepreneurial-minded people would call it a growth potential of about 2.5 billion people. If they can access the internet through a smartphone, they will have digitalized justice systems at their fingertips.

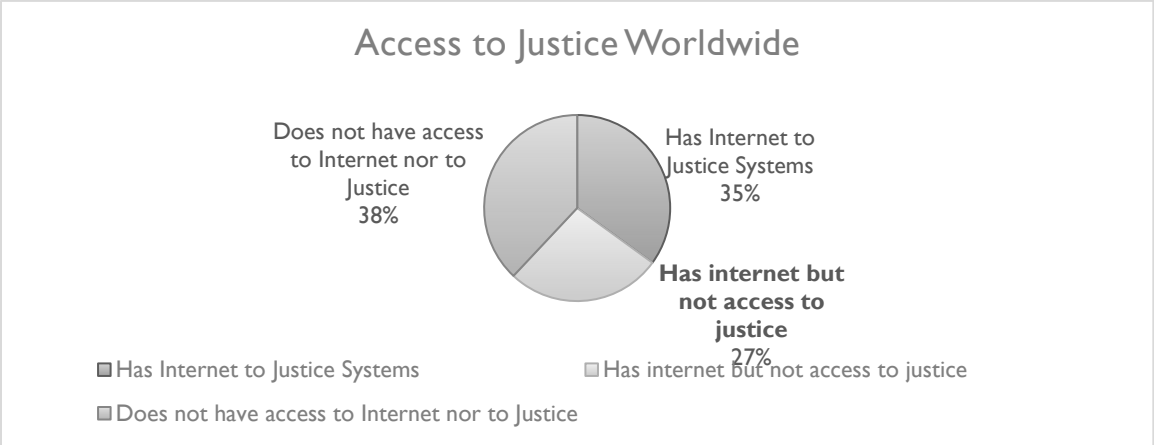


Figure 1. *Pie chart showing the internet penetration and access to justice estimated gap worldwide (27% of the world population) as of the beginning of the 2020s.*

Having 27% of the world's population with access to the internet but without access to justice suggests the magnitude of the possibilities opened up by digital technologies and the internet. While this sounds optimistic, the entanglement of justice and digital technologies is more complex than simple math, a graph, and world statistics.

1.1.2 Access to justice is not just about "accessibility" to a service.

While accessibility is critical, access to justice encompasses a broader notion that includes due process, equal access, unhindered procedures, legal aid, proceedings affordability, and judicial decision enforceability (Rhode, 2000). The gap in access to justice is a complex problem with too many causes and potential. However, the following pages of Designing for Digital Justice review some of the opportunities and challenges posed by adopting and implementing digital technologies in the courts.

We observe an emerging tangle or entanglement between technology, law, judicial practices, and organizational aspects in the contemporary processes of restructuring judicial services (Contini & Lanzara, 2014; Lanzara, 2009; Mohr & Contini, 2011). This entanglement is configured by humans and more-than-human agencies (Suchman, 2012).

1.2 THE RESEARCH GAP: THE MATERIALITY OF DIGITAL JUSTICE

A critical view on access to justice in the 21st century shows how justice systems worldwide realize the exclusion that leaves out two-thirds of the world's population (Ghai & Cottrell, 2009). This more critical view suggests that justice systems are themselves performative structures that generate exclusions. Thus, Designing for Digital Justice emphasize the responsibility of these systems' materiality in creating the conditions of exclusion present in the courts of justice. That is why a serious consideration of the materialities of justice (physical and digital) is vital to overcome the challenges imposed on us by access to justice in contemporary societies. In this way, Designing for Digital Justice takes the judicial system's more-than-human agency seriously.

In 2020, the legal sector and everyone else were facing an external shock due to the COVID-19 pandemic. Despite being a common situation in all areas of life in society—we were all or still are being affected—studying the courts during this pandemic emergency brings a novel and unique perspective. At the theoretical level, the study of courts' response during COVID-19 contributes to advancing innovation opportunities concerning the "hidden entanglements between law and technology in judicial operations" (Contini, 2020, p. 10). This opportunity is because the courts, due to their "unique normative thickness and their heavy regulatory status [...] [they are] quite recalcitrant to innovation" (Lanzara, 2014, p. 6). Moreover, new theoretical and practical frameworks are needed due to the relatively immature nature and the diversity of e-justice systems being used worldwide (Yavuz et al., 2022, p. 385). On a more practical level, "without a deeper understanding of how innovation is shaped between the rules of technology and law and between the organizational principles of bureaucracies and markets, it will be difficult to develop public online systems that function properly and serve people" (Lanzara, 2014, p. 4).

Digitally enabled accessible justice coupled with a better understanding of courts of law for design is a crucial knowledge gap that gained importance due to COVID-19. Moreover, "as long as the courts and legislators fail to recognise that they are operating in a hybrid environment of cross-cutting regulative regimes, they will continue to be surprised and frustrated by unintended consequences, public misconceptions and failure to integrate law and technology" (Mohr & Contini, 2011, p. 1012). These focus on how courts, judges, and judicial officials adopt and implement digital technologies in their judicial practices. In particular, Designing for Digital Justice covers an in-depth study of how the Chilean judiciary takes advantage of digital technologies in the administration of justice. While this research occurred between 2019 and 2022, Designing for Digital Justice traces back the genealogy of digitally enabled practices enacted during the pandemic. In this way, it is possible to understand how the possibilities of current and future digital judicial services have been opening up.

Designing for Digital Justice focuses on using general digital technologies by the judiciary, such as video conferencing platforms and social media (see Figure 2). It is important to emphasize that while many of the e-justice projects and research focus on the use of particular technology, meaning digital technology developed specifically for the court's operation (Cerrillo & Fabra, 2008; Contini & Cordella, 2015; Contini & Lanzara, 2014; Lupo, 2016; Rosa et al., 2013; Velicogna, 2017; Yavuz et al., 2022). A significant distinction is that in e-justice-oriented technology the judicial institution is involved in the design and development process, therefore it often reflects —or should— the principles of the judicial activity and technology developed by e-justice literature. However, using digital technology, which is ready-to-use, comes with principles and values which may or not align with those of judicial institutions. In most cases, general digital technology has not been developed with the judicial use case in mind.

Thus, it conveys other intended uses in their design. These are partly the frictions that we explore in Designing for Digital Justice.

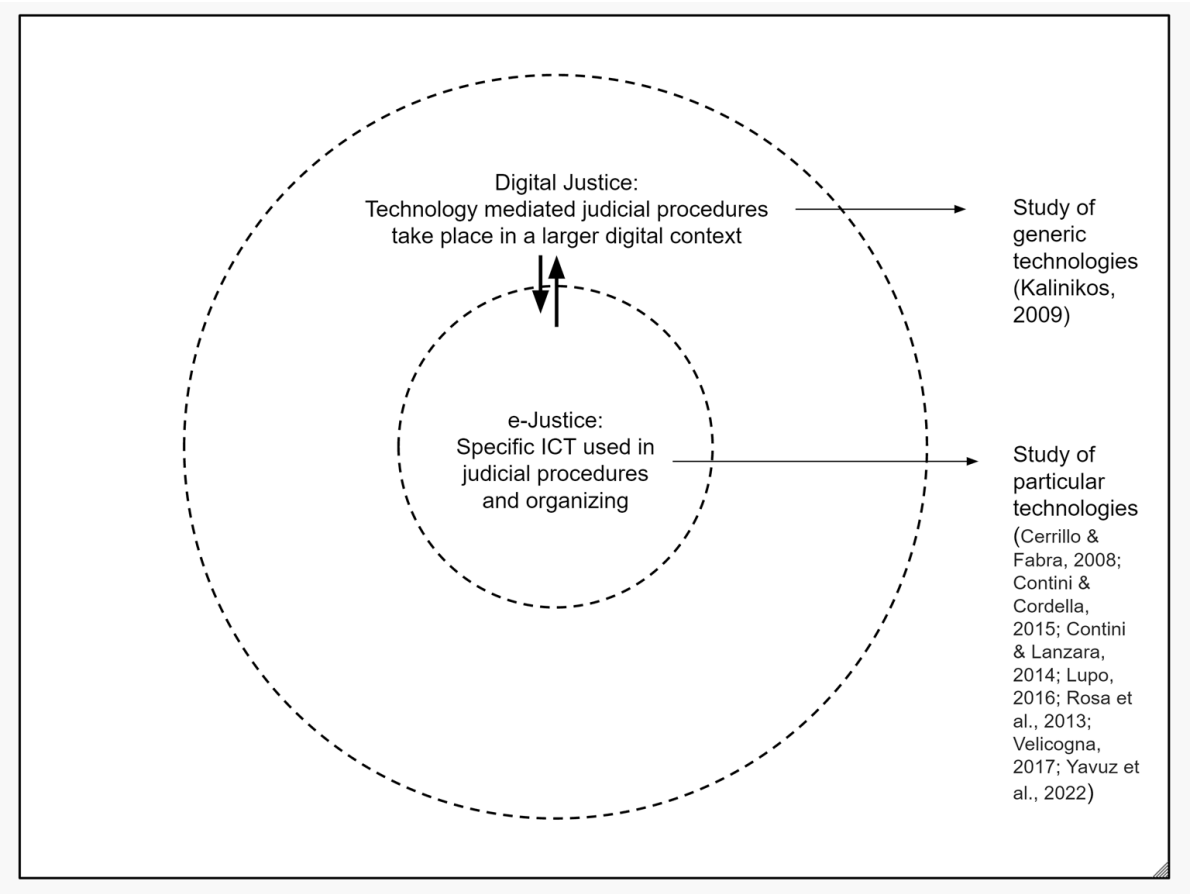


Figure 2. *Diagram of the two fields of digital justice as the study of generic information technology and systems (this research), and e-justice as the study of specific technology designed and developed to be used in courts, i.e., e-proceedings platforms.*

It was initially thought that technology in the courts would reduce bureaucracy and make processes leaner through the outsourcing of those services (Cordella & Willcocks, 2010; Velicogna, 2018). However, technology comes with its own bureaucracy adding to a thick layer of regulation (Lessig & Lessig, 2006; Mohr & Contini, 2011). Furthermore, digital technology to operate needs a series of technical rules known as standards and protocols. For example, communication protocols such as the *internet protocol (IPv4* and the new *IPv6)* or the *Domain Name System (DNS)* run at different layers when a user opens a website and scrolls through it (Meinel & Sack, 2016). Thanks to all the exchange rules running in the background, the internet creates the illusion of a seamless source of information and media (Meinel & Asjoma, 2021).

These general regulations of the internet have been in charge of international organizations such as the World Wide Web Consortium (W3C), Internet Architecture Board (IAB), the Internet Engineering Task Force (IETF), Internet Research Task Force (IRTF), and the Internet Society (ISOC) among others (Meinel & Asjoma, 2021). With a technical orientation, the aim is to make the internet work; these organizations create a normative dimension of the digital world at the same time. This normative dimension has been addressed as the technology being a regulative regime (Kallinikos, 2009b). The regulative capacity of technologies complements a broader understanding that technological artefacts always have political qualities (Winner, 1980) and that designing them is always a political action (Fry, 2020; Twilley, 2018; Willis, 2013).

In particular, the design and development of digital technologies also involve a series of design decisions that shape the practices of the users of such systems. This refers not to digital technology in general with its protocols and standards, but to design decisions regarding the architecture, functions, and touchpoints of specific programs and applications. In the use of these applications, for example, video conferencing platforms, the possibilities of action are defined by what the platform offers the user. Designing always shapes social systems with technologies, concerning the political and normative role of technologies by defining through them the societies in which we live (Dilnot, 1982; Manzini, 2014; Willis, 2013).

To design what is possible in the future, we first need to figure out what it is now and what has been. In this sense, designing for digital justice is only possible if the historical conditions that made it possible are better understood. In this sense "every planning effort involves philosophical assumptions as to what is considered immutable and what is negotiable; the significant and the trivial. Therefore, every effort to plan for the future is submerged in a global politics of the real" (Inayatullah, 1990, p. 116). Configuring the digitalization of the courts from specific theorists opens up other possibilities for design. The theories and knowledge we live by, shape our thinking, actions, and designs, whether explicit or implicit, whether we are aware or unaware of it. Likewise, "the lenses with which we work shape what we create, as well as how we perceive" (Edwards 2010, p. 11). Theories are our creation of the meaning of the world, and they define how and what we see, how and what we imagine, and ultimately, how and what we create (Santuber & Edelman, 2022a).

Given the particular context aggravated by the current global pandemic, Designing for Digital Justice takes on the challenge that "at this time more conceptual creativity is needed, and more theoretical courage is needed to achieve the leap through inertia, nostalgia, aporia and the other forms of critical stasis induced by our historical condition" (Braidotti, 2014, p. 163). What is at stake for the practices and studies of Legal Design is too relevant, that we cannot afford intellectual indifference or conformism. Rosi Braidotti warns us that in these "globalized times of technologically mediated accelerated change, many traditional landmarks and ancestral habits of thought are being recomposed, albeit in contradictory ways" (2014, p. 163). In these more difficult times, designers for justice must include a variety of lenses in our theoretical repertoire of design interventions.

1.2.1 Research Questions of Designing for Digital Justice

The current state of the research and observing the digitalizing judicial practices Designing for Digital Justice addresses the following Research Questions:

RQ1: What are the conditions of possibility through which court's practices materialize in digital innovations?

RQ2: What characterizes the tensions emerging from digital innovation processes in highly regulated procedures and practices?

RQ3: What characterizes new possibilities for designing and intervening in justice systems created by novel configurations of digital justice in courts?

To preview what Designing for Digital Justice will be delving into, let us look at the following example from the Chilean Supreme Court. Traditionally, and based on the literature

> *the courtroom is a technology of the law, providing a place for the parties and the judge to come together and communicate, for witnesses to be sworn and to give evidence, and for judges to pronounce binding decisions.*
>
> *The bench, with its raised position, facilitates the judge's surveillance and control of the court, as well as framing (below the insignia of a coat of arms or other symbol of authority) the legal pronouncement of a sentence or interlocutory orders.*

> *This well-known ensemble of people in specific roles, and things that set the scene of their roles and record the statements they make, has accompanied and developed with the law over many centuries (Mohr & Contini, 2011, pp. 994–995).*

The architectural features of courthouses and courtrooms have been central in the justice systems for centuries (Mulcahy, 2011; Mulcahy & Rowden, 2019). In Figure 3, we can appreciate the materiality of the plenary room at the Supreme Court in Chile. The room is divided into three parts, the court, the parties, and the public, including and excluding who is allowed where and who is not. The flags (the Chilean flag on the left and the judiciary on the right), with the coat of arms carved into the wood, frame the justices' raised position. The back of the justices' chairs is oversized, making them appear small – it is about the court as an institution, not the judges individually considered.

***Figure 3**. A capture of a recording of the Chilean Supreme Court plenary before the pandemic.*[1]

The traditional architecture and design of the courtroom were suddenly and radically changed due to the mobility restrictions imposed in Chile to prevent the spread of the COVID-19 virus. In figure 4, the Supreme Court's session materializes differently because of the conditions of possibility provided by the mobility restrictions, access to the courthouse, and the digital videoconferencing platform. This image shows how the space is transformed into a digital video streaming distribution. Identifying the justices, who the parties are, and who the public is is no longer possible. Some faces are cut out, and some parties use their smartphones (portrait/vertical video). Different backgrounds and light conditions create a colourful mix of atmospheres. The space is no longer divided into them and us, but all individually considered in small boxes, equally distributed in size across the screen.

[1] I obtained this capture of the recording of a hearing from the Chilean judiciary's official YouTube channel. According to YouTube's terms and conditions, the owner of a channel, grants a right to use that content, including to reproduce, distribute, modify, display, and perform it, taking into account the moral rights (YouTube, 2022). Moreover, we secured the consent of the Administrative Corporation of the Judiciary to use the images. This statement applies to all other images below.

Figure 4. *A capture of a recording of the Chilean Supreme Court hosting a hearing online via videoconference.*

As shown in the next sections, in the entanglement of digital justice

> *some of the interactions between the law, people and things have been written into procedural law and court rules while others, gradually established by convention and habitus, remain unwritten. (Mohr & Contini, 2011, p. 995)*

Designing for Digital Justice examines how regulation was defined between laws and court rules and digital technologies in Chilean courts.

1.3 Designing for Digital Justice – An entanglement of people, law, and technology

The Greek myth about the Gordian knot is perhaps an older version of today's perverse problems. In everyday language, it is used to refer to complex problems and that someone must cut the knot without being able to untangle it. In Greek myth, Alexander the Great, before starting the conquest of Asia, what was then the Persian world was subjected to the challenge of the Gordian knot. The challenge was set thanks to a prophecy that said whoever untied the Gordian knot would conquer the East. Placed in front of the knot and faced with the difficulty of untangling it, the myth tells that Alexander the Great took out his sword and cut the knot, arguing that there was no difference in how the knot was untangled once it had already been made.

In a more recent account, Chilean design researchers have situated the Gordian knot as a myth of the origin of the entanglement of humans and more-than-humans (Hermansen et al., forthcoming). Developing the category of *maraña,* Hermansen and colleagues place designing for more-than-human futures as a form of reconciliation of the ontological break caused by the swift cut of the Gordian knot by Alexander the Great. Moreover, the *maraña* is "a category that allows us to recognize the density of relationships in which we find ourselves and to look for new forms of navigation that take us out of the Anthropocene" (Hermansen et al., forthcoming, p. 1). In the thick network of relations between humans and more-than-human agencies that constitutes the *maraña,* there are two core concepts: resonances and frictions (Chile, 2021; Tironi & Hermansen, 2018b). These two concepts, resonances and frictions, are further developed in this work as modes of relating among agencies (see Findings and the Genealogies sections).

Inspired by the *maraña,* Designing for Digital Justice conceives the entanglement of people, law, and technologies in courts as a form of the Gordian knot. To which there are no total solutions and of which it is often unknown where the problem begins and ends[2]. Therefore, while digital technology can certainly facilitate access in a narrow conception, in the broader conception, it is critical to understand how digital technologies and justice procedures are entangled in judicial practices. Only in this way can we reveal the field of possibilities that design can take advantage of to create accessible digital justice. Unlike Alexander's swift cut, this Designing for Digital Justice untangles each strand and reweaves them into an understandable and actionable tapestry. Indeed, it does matter how the knot is untangled for design purposes.

The multiple elements included in a broader notion of access to justice make it a complex problem suitable to be addressed with design approaches. These kinds of complex challenges, which in popular wisdom are known as gordian knots, have been addressed by design research as *wicked problems* (Buchanan, 1992; Rittel & Webber, 1973). Horst Rittel initially formulated the idea of wicked problems in design theory at a conference in 1972 as ill-defined scenarios with multiple stakeholders and conflicting values (Rittel & Webber, 1973).

Designing for Digital Justice indeed refers to a social system with multiple definitions and formulations, which involves an unattainable and ever-changing range of stakeholders (human and non-human). The implications are far from being well understood. This complexity makes design an appropriate approach to address the issue of the digitization of justice. However, design has not traditionally been concerned with access to justice as its object of investigation and practice. Therefore, the framing and configuration of the entanglement of people, law and technologies are central to designing for digital justice. As Buchanan said,

> *the subject of design is potentially universal in its scope, because design thinking can be applied to any area of human experience. But in the process of application, the designer must discover or invent a particular theme from the problems and questions of specific circumstances (Buchanan, 1992, p. 16).*

Designing for Digital Justice frames local judicial practices and situations by placing them in specific contexts, so they are ready to redesign them. This dissertation is not intended to be a report or a benchmarking exercise. Instead, it analyzes judicial practices in Chilean courts as a way to discover new fields of possibilities for action towards a more accessible justice. In this way, it serves as a bridge to design practices by making the justice systems' complex -and often frightening- tangles ready to be redesigned. Thus, we can take advantage of the practices and studies of other disciplines, such as design and engineering, that have the tools to make changes and transformations towards a more inclusive and non-exclusive justice.

Advancing Designing for Digital Justice requires the materializations of the judicial practices to be understood in their complexity – the entanglement or maraña. In this regard,

> *if we wish to design courses of action to change a situation 'from the existing to the preferred', then the situation itself must first be constituted (understood) in its configuration and, therefore, in its strategic potential" (Dilnot 2020, p. xix)*

[2] Norberto Bobbio, an Italian thinker and political scientist, is credited with the phrase "to untie knots requires intelligence, to cut them only a sword." Using the metaphor of knots, this phrase has been interpreted at some point that differentiates between the research scientist and the politician. In this the first one unmoors them, while the last one cuts them. The design researcher could argue that he deals with these knots as well. However, unlike the political and the academic, I would argue that the designer looks for alternative ways in which that knot can materialize, thus introducing a change through the new knot. In this way, design research seeks to identify the material conditions that make the knot possible, and then seek to change these by reconfiguring them. Thus, design practice manages to transform reality by relocating the knot in a different context.

Perhaps a more accurate title for this dissertation would have been *pre-designing* for digital justice. Designing for Digital Justice is an exercise of understanding how digitalized practices perform the Chilean courts today. In this sense, it is a *discovery* before reconfiguring. It is, in a sense, to specify and define the very recent history of a system (judicial in this case) put at the service of the design of that same system. In a way, it seeks to generate a local and particular resolution that allows and favours making changes. Without this configurative action, the redesigned system resists change and becomes immutable, like a stubborn and obtuse reality.

Justice systems are a complex network of technologies, laws, protocols, rituals, and hierarchies. This tangle is unknown to the vast majority of the population apart from a select group of experts within the legal profession. Justice systems and their courts are a distant and unknown world for most people, which is often undesirable and must be avoided during our lifetime. The courts are places people do not go to for pleasure but because they must go. This remoteness from society makes the system even more intricate than other technical systems. The paradox is that this system should serve those who need them most – the powerless citizens who require more than anyone else the protection of their rights by the State.

For that reason, Designing for Digital Justice does not concern with an abstract conception of justice, its principles and objectives. However, it commits to the sociomateriality of justice, which means with the material conditions of possibility of the practices in courts. Thus, Designing for Digital Justice builds from multiple practices, epistemologies, and ontologies. This perspective of legal design is consistent with others in the sense that "the exuberant growth of posthuman knowledge tends to concentrate on a number of transdisciplinary fields that do not coincide with the traditional disciplines of the humanities, but are rather hybrid cross-formations" (Braidotti, 2017, p. 84). Thus, to address the entanglement between people, law, and technologies, Designing for Digital Justice leverage two theoretical frameworks: sociomateriality and liminality.

In this hybrid elaboration of posthuman design and law, Designing for Digital Justice bases itself on a current discussion in Design, Technology and Philosophy, applying it to the field of Law, and specifically to Justice. In this work, I take a relational ontology based on sociomateriality from philosophy and gender studies (Barad, 2007) and organizational and technological studies (Orlikowski, 2007). In doing this, I focus on emerging relationships that promulgate material-discursive practices (Schultze et al., 2020) in the justice context. I outline this approach by referring to concepts from the literature and provide an example for each of them that I have found studying the sociomateriality of justice in Chilean Courts. I do this because of the inescapable materiality of judicial practices.

To emphasize the point, the sociomateriality of justice does not intend to address what justice is but how justice becomes in a relationship between people, processes and technologies. A relational ontology focuses not on things but on the relationships between them. Not a focus on humans as intentional subjects but the entanglement of humans *with* more than humans (Barad, 2007; Braidotti, 2019; D. J. Haraway, 1997). In this sense, the limits and delineations of the entities are not pre-determined or determined. Instead, they are promulgated in discursive practices (Barad, 2007). A relational approach rejects dualities, mind and body, observer-observed, knowledgeable-known, and ultimately social and material (Hultin, 2019). Examining the material and discursive conditions that make these relationships and processes possible is necessary. In Designing for Digital Justice, I show the local enactments of justice and multiple worlds of judicial practice.

A helpful lens complementary is liminality, coming from anthropology, sociology, and psychology. As early as 1909, anthropologist and ethnographer Arnold Van Gennep noted this distinctive feature in transitions and their rituals in the influential book Rites of Passage (van Gennep, 1960). A key notion is that all liminal practice begins with a paradox (Turner, 1974) or tension (Orlikowski & Scott, 2021). The paradox or tension creates incompatibilities generating a suspended normativity (Turner 1974). This implies a blurring of limits, distinctions and positions.

It is important to note that liminality presents opportunities and risks for modern organizations, cultures and societies (Horvath, 2013). On the one hand, liminality creates a temporary space for generativity, disruption and creativity (Czarniawska & Mazza, 2003) —enabling liminal innovation (Mertens, 2018; Orlikowski & Scott, 2021). While on the other the possibility of liminality becoming permanent generates constant uncertainty and disintegration —liminal permanence (Horvath, 2013; Szakolczai, 2017). Particularly relevant for the study of crisis is the concept of liminal hotspots, which are situations or occasions of high tension in which friction or tension increases, deepening the state of indeterminacy and leading to paralysis, polarization or pattern shift (Greco & Stenner, 2017).

That is why configuring the tangle of justice is crucial in improving this system. With this, we can make other participants define how we want and want our justice systems to be. In our work on performative design patterns, we argued that mapping is the first step in any design venture. Mapping consists of framing the elements of an excessive reality into a legible and tangible type of medium to serve as the basis for a redesign work (J. A. Edelman et al., 2020). What do we map? The traces of previous designs so that the boundaries of the phenomena subject to reconfiguration through design are defined. In this way, Designing for Digital Justice's proposal is to create possible futures for justice that do not seek to cut or untangle the knot through design tools. Instead, dealing with the *maraña* (tangle) is **to identify the material conditions of possibility that make the existence of the entanglement possible, to reconfigure it, and thus generate novel sociomaterial configurations.**

1.3.1 Case Study Overview

Designing for Digital Justice aims to frame and configure the materialization of judicial practices in light of its implementation in Chilean courts' emergency responses during COVID-19. I have done this in the form of an extended or longitudinal case study (Eisenhardt, 1989; Eisenhardt & Graebner, 2007). I chose the case of the Chilean judicial system in Santiago de Chile because of the access to key stakeholders of the judicial systems and the individual interviews. Access to interviewers from the courts was possible thanks to a cooperation agreement with the Administrative Corporation of the Judiciary, dependent on the Chilean Supreme Court.

This in-depth longitudinal case study explores the materializations of five (5) practices in Chilean courts between 2020 and 2022. Specifically, the research focused on two focal types of courts (i.e., criminal and civil courts) in the Chilean judicial system in Santiago. The Chilean judicial system, "Judicial Power of Chile", is a unitary organization serving a population of 18 million citizens with a high territorial distribution: the length of Chile is equal to the width of the United States from New York to Seattle, or the distance from northern Norway to Libya. It is composed of the Supreme Court, 17 Courts of Appeals and 448 lower courts, with a total of 1490 judges plus 11,000 employees. Regarding judiciary governance and operations, the research focused on the Administrative Corporation and the Communications Directorate.

Designing for Digital Justice uses multiple data sources to account for the different agencies (Eisenhardt, 1989). We collected primary data from qualitative interviews and direct online observation of judicial practices. Secondary data from archival resources included digital regulations, national strategies, and pandemic-related laws. Furthermore, data were collected from terms and conditions from digital platforms, privacy policies, and annual fillings to Security Exchange Commission (SEC) by Facebook/Meta and Zoom Inc. More specifically, two rounds of interviews were conducted:

1) A first exploratory and open round to get an overview of the context and objectives of the novel judicial practices during April 2020.

2) A second round focused on understanding digitized practices in the context of the increased introduction of digital/ICT technologies into the judiciary between June 2020 and March 2021.

I recruited interviewees from members of the court and auxiliary institutions (n = 30). In parallel, we observed the judiciary's activity directly through social networks (website and its official social media channels such as YouTube, Facebook, Instagram and Twitter).

In terms of archival data, to better understand the institutional context of the Chilean judiciary, we reviewed more than 1000 pages of annual reports corresponding to the years 2003 to 2021. We also used other sources such as minutes, reports, and statements. To account for digital technologies' role, we reviewed digital platforms' terms and conditions, privacy policies, and annual fillings to Security Exchange Commission (SEC) by Facebook/Meta and Zoom Inc, corresponding to 2019 and 2021. These are all publicly available data sources.

Recognizing the incipient stage of knowledge of the subject, we adopted a predominantly inductive approach. In addition, we collected and analyzed data iteratively, switching between empirical data and theoretical concepts in a cycle between interviewing, transcribing, analyzing and verifying the theoretical body of knowledge about e-Justice, sociomateriality, and liminal theory. Due to the topic's novelty, we pursued step-by-step coding that consisted of open, axial, and selective coding to elaborate digitized practices and patterns performed by court employees (Urquhart, 2012). After the first round of interview writings and summaries, we used the open coding stage to generate the first codes, which were used to condense the transcripts and get an initial overview of all the case data (Yin, 2008). During coding, I corroborated the detailed insights derived from the analysis of the interviews by constantly comparing and triangulating these ideas with the results obtained from online audience videos and legal document material (Charmaz, 2006). I used ATLAS.ti as computer-aided qualitative data analysis software to do this systematically. The interviews were conducted, transcribed and analyzed in Spanish. I later translated the selected excerpts using Deepl software and reviewed and corrected them afterwards.

In a second round, central to the case studies presented in this manuscript, I took a genealogical approach (Foucault, 1971a, 1971b). This approach has been used to study digital transformation (Hultin et al., 2021; Mousavi Baygi et al., 2021; S. Scott & Orlikowski, 2022) to study how practices come to be. In genealogy, starting from a question in the observable present, the researchers trace back the constitutive conditions for material-discursive practices to become what they are in the present. For example, work practices in a Swedish migration board are shaped by a flow of performative actions, which creates the conditions of possibility for those practices (Hultin et al., 2021). Building on the genealogical approach and previous research, I start with the question: how did the Chilean judiciary get here? How did it get to **work remotely**, **host hearings online**, **move the public's attention to Facebook**, **stream a program of judges on social media**, and **use YouTube to make hearings public**?

1.3.2 Case Study and Genealogies

In the following paragraphs, I am describing a dynamic entanglement, the digital justice entanglement, and the six agencies I have identified that give rise to the digital justice entanglement and a novel materialization of judicial practices in courts: Digital, Physical, Judicial, Legal, Individual, and Managerial.

The following five genealogies unpack the characteristics and mechanisms of digital justice entanglement:

1. **Delivering Justice from Home:** entangled practices of remote work in civil courts.
2. **Videoconferencing Justice:** entangled practices of hosting hearings via videoconferencing platform in a civil court.
3. **Posting Justice on Social Media:** entangled practices of social media to engage with external users and internal staff members by the Communications Directorate of the Judiciary.
4. **Streaming Judges Online- Live!** entangled practices of hosting live streams of judges answering questions to the audience in courts via Facebook Live.

5. **Following Justice on YouTube:** entangled practices of publishing video recordings of hearings in social media and social movements coordinated via social media

Each genealogy is arranged into three sections: **1) the traditional state of affairs (pre-pandemic)**; **2) the paradox and tensions arising from the pandemic**; **3) the pattern shifts and innovations.**

1.3.3 Findings

- The **six agencies** characterize the conditions of possibility for digitalized practices in Chilean courts during the pandemic. The agencies are Digital, Physical, Judicial, Legal, Individual, and Managerial.
- Each agency constitutes a **field of possibilities for designers**. In this regard, the six agencies, when analysed under the Dimension of Engagement framework, provide possibilities for skilled action at the touchpoint/usability, function/use-case scenario, and core/network levels.
- The genealogies show how the different agencies coincidentally provide the conditions of possibility for the materialization of the practices in courts. These **co-incidences** create **resonance** and **friction** among the agencies. Especially relevant are the frictions between digital agencies and judicial and legal agencies.
- While **resonances enabled** the courts to continue to provide judicial services by leveraging digital technologies, the **frictions displaced** in some cases the legal and judicial regulation from coordinating the judicial practices.

1.3.4 Clarifications: What is and what is not for this thesis.

Overall, at the intersection of digital technologies and justice, many different forms of problems and opportunities have been associated with digital justice. Each of these themes by itself has multiple edges and dimensions. That is why when discussing the intersection of justice and digital technologies, we must be cautious in framing the perspective I take in this work.

This dissertation's focus on digital justice concerns how courts, judges, and judicial officials leverage digital media to do the work needed to administer justice during the pandemic. That is, it focuses on judicial practices and how the operations and functioning of the courts change with the rapid introduction of digital technologies. This field of study, in the past, has traditionally been called e-justice, referring to the use of electronic data transfer systems in courts (Cerrillo & Fabra, 2008). This body of literature usually deals with specific digital technologies that "are developed and implemented to make justice services and their administration more open, accessible, effective, efficient, and less expensive for all actors." (Yavuz et al., 2022, p. 385). However, taking a broader view of general digital technologies and their studies, I have chosen to use a broader nomenclature calling it digital justice. With these, I open the scope of my research, focusing on technologies for general use, such as videoconferencing and social media platforms. There are, however, other ways of understanding e-justice or digital justice that are not the subject of this work: [3]

The first of these is the idea of using digital resources to support or replace decision-making in dispute resolution, driven by the development of artificial intelligence (Contini, 2020). Using digital technology to support court decisions is perhaps the most common association with digital justice. This stream of research is associated with the futuristic image of being judged by a robot.

The e-commerce transaction needed a quick and simplified way to resolve disputes without resorting to traditional public courts operated by the state. The second group are the online dispute resolution mechanisms that developed with the rise of commercial internet use in the late 1990s. These

[3] In a field of research close as is the government the same transformation has happened going from e-government to digital government.

mechanisms are part of a broader conception of justice under alternative dispute resolutions (ADR) or online dispute resolution (ODR).

The third relates to internet justice issues in digital technologies' design and development processes. This line of research relates more to the concept of social justice than procedural justice (Costanza-Chock, 2020). Likewise, in a broad sense, it is associated with problems such as the digital divide, data justice, algorithmic discrimination, and digital epistemologies, among others. [4]

1.4 THE MOTIVATION BEHIND DESIGNING FOR DIGITAL JUSTICE

The path to this dissertation was far from a straight line. However, it all makes sense now. Having trained professionally as a lawyer in Chile and having worked in the field of innovation and technologies during the following years, the doctoral project I undertook presented me with the need and opportunity to combine both knowledge and experiences. While the legal world is often characterized by traditional resistance and innovation, almost as the last bastion of "pen and paper" work, the changes brought by the digitization of our lives are coming to legal services and the delivery of justice. Initially, the scope of the doctoral project was innovation and design practices in the legal field in general, contributing to a nascent community of researchers and practitioners in the field of legal design. That was the goal and horizon during the year 2019. By then, I had already done a literature review and worked on a taxonomy of innovation and design in legal services worldwide.

In March 2020, within days, court utilities began closing doors and moving their operations online: remote work. This was the case of the courts of justice in Chile, in which, without stopping their operations, they moved to online hearings, establishing a form of remote judicial work driven by the virus containment measures. It was a radical innovation in the courts happening in real time! That was the beginning of 2020 when the COVID-19 pandemic shook the world.

From that moment on, I was curious and excited to know more about what was happening in the courts. At the beginning of the pandemic, apart from a few experts, no one expected that the restrictions and changes due to the pandemic would last more than two years. Thus I had a sense of urgency to capture this unique opportunity to study courts' metamorphosis. It was happening. The courts were shifting to working online, and users needed to coordinate and adapt to this new way of working. I needed to interview stakeholders before the remote court experiment was over. With excitement and urgency, I turned to a WhatsApp group called "Los Pelambre", which I maintained with my former colleagues from law school and asked those working with the courts to have a video call to talk about their experiences. These first calls turned later into the first round of interviews. The stories I was able to gather were hard to believe if it were not for the pandemic. A public defender interviewed told me the story of a meeting with his client, an inmate, that happened through a videoconference from the detention centre.

Along with that, I began to follow daily, and often many times a day, the activity of the judiciary on social media. They were changes and innovations communicated through Facebook, Twitter, Instagram and, most importantly, YouTube. Innovation in courts was happening before my eyes, even though I was on the other side of the world, in Germany. After two weeks, the first recordings of virtual hearings became available through the judiciary's official YouTube channel. I do not remember the many hours I spent watching the content produced by the judiciary—recording of online hearings, learning material, and tutorials for the use of videoconferencing platforms. It became part of my daily routine for months.

[4] Other references to digital justice are related to social movements and organizations dealing with equal access and inclusion of marginalized groups in digital contexts. In these cases, the digital justice refers to fair and inclusive digital services and platforms. In contrast, digital justice as used in this monography refers to the user of digital media in the context of formal justice.

After these first few weeks of soaking up all the available information, and as soon as I knew that the pandemic situation would be present longer and online work would spread within the judiciary, I evaluated the initial findings. These initial findings showed a real need and opportunity for an in-depth case study. To that end, I contacted the communications officer of the Chilean judiciary to work on a research cooperation agreement. With the support of the Supreme Court, I was able to acquire key interviewees from the civil courts of Santiago and the communication departments of the judiciary. I also had access to documentation, protocols and internal notes related to digital initiatives to overcome the limitations imposed by the pandemic in the Chilean courts.

Why the courts?

Courts of law are the public spaces through which society resolves its conflicts. One of the milestones of living in society is having renounced using force to protect ourselves by our own means or seeking revenge with our own hands. We hand over this power to the State with the promise of having clear and fair rules on how to behave and a conflict resolution mechanism that restores compliance with and respect for the rules (the rule of law) and social peace.

In this way, justice systems are like hinges that make life in society possible. Although often unholy, unknown, and even obscure, the justice system plays a central role in articulating the relationships between people and between people and nature, animals and the environment around us. That is why making it visible and focusing on designing for justice brings together different disciplines that have the tools to make changes and transformations necessary to meet the challenges that contemporary life in society puts before us.

Why a transdisciplinary approach?

In this sense, transdisciplinary practice and research transcend disciplinary and professional boundaries. Designing for Digital Justice positions itself at the intersection of three fields: law and justice, digital technologies and design, and organizational studies.

The first is the traditional field of law studies I underwent while at the Faculty of Law in Chile. The legal field comprises a variety of aspects related to law, such as legal philosophy, sociology, ethics and, of course, justice. The legal knowledge that I bring to this thesis was complemented by a period of practice in the Courts of Justice of Santiago de Chile, and Vicuña, a rural town near the city where I grew up.

The second field is innovation and design. With my colleagues at Global Opportunity LLC, I was first introduced to this field as an innovation consultant in Panama and Turkey. Later, I joined the HPI School of Design Thinking in Potsdam, Germany. However, I really got the depth of design during my work in the Research2Impact group with Dr Jonathan Edelman and my colleague Babajide Owoyele. For over three years, we dove together into design theory and methodology to better understand teams of designers at work. The output of this collaboration was the Designing as Performance approach and the Performative Patterns educational material.

The third field is digital technologies, information systems and organizational studies. From this field, IT Systems and Technologies, which focus more on the technical aspects of digital technologies, and Information Systems (IS), which have a special interest in the contexts in which such technologies are deployed (i.e. the public sector, the judiciary). During the four years at the Hasso-Plattner Institute. In the organizational literature, I found rich accounts of transformation processes, which were technically and socially relevant. What made information systems special was that it was a bridge between the social sciences, management and IT. In this sense, while computing is very concerned with IT or the digital artefact itself, information systems are more concerned with the **context** in which that digital artefact is situated.

Especially the study of information systems and organizations provided fertile theoretical ground to begin framing the transformation process in the Chilean courts. Among the most inspiring currents were practice-oriented research and the concept of *sociomateriality*. While it was initially difficult to read, I was quickly fascinated by the new onto-epistemology that sociomateriality was all about. This represented a paradigmatic turn (paradigm shift), through which, without an enormous intellectual effort, I abandoned a substantialist position of reality and adopted a relational ontology with verve. Once we adopt a new paradigm, we can no longer leave through it and reality seems to have always existed in front of us according to the laws of the new paradigm we adopt. This paradigm is explained in more detail in several sections of Designing for Digital Justice, such as the literature review and the theoretical framework.

Appreciate the justice and work of the courts through a new paradigm appreciating these practices in all their materiality. In this way, I unleash the strategic potential of digital justice to be redesigned with a perspective of more accessible and non-exclusive justice. With this, we can move towards a more just, prosperous and dignified society for all. This is very much what I would like to convey and contribute through this doctoral work.

1.5 CONTRIBUTIONS TO DESIGNING FOR DIGITAL JUSTICE

Empirical: a detailed account of the genealogy of practices materialized digitally in courts.

Practical: In Designing for Digital Justice, legal design practitioners will find a clear framework to intervene and reconfigure justice systems. The Designing for Digital Justice process model provides a set of entry points to redesign judicial systems.

Methodological: Using a genealogical approach, Designing for Digital Justice advances in bringing the different agencies into the writing, keeping their "voices". By using data excerpts, from various sources, in the genealogies is possible to grasp the languages in which those agencies communicate, i.e. the forms of the law are different for the language used in an update release note of a digital platform.

Theoretical: In line with recent literature, Designing for Digital Justice theorizes that:

1) In the **digitalization of courts**, pragmatic and tactical tensions, while overcome with digitally enabled pattern shifts, create an existential tension, creating the risk of rendering traditional agencies such as the judicial and the legal irrelevant, more specifically:
    a. The wake of the third wave of digitalization during COVID-19 in Chilean courts
    b. The materialization of court practices during the pandemic put pressure on the judicial and legal agencies to adjust to them.
    c. As an ensemble, digital technologies pose an existential tension to the courts' judicial and legal agencies.
2) Designing for Digital Justice expands the vocabulary and theoretical framework, contributing to **liminal innovation** and providing better research tools to fellow researchers. In particular, I theorize 4 phases:
    a. the pre-digitalization phase resulting in the development of regulations,
    b. the hotspot of digitalization resulting in the extension of regulation,
    c. the digital innovation redeveloping regulation (moving to a new, preliminary phase), and
    d. the permanence of temporal practices displacing regulation.
3) **Designing for Justice**: I have theorized that each agency – physical, digital, legal, judicial, individual and managerial, has dimensions of engagement for design (J. Edelman, 2011), which are related to different types of tensions:
    a. Touchpoints/Usability <-> Pragmatic Tension
    b. Function/Use-case scenario <-> Tactical Tension
    c. Core/Network <-> Existential Tension

From a long-term perspective, the findings and contributions of Designing for Digital Justice will be precious when designing digital courts in the future. In addition, by outlining how the required adoption of digital technology affected judicial work routines and practices, policymakers and decision-makers can counteract the unintended effects that allow better access to justice.

CHAPTER II

2 LITERATURE REVIEW: SITUATING DESIGNING FOR DIGITAL JUSTICE

The literature review consists of three sections: 1) justice and courts in the digital era, 2) organization studies and digital innovation, and 3) design research.

2.1 JUSTICE AND COURTS IN THE DIGITAL ERA

> Law has always worked with technology, even if it was not called by that name. If we think of technology as those things that people use to achieve a desired effect, then the technology of law has encompassed documents, signatures and files.[…] (Mohr & Contini, 2011, pp. 994–995)

The global movement on studying access to justice originates from a comparative study of legal aid efforts in many countries (Cappelletti, 1975). Since its beginning, traditional access to justice literature has focused on providing resources oriented to the appropriate representation of vulnerable groups (Cappelletti et al., 1982). The efforts on access to justice have been targeting the supply side – working and improving the courts and the judicial machinery- and the demand side by facilitating the use of the courts (Ghai & Cottrell, 2008). The burden has usually been placed on the stakeholders -e.g., court staff and users- as if justice were an issue of purely human agency, intention, and will from those marginalized groups. In this regard, "communities marginalized by history, social structure, gender, ethnicity, class or ideology, are excluded most of all from the benefits of a modern system of justice; they are indeed its victims" (Ghai & Cottrell, 2009 p. 1).

When designing for digital justice, it is essential to avoid reproducing such exclusions. International agendas towards access to justice are undoubtedly led by western governments putting pressure on justice reform through the donor-lender role (Ghai & Cottrell, 2008). However, access to justice is just instrumental since the "pressure [for justice reform] is connected primarily with the project of globalisation and neo-liberalism. The reform of the legal system creates the framework for the operation of the market" (Ghai & Cottrell, 2008, p. 3). Despite that, the need for an operative legal system and profession goes beyond its financial worth. It provides an essential public service, enabling cooperation and life in society by sustaining the rule of law, social peace, and justice (Webley et al., 2019).

When looking at the numbers on access to justice worldwide, it is important to distinguish between abyssal exclusions and non-abyssal exclusions (Santos, 2007). In the context of access to justice, the non-abyssal exclusions are suffered by people that live in countries with functioning institutions and have available fundamental legal protections, however, they face significant barriers and endure substantial hardship – this account for 1.5 billion people estimated worldwide (*Measuring the Justice Gap*, 2019, p. 13). Access to justice and the rule of law, are two principles central to the legal profession and the functioning of modern societies (Webley et al., 2019).

World Justice Project 4 universal principles for Rule of Law (*WJP Rule of Law Index 2021 | World Justice Project*, 2021)

1) **Accountability:** The government as well as private actors are accountable under the law.

2) **Just Law:** The law is clear, publicized, and stable and is applied evenly. It ensures human rights as well as property, contract, and procedural rights.
3) **Open Government:** The processes by which the law is adopted, administered, adjudicated, and enforced are accessible, fair, and efficient.
4) **Accessible and Impartial:** Justice is delivered timely by competent, ethical, and independent representatives and neutrals who are accessible, have adequate resources and reflect the makeup of the communities they serve.

Studying innovation in the context of legal services is critical to ensure the proper functioning of our justice system and, above all, our society. Despite the central role of administrations of justice, some scholars argue that it is a system in a permanent crisis because a large majority of the world population —60% in the US— cannot solve their legal conflicts through the judicial system (Linna Jr, 2015). From a citizen's perspective, access to justice is hindered by the high costs, long processes, and complexity that characterizes traditional legal services (R. Susskind, 2019). This crisis is partly due to the way work is organized in the legal industry, based on centuries-old models and cannot cope with the rapid changes digital technologies are bringing to professional services (R. E. Susskind, 2008). Technology has promised to reduce costs, improve efficiency, and automate technical aspects to make legal services accessible to the immense majority that cannot afford to pay for a lawyer with varying degrees of success (Cerrillo i Martínez & Fabra, 2009; Contini & Cordella, 2015; Fabri, 2009; Rosa et al., 2013; Velicogna, 2017). However, digitalized practices are still far from fulfilling those promises. Concerns about access to digital technologies by groups of the population in the use of remote court proceedings, known as the digital divide, have been recently highlighted (Olugasa & Davies, 2022).

2.1.1 From e-Justice to Digital Justice

The digitalization of justice and judicial services has come with the development and expanding new digital technologies. An understudied component of the digital transformation of courts is the role of judicial agencies in regulating and coordinating the digital technologies in use. In this regard, recent literature pointed out that "it is timely to address judicial governance in the light of the responsibility for fair procedure in those digital processes" (Reiling & Contini, 2022, p. 2). The introduction of digital technologies in the organizing of courts follows two objectives: on one side, a managerial one of optimization, efficiency, and cost-reduction. On the other side, the objective of legitimizing the court by promoting transparency and accountability (Yavuz et al., 2022). One of the key technological developments that made the digitalization of justice possible is web-based services (Politis et al., 2008).[5] At the same time, the literature on e-justice projects has focused on practical problems and their outcomes; however, attention to values is needed (Lupo, 2019; Yavuz et al., 2022).

From previous e-Justice experiences at national and continental levels, the literature has values to assess e-justice projects according to (Lupo, 2016):

1. Independence refers to the need of courts and judges to prevent interferences from other powers, executive and legislative, and pressures from the outside on how to practice jurisdictional power. A factor relevant to my research is the involvement of external IT service providers, national or foreign. This is relevant because "involving external actors may hinder the independent functioning of an e-justice system." (Lupo, 2016, p. 58). From a broader perspective, having foreign external actors also hinders the digital sovereignty that every country should be able to enforce regarding its judicial system.
2. Accountability, assessment of judicial activity in light of rule of law principles and efficiency.

[5] Web-based technology can run a program on almost every digital device – from computers to smartphones- because all resource-intensive operations are performed elsewhere, not in the device. Moreover, web-based services do not require a specific application to be installed in the device before running it, it is simply accessible via a web browser. This makes the hardware's requirements extremely low, making these web-based services widely accessible.

3. Impartiality refers to the absence of prejudice, partiality or biases.
4. Equal Access should prevent access to justice based on individual or group categories.
5. Transparency, publicity of court activities.
6. Privacy is the protection of information of individuals and communities involved in judicial procedures.
7. Legal validity, the activities of the court and the parties, should follow a procedure stated by the law, concerning the fundamental rights protected by the constitution and the law.

Similarly, the book Online courts and the future of justice elaborates on the following principles for online justice: accessible, enforceable, procedurally fair, substantively fair, open & transparent, proportionate, and sustainable (R. Susskind, 2019).

Rosa et al. have pointed out that introducing ICT in courts can be risky (Rosa et al., 2013). The risk factors are associated with conflicts among stakeholders because of a lack of knowledge and perspectives on the project's development. Other risk factors are related to ownership of the project and the knowledge gap between the developing team and other stakeholders.

Nevertheless, deploying new technologies poses new challenges and risks to judicial work. However, "most of the available literature focuses on the promise and capabilities of technology, on project successes and, in some cases, project failures" (Reiling & Contini, 2022, p. 3). And despite the scale of the digital transformation of justice, only anecdotal evidence has been used to understand better how courts, judges, prosecutors, clerks, officers, and defendants shape their work, routines, and practices with the adoption of new technology (Contini & Lanzara, 2014). Despite the advancement of the e-justice literature, a recent review highlights the theoretical gap "e-justice research needs to develop further in its theoretical foundations" (Yavuz et al., 2022, p. 403).

2.1.2 Agencies in courts' digitalization

> "Some of the interactions between the law, people and things have been written into procedural law and court rules while others, gradually established by convention and habitus, remain unwritten" (Mohr & Contini, 2011, p. 995)

Earlier work claims that e-justice is changing the landscape of the judiciary (Contini & Cordella, 2015). The "switch from conventional or paper-based procedures to digital ones is not just a change of the tools used to access information and exchange procedural data and documents, nor just a way to make justice more efficient and effective" (Contini, 2014, p. 332). Instead, beyond changes in digital infrastructure, it is a reconfiguration of agencies, ranging from technologies to established legal agencies (Lanzara, 2009).

Following Lanzara's definition, I understand agency as the "capacity of an entity—human or nonhuman, material or symbolic—to produce effects upon a state of affairs" (2014, p. 5). Moreover, in judicial proceedings literature, the term agency has been used to refer to the human and non-human capacity to affect the state of affairs. As clearly expressed by Lanzara, agency

> *does not exclusively refer to the purposeful activities of human agents but is attributed to anything (actor, object, document, system, code, device, tool) that may produce effects, to anything that makes something happen, thereby changing the state of affair (Lanzara, 2014, p. 8).*

One unique feature of studying the digitalization of Courts of Justice is that —together with the material and social agencies— we encounter stark legal and judicial agencies. Legal and judicial regulation being agentic means that all doings are possible and valid because of a law that regulates it (legal agency) and emanates from a judicial authority in specific activities specifically regulated (judicial

agency). Previous work has studied the circulation of material-digital and legal-judicial agencies in judicial systems in a European context (Contini & Lanzara, 2014). Through several case studies, they shed light on the challenges of agency circulation and complexity at multiple layers, i.e., infrastructural, procedural, and institutional (Lanzara, 2014). In this regard, "**the development of e-justice entails the reconfiguration of agency across multiple media. This 'complexity leap' originates from the new mediation of agency brought in by the digital environment**" (Lanzara, 2014 p.9).

Studying digital technologies in the context of justice administration requires the consideration of the entanglement of three different domains, i.e., technology, law and organization (Lanzara, 2014). Together with the technological domain, digital justice encompasses the legal and organizational. This configuration has been framed as "**there is not just a technological installed base, but also a legal and an institutional one, and they are so deeply intertwined that it is often impossible to disentangle them** or act on one without affecting the other" (Contini and Lanzara 2014 p. xvii).

Accordingly, the performative configurations of agencies in online courts in digital transformation, law, and organizing are instantiated at the **three different layers, i.e., infrastructural, procedural, and institutional** (Hanseth & Lyytinen, 2010; Lanzara, 2009, 2014)**.** Furthermore, the infrastructural layer (Hanseth & Lyytinen, 2010) refers to the relations between the installed-based, open-to-changes and unbounded, the users and their organizations. These need legal regulation to generate effects. The procedural layer (Lanzara, 2014) refers to the relations between a sequence of actions, objects, and users dictated by the law, channelled by technology architecture and the organization's roles and norms. The institutional layer (Lanzara, 2009) refers to the relationship between norms, roles, and hierarchies in an organization, ruled by the law and shaped by technology protocols and standards.

The digitalization of courts' practices plays a central role in making justice inclusive or exclusionary (Santuber & Edelman, 2022a, 2022b; Santuber & Krawietz, 2021a). Furthermore, the adoption of ICT in the judiciary "instead of reducing bureaucracy and regulation, the massive deployment of ICT often requires a massive deployment of regulation" (Mohr & Contini, 2011, p. 997). Moreover, with increased support of judicial work by generic network infrastructure, the "companies that develop and administer the systems can assume key public functions in the same administration of justice"(Lanzara, 2009, p. 10).

Recent work addresses some critical tensions between law, technology, and organization in the context of justice systems. According to Reiling and Contini (2022), these tensions may affect fair procedure and challenge judicial governance as 1) procedural standardization (uniformity of procedures), 2) workflow digitalization (fitting work processes to match the requirements of technology), and 3) the implications that digitalization has on user involvement, both internally (court staff) and external (parties and other stakeholders). These challenges require a strong capacity from the judiciary to regulate and coordinate the adoption of technology, in which "the features of judicial governance are crucial for the way in which the new digital platforms affect the application of procedural law" (Reiling & Contini, 2022, p. 6). The way forward of these tensions offered by this research is to have principles and standards to design judicial governance in IT.

The literature on courts' digitalization has focused mainly on developing and implementing specific technology (Yavuz et al., 2022). Further, in the context of a pandemic, the indispensable success of the rapid adoption of technology to cope with the crisis demands an understanding of the behaviour of individual actions, social forces, and organizational dynamics (Ågerfalk et al., 2020). Digitalization during the pandemic presents a unique opportunity to address a gap in the literature and better understand the dynamics and mechanism through which digital technologies come to regulate courts' practices and create tensions with legal and judicial regulation.

2.1.3 Digitalization of courts during the pandemic: an overview

The COVID-19 pandemic created a space to explore further the ongoing digitalization of the judiciary worldwide. Looking back, this gave rise to a series of "lessons learned" for the different courts around the world (Fabri et al., 2021). While diverse in scope and context, I review some of the lessons generated by researchers and practitioners on the digitalization of courts' practice during the pandemic.

In a pilot project conducted in the UK at the beginning of the pandemic in April 2020, a group of researchers and practitioners simulated virtual court hearings (Mulcahy et al., 2020). This pilot aimed to test the implications of moving court hearings online on jury trials. While this exploration focused on jurors, the virtual setup of a jury and their participation, their learnings apply to other jurisdictions that do not include a jury. Among their initial findings was the importance of carrying material references to the courtroom practices to the virtual hearing, i.e., the wig and traditional attires. Courts could have used many of the findings and recommendations more extensively. However, that was not the case. Many came along with the time, and out of the experiences different court members and parties had during the first weeks of working remotely and in online courts. Their evaluation is nevertheless valuable, significantly, when many judiciaries extend the transitory measures beyond the pandemic emergency circumstances.

The recent literature has captured the international experience of courts with various countries and scopes studied, yet with high similarity among systems. A recent report from Chile analyses the adoption of digital technologies in light of soft law, especially the Interamerican System of Protection of Human Rights (Lillo & Vargas, 2021). Based on that, the report elaborates recommendations in the direction of legal reforms, improving the digital literacy of the court's staff, as well as increasing the security of the IT systems used in the judiciary (Lillo & Vargas, 2021). The pandemic revealed the tensions between legal regulation and judicial power, primarily because of the legal emergency powers given to the Ministry of Justice in Israel, which affects the independence of court administration to decide on the operations of the judiciary (Lurie, 2021). The risks of emergency ordinances from the government concerning the justice system were also observed in Switzerland. Primarily the passing of emergency ordinances due to the pandemic without including the judiciary in the organization and coordination of legal changes (Kettiger & Lienhard, 2021).

The experiences during the pandemic showed inconsistent practices across local courts in Norway that did not follow the court administration's national directives (Fabri, 2021; OECD, 2020a). The form in which judicial work practices were disrupted in Portugal exposed and severed the fragilities of the judiciary working conditions (Dias et al., 2021). While these tensions related to the regulation and coordination of work practices were already long (Casaleiro et al., 2021), the pandemic intensified them, creating a hotspot (Dias et al., 2021). In the case of Brazil, the relevance of the regulative capacity of the higher courts is highlighted in enabling the courts' special measures and proactivity (Sátiro et al., 2021).

Most courts used videoconferencing platforms like Skype, Zoom, and MsTeams, among others, because of the need for more user-friendly internet-based services, even when internal video systems were available in courts[6] (Sanders, 2021). In a different direction, the courts in England and Wales, after using the mentioned videoconferencing platforms, were able to move their hearings to a "bespoke online platform developed for HMCTS known as the Cloud Video Platform" developed in a reform programme during the previous four years (Sorabji, 2021). Likewise, the experiences with video hearings in courts were not new in Europe; not only that but "legal regulation for video hearings was also in place before the pandemic, even if they were not used very often." (Sanders, 2021, p. 3). In the

[6] Sanders offers a detailed overview of the legal framework and videoconferencing platforms used in Europe. The commercial systems used were Skype for Business, Zoom, CISCO Webex, Microsoft Team, PEXIP VMS, WebRTC, Polycom, Jitsi, TrueConf.

case of Switzerland, the use of videoconferencing technology has raised resistance before and during the pandemic, which may be ascribed to "personal reservations about new technologies, the rather defensively formulated emergency legislation, a lack of technology for courts, or a lack of security in the technology that is available to the courts" (Kettiger & Lienhard, 2021, p. 8). Despite the significant changes that the use of remote appearances via videoconference in courts will have in the long term (Fabri, 2021), it is also unlikely that video-hearings will disappear with the end of the mobility restrictions imposed by the pandemic (Sanders, 2021).

Moreover, research on Swedish administrative courts shows how an emphasis on the values of the legal profession in the design and implementation of digital technologies would increase the adoption by judiciary members, who otherwise were resistant to the change (Björkdahl & Kronblad, 2021). On the long-lasting effects of the pandemic-driven innovation in court, in the case of Victoria, Australia, it might be sufficiently disruptive to make innovation stick if judicial governance commits to sweeping change and the required extraordinary funding is provided (Wallace & Laster, 2021).

Regarding publicity and access to virtual hearings, some countries like the UK and Norway have streamed live cases of particular interest (Sanders, 2021). Moreover, the notion of public hearing needs to be reconsidered in the wake of digital broadcasting and social media.

Social media channels were actively used by the European Court of Justice during the pandemic to communicate to the general public changes, court restrictions and information related to the procedures[7] (Popotas, 2021). Moreover, using digital artefacts such as the hashtag #askCuria (see figure 5), citizens were invited to ask questions to the court via Twitter (Popotas, 2021). Also, based on the experience during COVID-19, social media has been acknowledged as a tool to engage with users and increase access to justice systems and should be further explored (Fabri, 2021). In more recent research, the new possibilities provided by online hearings with social media have surfaced with unknown risks. From the experiences in Malaysia, "photography of Court proceedings and sharing the photographs on social media platforms give rise to the dangers of witness intimidation and prejudice to the accused person's right to a fair hearing" (Ismail et al., 2022, p. 1). The possibility of streaming hearings on social media has raised fears and concerns among judges in Germany about being attacked on those platforms (Sanders, 2021).

Figure 5. *A screen capture of the Twitter post by the European Union Court of Justice, from May 6, 2020, encouraging users to ask questions via Twitter to the court on the occasion of Europe Day.*

While most judiciaries worldwide had to innovate without much planning, some exceptions, such as the Court of Justice of the European Union, show how they were prepared to manage the crisis arising from the pandemic during the previous years. This preparedness was achieved by "enhancing its contingency plans, using its teleworking experience, benefiting from a modernised IT infrastructure, and applying its procedural rules intelligently."(Popotas, 2021, p. 1). Research on courts during the

[7] According to Popotas, "subscriptions to the Court's LinkedIn account had tripled compared to 2019, and the number of followers on Twitter had increased by 25%. The number of views of multimedia animations on the Institution's YouTube channel has also seen significant growth" (2021 p. 15).

United States pandemic has shown how contingency plans created for a different scenario (Ebola pandemic) were reused and implemented during the COVID-19 pandemic (Fazari, 2022). On a more critical note, adopting disruptive technologies in court practices has raised the question of whether digital technology reflects the traditional values and meaning of justice (Shi et al., 2021; Sourdin et al., 2020). Together with that, the success of the digitalization of courts depends on improving digital literacy by providing education opportunities to both court members and users (Fabri, 2021; Zeman, 2022)

While courts worldwide started to close their physical spaces, i.e., the courtrooms, due to mobility restrictions imposed to control the spread of the COVID-19 virus, many anecdotes emerged. Targeting a broader audience and focusing on practitioners at the beginning of the pandemic in March 2020, Prof. Richard Susskind and the Society for Computers and Law launched a crowdsourced initiative called Remote Courts Worldwide (*Remote Courts,* 2020). In the form of a website, Remote Courts aims "to help the global community of justice workers - judges, lawyers, court officials, litigants, court technologists - to share their experiences of 'remote' alternatives to traditional court hearings."(*Remote Courts,* 2020). [8] Providing a systematic option to share and access a variety of experiences, Remote Courts is now a rich source of success stories and failures of the adoption of digital technologies in court during the years 2020, 2021 and 2022. With updates, news, reports, and commentaries from over 168 jurisdictions (the current total number of countries is ca.195), Remote Courts provides a broad width of experiences that can challenge even the most imaginative readers.

The courthouse, its physical arrangements, and its architecture have shaped judicial practices for centuries (Mulcahy, 2011; Mulcahy & Rowden, 2019). As shown in the previous passages, COVID-19-related restrictions pushed significant changes in courts' practices. Limited physical access to the courts is essential because "the courtroom is a technology of the law, providing a place for the parties and the judge to come together and communicate, for witnesses to be sworn and to give evidence, and for judges to pronounce binding decisions." (Mohr & Contini, 2011, p. 995). Without a courtroom to structure and coordinate the practice, novel dynamics have arisen between the agencies in judicial practice. While the courtroom, the benches, and the materiality of a courtroom are the technologies of the law to perform justice, the questions that I address in the following pages are: What are the roles that digital technologies play in performing justice? Are digital means the technologies of the law? Or is the law a technology of the digital?

The co-constitutive relation of law, design practices and technologies involves understanding the timing between regulation and technology development. This timing is another feature of the gordian knot in the digitalization of justice systems. Do we first regulate technology and then create it, or do we first develop and design and then regulate it? In the sense of "finding the correct order for regulation to take place: if not ex-ante, then when? The opposite solution would be post-facto: create the technology and then legitimate it." (Mohr & Contini, 2011, p. 1012). Designing for Digital Justice looks at the different dynamics between legal and judicial regulation and digital technologies, understanding how digitalization becomes a process of redefinition of regulative regimes.

2.2 DIGITAL TECHNOLOGIES AND INNOVATION IN ORGANIZATIONS

For Designing for Digital Justice, the relevant literature on organization and digital innovation focuses on three topics. 1) accounting for the social and the technical in information systems research (Leonardi, 2012; Orlikowski & Scott, 2008), 2) digital technology as a regulative regime (Kallinikos, 2009b), and 3) digital transformations as waves, ensembles, and corollary effects – the undertow

[8] In this regard, the remote courts project served as a community along the doctoral research presented in this dissertation. During the early days, I have contributed with the first example of online hearings in Chilean courts, as well as two of my research articles on the topic have been featured on the website.

(Glaser et al., 2021; Scott & Orlikowski, 2022; Yoo et al., 2010). In a larger context, the study of digitalization, digital transformation is a complex process which has been gaining more attention resulting in multiple complementary –and conflicting-- theories (Markus & Rowe, 2021).

2.2.1 Information systems: the social and the technical

Traditionally, the focus has been twofold in the organizational literature, science and technology studies (Feldman & Orlikowski, 2011). On the one hand, technological artefacts, i.e. IT, are framed as techno-centric approaches. On the other hand, there has been a push for human-centric approaches which put the user and their worlds at the centre, emphasizing the interaction between humans and IT devices. Each one of these approaches has shown limitations. The techno-centric stream overlooks technological development and implementation's historical and cultural components, giving a type of technological determinism. In contrast, from the human-centric approaches, the limitation comes from overlooking the specific role of technology in shaping its relationship with organizations and people. Thus, the challenge in information systems research has been to account for both the technical and the social without falling to one side or the other (Jones, 2014).

In the field of information systems, this has been first addressed from a socio-technical perspective. Socio-technical systems can be characterized, for instance, as technical artefacts, knowledge, and cultural meaning that "do not function autonomously, but are the outcome of the activities of human actors […] [which] are embedded in social groups" (Geels, 2004, p. 900). In organizational studies, these "socio-technical systems" were several times understood to be "made up of social systems (hierarchies, communication networks, etc.) and technical systems, which are usually defined as technological artifacts" (Leonardi, 2012, p. 18).

Socio-technical systems theory tried to fulfil its primary goal of integrating the technical subsystem in the macro-organization of work (Leonardi, 2012). While jointly optimizing the technical and social components of systems - as these intertwining elements paved the way for technological change leading to new modes and possibilities of work (Cecez-Kecmanovic et al., 2014). In this context, Woodward clarified, "different technologies imposed different kinds of demands on individuals and organizations and that these demands had to be met through an appropriate organization form" (1958, p. 16). Socio-technical system theory proved helpful in elaborating on organizational changes induced by information systems grounded on the relations between social and technical system components (Lyytinen & Newman, 2008). The interactions between the social and technological systems might be seen as inherently recursive: "users shape the technology structure that shapes their use" (Orlikowski, 2000, p. 407).

The recursive dynamics of technology in organizations result in enacted structures of technology in use. These enacted structures "are set of rules and resources that are (re)constituted in people's recurrent engagement with the technologies at hand" (Orlikowski, 2000, p. 407). Furthermore, a socio-technical system depicts the "[r]ecognition of a recursive (not simultaneous) shaping of abstract social constructs and a technical infrastructure that includes technology's materiality and people's localized responses to it" (Leonardi 2012, p. 22). Against this background, a stream of research has emerged under the frame that all practices are sociomaterial. In simple terms, reality is made of social and material, inseparably in a way that one cannot exist without the other (Orlikowski & Scott, 2008).

The term sociomateriality itself has been used as an umbrella term depicting that all material "was created through social processes and it is interpreted and used in social contexts" and vice versa "all social action is possible because of some materiality" (Leonardi, 2012, p. 10). This approach "directs attention to how institutional phenomena are constituted in everyday activities, and how those everyday activities, in turn, are shaped by institutional influences and implications" (Orlikowski & Scott, 2015, p. 6). In this regard, "the social and the material are considered to be inextricably related — there is no social that is not also material, and no material that is not also social." (Orlikowski, 2007, p. 1437). Mingers & Willcocks identified the pitfall of recent representations of sociomateriality in not

explicitly addressing the individual proposing the consideration of the social, material and the personal or individual (2014).

Sociomateriality, as is grounded on a relational ontology (inseparability), in which the social and the material are co-constituted in activities (practice). These practices are emergent configurations in which boundaries are constantly being redefined, re-enacting the practice (performativity) in a constant "world-making" (Barad, 2007; Jones, 2014; Orlikowski, 2010; Østerlund et al., 2020). In this regard, this stream of sociomateriality is considered a posthumanist approach -entangled human and non-human agency (Barad, 2003; Braidotti, 2019, 2019; Gherardi, 2020).[9]

With the increasing influence of digital technologies in our lives and societies, a more nuanced approach is required to understand its role in shaping our societies.

2.2.2 Technology as a normative regime

> "Technology is gaining a new centrality in the configuration of political and economic space at the local and global level, becoming itself a political object" (Lanzara, 2009, p. 1)

The introduction of digital technologies in public spheres, government and the judiciary, has far-reaching consequences (Kallinikos, 2005). In his work on governing through digital technologies, Kallinikos considers technology "a distinctive constituent of organizational and institutional life and a major regulative regime" (Kallinikos, 2009b, p. 4). In 1980, research called for attention to the technological artefacts having political qualities (Winner, 1980). More explicitly, "that the machines, structures, and systems of modern material culture can be accurately judged not only for their contributions of efficiency and productivity, not merely for their positive and negative environmental side effects, but also for the ways in which they can embody specific forms of power and authority" (Winner, 1980, p. 121). While often digital technologies are associated with the promises of more efficiency, speed, and cost reduction, they also come with a regulatory burden increasingly borne out of technological management (Brownsword, 2019).

However, the "transposition of offline processes to online services is taking place within a dense cultural and institutional context that conditions such innovations in many ways" (Kallinikos, 2009a, p. 3). The digitalization of organizations comes with two central organizing principles: digital omniscience and digital omnipotence (Schildt, 2022). According to Schildt, these principles are "the pursuit of digital omniscience – the efforts to represent and conceive the world through digital data – and digital omnipotence – the efforts to bring activities inside and outside organizations under the control of information systems" (2022, p. 235).

The focus in the literature has usually been on how people use digital artefacts, while how digital technologies use humans has not received the same attention(Demetis & Lee, 2018). In this direction, the role of digital technologies at a macro scale "exhibits emergent non-linear phenomena that render human controllability irrelevant" (Demetis & Lee, 2018, p. 2). At this level, the designer's original intentions and control start to fade due to circular dynamics demanding more autonomy. At the same time, "humans increasingly find themselves in the environment, outside of these dynamics"(Demetis & Lee, 2018, p. 2).

These political qualities and the regulative regime of digital technologies come embedded with theories and a specific worldview. For instance, in the case of digital technologies, their design process reflects the dominant positions of specific tech-related groups that monopolize the creation and design of far-

[9] I provide a further account of sociomateriality in the theoretical framework section of Designing for Digital Justice.

reaching social media and digital services platforms (Costanza-Chock, 2020). On a methodological level, taking "universalist design principles and practices, as well as single-axis evaluations of fairness in design, erase certain groups of people: specifically, those who are intersectionally disadvantaged (or multiply-burdened)" (Costanza-Chock, 2018, p. 531). Put differently, the simple designs of technology we live by are designs that exclude every day.

In line with other participatory design approaches, the Design Justice approach emphasizes that marginalized groups are not data points or a means towards social impact. Instead, it recognizes them as living communities with experiences fraught with the struggle of being excluded, born out of exclusion. Thus, the Design Justice movement argues for a more "equitable distribution of design's benefits and burdens; fair and meaningful participation in design decisions" (Costanza-Chock, 2018, p. 529). Such an approach de-centres design from designers and focuses on community as the motor of change.

The problem of exclusion by design is magnified by the introduction of such digital technologies in the Courts, from remote work and online trials to algorithms supporting judicial decisions. Furthermore, related research argues that "forms of coloniality are normalised in the development and daily use of digital technologies, imposing epistemological and ontological limits that leave Latin America asymmetrical with the digital innovation poles of the Global North, such as Silicon Valley" (Tironi & Valderrama, 2021, p. 6 (own translation) also in; Ricaurte, 2019; Ricaurte Quijano, 2018; Escobar, 2018). This aspect of digital technologies has been addressed under the concepts of postcolonial computing (Irani et al., 2010), decolonial computing (Ali, 2016), data colonialism (Couldry & Mejias, 2019, 2021; Thatcher et al., 2016), technocolonialism (Madianou, 2019), and data epistemologies (Ricaurte, 2019).

Moreover, as de Sousa Santos advises, "we should become more aware of the diversity of social experience in the world, an experience of untold and repugnantly unjust suffering, but also of neglected creativity and innovation" (de Sousa Santos, 2017, p. 237). Taking this call to action seriously implies rethinking our processes and empowering the excluded communities to design justice systems that align with their worldviews and knowledge—in other words, designing alternative justice systems with and from the communities that justice systems aim to serve.

How does technology, as a competing normative regime, infuse organizations with their epistemologies and world views? Previous literature has identified that this happens in waves of digitalization, each having corollary effects transforming organizations as digital undertows.

2.2.3 Digital transformation and organizations: waves, ensembles, and the undertow

Digital transformation is a process with debated scopes and theories (Markus & Rowe, 2021), as well as evolving research agendas in business (Vial, 2019) and also in the public sector (Mergel et al., 2019). So far, the focus has been on how organizations leverage digital technologies to develop new ways of creating value, yet it is relevant to address how digitalization affects organizations' core (S. Scott & Orlikowski, 2022). Moreover, in line with the previous section, digital transformation is a way in which technologies impose their political qualities and normative regime over previous ones. Related research has pointed out how "creators of digital infrastructures seek to infuse their norms, values, or institutional logics into the infrastructures"(Hinings et al., 2018, p. 54).

Literature on strategic digital transformation showed that this transformation happens in waves (Yoo et al., 2010). **Technical digitization characterizes the first wave** by turning analogue processes, documents, and artefacts into a digital medium without changing them (Yoo et al., 2010). This wave has been illustrated in a research commentary as "paving the cow paths" (Tilson et al., 2010). This first wave has been characterized as **digital replicating** (S. Scott & Orlikowski, 2022).

The **second wave** is characterized by a separation between content and their medium, devices and networks (Yoo et al., 2010). In the book industry standards, this happened with selling print books online and the need to have coordinated stock and supply databases with the bookstores (business analytics), framed as **digital decoupling** (S. Scott & Orlikowski, 2022). A digital phenomenon in this wave is convergence, which is the integration of technologies through the homogenization of digital data, allowing decoupled content and devices, yet integrated services (Yoo et al., 2010). In this wave, the tension between flexibility and control of digital technologies emerges (Tilson et al., 2010).

Later, digital innovations sprout from remixing, transforming and combining content, products, and services (Flath et al., 2017; Lessig, 2008). The third wave is characterized by media mash-up across different platforms (Yoo et al., 2010. A concept central to this phase is **generativity** (Zittrain, 2005) which emphasizes that digital products and services can be continually reinterpreted, expanded and refined, characterized by building blocks that can easily be setup and re-setup differently (Hinings et al., 2018; Nambisan et al., 2017; Yoo et al., 2010). In the book industry standards, this happened with the modularization of books as separate purchasable chapters and multimodal content. These new formats can be purchased as bundles, characterized as **digital recombining** (S. Scott & Orlikowski, 2022).

The third wave, with its generativity and recombining, is also related to the digital phenomena of **algorithmic translation** (Glaser et al., 2021). According to the literature, algorithmic translation happens due to the "prevailing assumption that an algorithm designed for one setting can be recycled across similar classes of organizations, similar or related industrial sectors, or even different and unrelated sectors and organizational forms." (Glaser et al., 2021, p. 16). Such recycling of digital technology is because of the normative regime inscribed in those algorithms and the theories which shaped their design and worldview. These translations, while common in practice, are never a clean process and might end up creating problems, thus "a number of practices might be performed as part of this process, including policy-making practices such as meetings dedicated to establishing the algorithm's ethical and legal framework (aimed, for example, at protecting societal values such as privacy, fairness, equality, and transparency)" (Glaser et al., 2021, p. 17)

Scott and Orlikowski have theorized from the book industry standards that those digital undertows, developing new standards, extending standards, and displacing standards correspond to the first, second and third waves of digitalization identified by Yoo et al. (2010). Building on the metaphor of waves, they have named these corollary effects of digitalization the digital undertow – the backwards stream of a wave (Scott & Orlikowski, 2022). Moreover, the corollary effects happen because of the tension created by materializations of the practice that are excluded from the regulation and coordination of standards. Those **tensions can be pragmatic, tactical, or existential** (Orlikowski & Scott, 2021; S. Scott & Orlikowski, 2022) – see the theoretical framework section in which tensions are further explained under liminal innovation. In the paper biography of an algorithm, this tension or battle to "obtain jurisdiction over organizational activity" has been reported between an algorithmic and non-algorithmic assemblage (Glaser et al., 2021).

Ensembles of technology refer to deeply entangled components that perform, produce and reproduce the ensemble. Thus the unit is not a standing-alone technology but a bundle of artefacts, regulations, humans, and theories (D'adderio, 2008; D'Adderio et al., 2019; D'adderio & Pollock, 2014).[10] The importance of digital ensembles is that "while individual algorithms may reflect the general intentions of their designers, the algorithms as a whole find themselves within a far more complex environment (that they help to constitute and create)." (Demetis & Lee, 2018, p. 7). In other words, the ensemble takes a life on its own, enacting coherent or problematic theories and regulations originating from the mix and translations of the technologies.

[10] For accounts of non-human agency see the theoretical framework under the section Configurations of human and more-than-human agency.

To summarize, the third digital wave tends to displace existing regulation and coordination by creating a mash-up or assemblage of technologies, which by means of translation, carry over theories and regulations that might conflict with previous materializations of the practice and, therefore, its regulation and coordination.

2.3 DESIGN RESEARCH

The complexity of justice and its many layers of meaning makes it hard to address the digitalization of courts. From its social justice components to more procedural aspects, justice and its complexity fall into what has been called *wicked* problems in design thinking (Buchanan, 1992). However, the idea behind the wicked problems was initially formulated by Horst Rittel back in 1972 as a

"class of social system problems which are ill-formulated, where the information is confusing, where there are many clients and decision makers with conflicting values, and where the ramifications in the whole system are thoroughly confusing".

These complex problems were also a concern of John Arnold in the late 50s: how could the best engineers in the world could extend their expertise to solving complex societal problems? (Arnold, 2017; Thienen et al., 2018) While engineers were the main focus of his study, he understood the challenge of bringing creativity to professional education broadly, extending the need to think creatively to tackle the big societal problems of our times to other professions, researchers and citizens. At the core of Arnold's project was the idea that creativity for every person was a journey of self-actualization and the capacity to deal with the pressing issues of modern life (Arnold, 2017). In 'Creative Engineering. Promoting Innovation by Thinking Differently', a foundational book of what —decades after— became worldwide known as Design Thinking, John E. Arnold describes different kinds of problems. To articulate his classification, Arnold based it on 3 different kinds of thinking that mark the so-called "creative thinking" (Thienen et al., 2018).

Creative thinking combines *analytical*, *judicial*, and *synthetic* thinking. It involves stating what is there, its properties and relationships; ascribing value to certain relationships and combining them in previously unrelated ways. In this sense, we can say that creative thinking is not a thinking mode in itself, but rather a process that combines the three different thinking modes suggested by Arnold. Based on the classification of the three thinking modes – analytical, judicial and synthetic – Arnold formulated a theory of problems that follows the classification of thinking modes. However, problem types can be identified by three elements described below: the number of variables or premises (inputs), the number of possible solutions (outputs), and the assessment of those solutions (correct or incorrect). This taxonomy of problems and modes of thinking has been also applied to a legal design project about a common legal platform (Kohlmeier & Santuber, 2020).

The framing of problems in design practice is critical to the activity. The reality around us cannot just be redesigned, as it overwhelms the agency of the designer. In other words:

> *posit and necessary change is always a measure of history. The act takes the measure of the immeasurability of the situation that determines us – and 'whose' power, as a situation, is that it evades and is the absence of measure. This "invisible excess" of this situation, its seemingly unlimited state, hinders or seems to hinder action. (Dilnot, 2020, p. XIX)*

By framing this excessive tangle, designers disarm the phenomena and dissect it to lower it to a level of human agency (like we cut, cook, and chop food that otherwise would not be edible). To continue with this revelatory quote from Dilnot,

> *to measure the situation, to show its historical determination, is to "interrupt" this excess. It is to give this situation, however excessive, a configuration, which means that it can then be opened up to reconfiguration. (Dilnot, 2020, p. XIX)*

At the core of this approach was the challenge of using technical skills belonging to a specific discipline to configure a situation – i.e. engineering- to put them to work in the service of significant societal problems. However, due to the complexity and excessiveness found in the big social problems of our time, like access to justice is vital to highlight the need for dialogue across specific knowledges beyond the disciplinary limits. In doing so, designers can provide situations with a rich historical determination, providing a rich field of reconfiguration possibilities. Only by fostering such dialogues can we start conceiving more holistic configurations. In the case of designing for digital justice, it is law, digital engineering, design, sociology, anthropology, and philosophy that provide powerful tools, concepts and frameworks for change.

Against this background, the emergence of legal design as an umbrella term for practices and studies related to justice and the law can facilitate these configurations.

2.3.1 Legal Design: A new approach to designing for justice

Legal Design is an emerging group of practices and studies engaged in the creation or transformation of products, services, and systems in the world of law (Brunschwig, 2021; Corrales et al., 2019; Doherty, 2020; Haapio et al., 2018; Hagan, 2020; B. A. Jackson et al., 2016; Rossi et al., 2019; Santuber & Krawietz, 2021b). Under the emblem of innovation and creativity, legal design promises to renew the legal landscape. However, this has been framed overly soon under the rubric of human-centred design (D. Jackson et al., 2022). While the human-centred design is a good approach and has proven useful, this framing does not take advantage of the theoretical richness and plurality that design offers, especially the critical design approach (Dunne & Raby, 2013; Escobar, 2018; Fry, 2017). This also limits its ability to solve the grand challenges related to the environmental crisis, interdependencies, and the care of multiple species (Tironi et al., 2022). Likewise, a human-centred approach does not take advantage of the resources provided by posthuman approaches from the social sciences and philosophy. Designing for Digital Justice leverages this emergent literature. It directs attention to the individual and collective relationship with digital materialities like videoconferencing, social media platforms, and physical instantiations, such as screens, rooms, and buildings. However, legal design research has put forward a more diverse and rich framework based on critical design (Bohman, 2021; Doherty, 2022; Pope, 2022; Santuber & Edelman, 2022a).

This activity is affirmed in the famous quote, "The best way to predict the future is to create it," by Peter Drucker or, in Buckminster Fuller's terms, "the best way to predict the future is to design it". Changing the last word of Drucker's now overreferenced quote to Fuller to *design it* is not just a more convenient word to use. It carries with it the concern to materialize these alternatives, place them in a context, and learn from the emergencies that this process brings.

Who should design for digital justice?

> "Everyone designs courses of action aimed at changing existing situations into preferred ones" [Simon 1996, 111]

Designing for Digital Justice is positioned within an emerging set of practices and studies under what has been called legal design. These hybrid practices "are generated mainly from critical areas of 'studies' and produce their own extradisciplinary descendants. "(Braidotti, 2017, p. 84). At the intersection of law and design, this hybrid formation communes with post-disciplinary movements in which previously defined communities and professions or disciplines become more fluid, and boundaries begin to blur (Pernecky, 2019).

What is designing for justice? [11]

> "Everything we do, almost all the time, is design, because design is basic to all human activity" [Papanek 1985, 3]

Thus, Legal Design can be seen as a nomadic practice (Wakkary, 2020) in the sense that it "is 'non-unitary' and can be seen as a non-consensual framework that gives practitioners the freedom to move between different modes of practice, outside the conventional boundaries of a discipline" (Hoskyns & Stratford, 2017, p. 408). As a post-disciplinary practice, it resists and criticizes its roots. At the same time, it shows characteristics that refer to those disciplines (Doherty, 2022).

In this sense, the hybrid formulation of the legal design is not Law + Design, nor the other way around. But a novel way of creating knowledge that exceeds and transcends the boundaries imposed by the guardians of the discipline — is more than the sum of its parts. It does not belong to the Faculty of Law nor does it belong to the School of Design, however, it belongs to both and many places in between. Nevertheless, all practices have a historicity (Barad, 2007) and a traceable genealogy (Hultin, 2019). In addition, the studies and practice of Legal Design are born orphans, but like any other practice, it has a genealogy.

Nearly four decades ago, Nigel Cross attempted to create a space for Design as a discipline, the third force throughout the natural sciences and well-established humanities (Cross, 1982). According to Cross, design as a discipline deals with the conceptualization and creation of new things, with attention to the *material culture* of doing and doing. In this connection with the technological world, on the phenomenology of design, Donald Schön refers to the practice of designers as a *reflective conversation with the materials of the situation*[12] (Schon, 1992).

Within the humanities, law as a discipline and profession has dealt with "social culture" with a normative orientation to govern, judge and govern. A recent characterization of the legal profession concerning technology emphasizes that legal practice is driven by a public service limited by the values of the rule of law, access to justice, and, ultimately social peace (Webb et al., 2019; Webley et al., 2019). This has also been highlighted in Cotterrell's (2017) notion of "legal practice" applied to Legal Design by Perry-Kessaris (Perry-Kessaris, 2019). A commitment characterizes a legal practice, as "first, to the 'welfare' of the law, and specifically to its 'enrichment and upholding' rather than its mere exploitation, 'unmasking or discrediting'; and secondly, to "the law as a practical idea" rather than a mere abstract phenomenon, and specifically to its "meaning as a social institution" (Cotterrell, 2017).

In recent years, we have seen a wide range of Legal Design practices and studies (de Francisco Vela & Pachón Buitrago, 2021). Projects and case studies are brought from different approaches and methodologies, and Legal Design in turn is applied to many of them. Some examples are the relationship with sociology, design and law (Santuber et al., 2019), a recent work "doing sociolegal research in design mode" (Perry-Kessaris, 2021), or a multisensory approach to Law (Brunschwig, 2021), pattern

[11] This subsection is based on the published article co-authored with Lina Krawietz "The Socio-materiality of Justice: A Relational Ontology for Legal Design: A Relational Ontology for Legal Design". RChD: Creación Y Pensamiento, 6(11), 1–19. https://doi.org/10.5354/0719-837X.2021.64624

[12] In this sense, I follow here Schön's vision of the design conversation in which the problem is co-defined by the problem along with the situation it addresses. In this sense, "[The designer] shapes the situation, according to his initial assessment of it; the situation "responds", and he responds to the underlying conversation" (Schön 1983). In this way, in this process of configuring the digitalization of justice, it is a conversation between myself a researcher, and the digitalization of the justice system of Chile.

languages for data privacy (Haapio et al., 2018), a set of psychophysiological methods for Legal Design (Santuber, Krawietz, et al., 2020), to name a few examples from recent literature.

This emerging theoretical and methodological assemblage means moving from one territory to another (Deleuze & Guattari, 1987), or a nomadic design practice, moving through different territories (Wakkary, 2020). However, in the case of Legal Design, it is articulated around the purpose of creating legal relationships that serve people and society. In this liminal space occupied by the practice and studies of Legal Design, there are remnant features of the two disciplines from which it originates (see Figure 6). With this genealogy in mind, I enunciate the common elements of the Legal Design assemblage as

> *"multiple practices and studies related to the creation of novel legal configurations, or the redesign of existing ones, which are understood as a relationship between people, laws and technology with a purpose driven by a public service limited by agreed values such as the rule of law, access to justice and social peace" (Santuber & Krawietz, 2021a).*

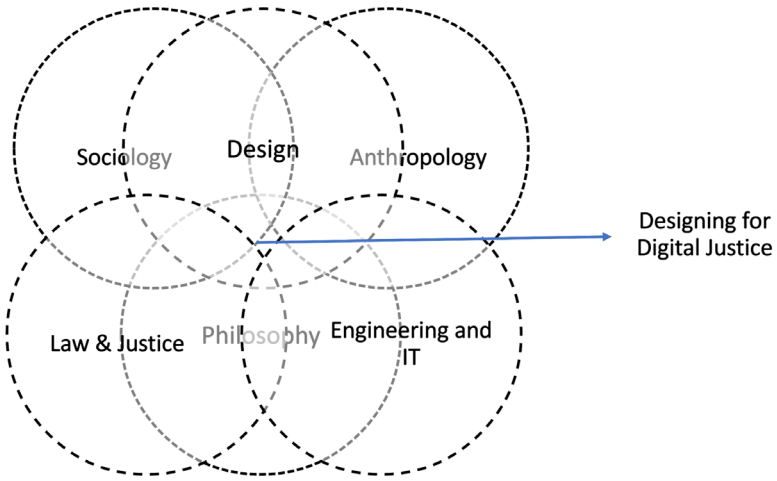


***Figure 6**. Diagram showing three significant disciplines involved in design for digital justice, design, law and justice, and digital engineering and engineering. At its heart, the extended disciplines, such as sociology, anthropology, and philosophy, should always be considered in the design process for digital justice.*

2.3.2 Designing as Performance

Under the rubric Designing as Performance, design is a practice that can be taught and practised. As mentioned earlier, Designing as Performance is a corpus of behaviours which drive the creative inquiry towards a novel output. This design concept was developed at the Research2Impact group under the leadership of Jonathan A. Edelman and together with my colleague Babajide Owoyele (J. Edelman et al., 2022; J. Edelman, Owoyele, & Santuber, 2021; J. Edelman, Owoyele, Santuber, et al., 2021; J. A. Edelman et al., 2020, 2021, 2022; Owoyele et al., 2020).

The Designing as Performance approach to design understands design as corpus behaviours, a repertoire of perception-action cycles that drives the creative inquiry towards a desired novel configuration. More specifically, it refers to the designer's ability to see the world as a field of possibilities for skilled action (J. Edelman, Owoyele, Santuber, et al., 2021)- and act on it with skilled

action. This skilled perception-action encompasses our bodies, the people we collaborate with and the media we use. A crucial point of this approach is that designing is embodied, socially distributed, and technically extended:

1) **Embodied**: when designing, we think-act-feel with our bodies. Thus, designing does not happen in our heads but through our bodies as our principal medium of accessing the reality around us (Merleau-Ponty, 2013). This first stance rejects mind-body dualism and understands the mind to be always embodied.

2) **Socially distributed**: when we design, we always design with others. While this is common to other team-based design approaches, the designing-as-performance take is that our thoughts-actions-emotions are split (and distributed) among team members. Thus, team interactions are a chain of unfinished thought-action emotions that form a whole.

3) **Technically extended**: when designing, our embodied and socially distributed doing is also extended to the media and technology we use. In this regard, our media and tools serve as cognitive prostheses that hold, support, and shape our design inquiry. These media and tools go from the paper, pens, and sketches we draw to more sophisticated working tools such as computers, screens, and virtual environments.

As a set of behaviours, Designing-as-Performance is enacted through several performative patterns. These performative patterns are micro-behaviours which are enacted by high-performing teams. The performative patterns are well-defined behaviours which serve as containers for previously undefined content (J. A. Edelman et al., 2020). This means that these patterns can be filled with content relevant to the design project.

2.3.3 Dimensions of Engagement for Designing as Performance

I have been introduced to design research by Jonathan Edelman. His mentorships and guidance have significantly influenced my work and Designing for Digital Justice. This becomes more explicit with the reference to the notion of cosmos and paracosmos that he developed in his doctoral work (J. Edelman, 2011). His research studying design engineers suggests that designers engaged in a redesigning task follow the counterfactual-paracosmos structure (Gopnik, 2009). This posits that imaginary things by children which are the counterfactuals always have a "logical coherence in respect to the contextual world from which they arise. This contextual world Gopnik calls a 'paracosmos'. In short, counterfactuals always exist within the context of an imaginary world which has rules of its own" (J. Edelman, 2011, p. 59) New configurations are "counterfactuals"; in the worlds of Edelman, "they stand in contrast to what exists, as exemplified by the object to be redesigned. The "world" in which they arise can be seen as a "paracosmos"; generated by design engineers to justify, support, and develop new ideas" (J. Edelman, 2011, p. 59).

Dimensions of Engagement (DoE), is a framework developed by Edelman which provides designers a language to situate their interventions at three levels in two dimensions, object and context (J. Edelman, 2011). This framework was tested and refined in our collaboration and reintroduced as a performative pattern (J. Edelman, Owoyele, Santuber, et al., 2021; J. A. Edelman et al., 2020). The three of levels DoE on the object dimension are, 1) touch/contact points and interfaces, 2) usability and functions, and 3) core. On the context side, and corresponding to each one of the previous dimensions, are 1) usability (sensorial inputs like gestures, voice, etc), 2) use-case scenarios, and 3) networks. Design interventions that operate on level 1 are considered incremental innovations while moving up to level 3, we can talk about radical innovation (level 3 implies a reconfiguration of levels 1 and 2, thus implies a major transformation) (J. Edelman et al., 2012).

Table 1. *Overview of the Dimension of Engagement framework by Edelman (2011).*

Dimension of Engagement for Designing as Performance	
Object	Context
Touchpoints (i.e., interfaces) ⟷	Usability (i.e., gestures)
Functions ⟷	Use-case scenario
Core ⟷	Network

2.4 SUMMARY AND RESEARCH GAPS OF RELATED LITERATURE

Digitalization of justice deals with three existing structures: legal, technological, and institutional -- each has its own agency (Contini & Lanzara, 2014; Lanzara, 2014). During the COVID-19 pandemic, courts worldwide leveraged digital technologies to keep working (Fabri et al., 2021; Santuber, Dremel, Hermosilla Zuñiga, et al., 2020; Santuber et al., 2021; Santuber & Krawietz, 2021a). In particular, digital technologies enabled remote work in courts while showing the fragility of the working conditions (Dias et al., 2021). Also, digitalization made it possible to videoconference judicial hearings (Sanders, 2021; Sorabji, 2021), communicate changes and engage with users via social media (Popotas, 2021), and stream hearings live to ensure publicity of hearings (Sanders, 2021). While we have descriptions of what technologies brought new practices in courts, it is still unclear how those new practices came to be. Moreover, the focus of e-Justice, especially before the pandemic, has been on using specific technologies and leaving the use of general technologies by the judiciary understudied. A better understanding of the dynamics between justice systems and digital technologies is critical to design a more accessible justice.

Organizational and information systems research has dealt with the relation of technologies and their social-institutional contexts. Especially relevant is the normative aspect of technologies, which competes with other regimes, i.e., (legal) and their capacity to regulate (co-regulate) and coordinate practices in organizations (Kallinikos, 2009b). This process has been studied under the effects of digital transformation and theorized in the forms of waves (Yoo et al., 2010). These waves of digitalization materialize the practices differently, creating tensions in other structures with liminal features (Orlikowski & Scott, 2021). The tensions generated by digitalization waves have corollary effects, such as developing new regulations and coordination, expanding the scope of the existing regulation and coordination, and displacing the current regulation and coordination (S. Scott & Orlikowski, 2022).

Recent legal design literature offers a more fluid practice and studies building from several disciplines to tackle the significant justice challenges of the current times (Santuber & Krawietz, 2021a). A novel approach to designing considers design as a performance in which designers can see the world as a field of possibilities that unfolds around them and reconfigure it with skilled action (J. Edelman, Owoyele, Santuber, et al., 2021; J. A. Edelman et al., 2020). The Designing as Performance approach has refined and reintroduced a performative pattern called Dimensions of Engagement (J. Edelman et al., 2012; J. A. Edelman et al., 2020). This framework shows three levels where designers can reconfigure phenomena: touchpoint/usability, functions/use-case scenarios, and core/networks. While these design frameworks exist, it is necessary to bridge them to other disciplines to make them actionable. In this regard, researchers and practitioners need a framework translated to the field of digital justice, serving as new field possibilities for redesigning for access to justice.

CHAPTER III

3 THEORETICAL FRAMEWORK: MORE-THAN-HUMAN AGENCIES AND LIMINALITY IN COURTS' DIGITALIZATION

The theoretical framework that sustains my research comes from two streams that complement each other. On the one side, sociomateriality is an onto-epistemological stance to account for more-than-human agencies. On the other side, the liminal theory provides a well-suited framework to account for the unique circumstances of the COVID-19 pandemic. Both streams share the foundation of a relational ontology.

3.1 A RELATIONAL ONTOLOGY

A relational ontology focuses not on things but on the relationships between them. It emphasizes, not a focus on humans as intentional subjects but the entanglement of humans *with* more than humans (Barad, 2007; Braidotti, 2019; D. J. Haraway, 1997). In this sense, the limits and delineations of the entities are not pre-determined or determined. Instead, they are promulgated in discursive practices (Barad, 2007). A relational approach rejects dualities, mind and body, observer-observed, knowledgeable-known, and ultimately social and material (Hultin, 2019).[13] In this way, "agents, things or concepts cannot be understood as having limits, properties or meanings determined before their encounters" (Orlikowski & Scott, 2015, p. 11). The practices situated create their limits and definitions in the encounter with other things.

This relational ontology within a posthuman approach was founded in two theoretical streams, which complement each other. These are 1) Sociomateriality founded in agential realism, and 2) Liminality. These theoretical frameworks, presented in this order, help explain the interaction between different agencies identified during my research – physical, digital, judicial, legal, social, and individual.

3.2 SOCIOMATERIALITY, PERFORMATIVE PRACTICE, AND CONFIGURATIONS

The term sociomateriality itself can be understood as a general term representing that all material "was created through social processes and is interpreted and used in social contexts" and vice versa "all social action is possible due to some materiality" (Leonardi, 2012, p. 10). Similarly, sociomateriality is promulgated by a set of behaviours by individuals who engage with the material and all things social.

Designing for Digital Justice takes this stance to allow us to overcome the focus on the intentional human actor, placing the focus on a network of distributed and decentralized organic as well as inorganic agencies. One achievement of the sociomaterial stance is to overcome the old dualities — brain-body, material-social, nature-culture, organic-inorganic, structure-agency, etc. Instead, it focuses on agencies that enact different configurations. In her characterization of configurations, Suchman explains human-technology configuration as "figuring it out together" (Suchman, 2012, p. 49).

The concern of sociomaterial research is both in what is happening and in the ways of happening (Cecez-Kecmanovic et al., 2014). Extending that definition, to be agentic is not only to affect but also to be affected by the status of affairs —by other agencies (Deleuze & Guattari, 1987). In this sense, agencies are performative, which enact the boundaries of the practice in a "mutual constitution of

[13] In posthumanist literature the reference to the agency distinct to the human has been given under multiple forms as the non-human agency, more than human, another than human, body without organs to mention a few.

entangled agencies" (Barad, 2007, p. 33). These performative agencies shape past and future possibilities of configurations (Cecez-Kecmanovic et al., 2014). Thus, the level of analysis of Designing for Digital Justice is the "doings and sayings of entangled configurations through which phenomena are produced" (Schultze et al., 2020, p. 817).

Within the sociomaterial frame, Designing for Digital Justice leverages two concepts (1) performative practices and (2) configurations of human and non-human agency.

Performative Practices

Designing for Digital Justice builds on a practice-based sociomaterial approach to make sense of justice. The position of sociomateriality states that "a practice cannot have meaning or existence without the specific materiality that produces it" (S. V. Scott & Orlikowski, 2014, p. 875). Based on a relational ontology, sociomateriality is an entanglement without limits or predefined distinctions (Barad, 2007). In this sense, there is no being to find, no subject and defined objects, neither social nor material. Instead, the social and the material are co-constituted, enacted in doings- activities (practices). This approach has also been develped in relation to contemporary approaches to cognition to highlight the embodied and situated aspect of practices (Santuber, Dremel, Paula, et al., 2020).

A focus on practices implies that reality is an embodied way of doing, an activity of a situated community (Nicolini, 2012, 2016; Nicolini & Monteiro, 2016). Thus, practice is not an object or concept; it is a process, a happening, a doing/going/passing through. However, it is worth noting that doing is not the achievement of an intentional actor or group. Practices are an emergent relation, a sociomaterial configuration. A practice is embodied; it is spatial —happening somewhere; and temporal — occurring *somewhen*. A focus on practices means focusing on how reality comes to be, rather than what is. Hence, it has a historicity and a locality. Performative practices enact realities in an iterative process, a repetition of positions in situations that delineate their boundaries (Barad, 2003; Butler, 1993). In an organization, sociomaterial practices are not a means to a goal; they constitute the reality that they perform, the organization.

Furthermore, an organization — i.e., the Court — does not exist without the practice that performs it. Practices perform distinctions, enact boundaries, and define the entanglement between people, processes, and technologies. Routines, written text, and spoken words are not representations or descriptions of reality but the enactment of that reality itself (Barad, 2007).

Configurations of Human & Non-Human Agency

To characterize digitalized practices in Court, Designing for Digital Justice builds on the concept of human-technology configuration definition by Lucy Suchman as

> *how humans and machines are figured together – or configured – in contemporary technological discourses and practices, and how they might be reconfigured, or figured together differently (2012, p. 49)*

More recent research further develops this definition with new terminology —digital/human configurations— to account for emergent multilayered and more complex configurations, as well as the performativity of individuals and technology in contemporary organizations (Baptista et al., 2020). By observing these configurations, "it is not clear who makes and who is made in the relation between human and machine" (D. Haraway, 1990, p. 177). Therefore, following the goal to understand digitalized practices in Courts, Designing for Digital Justice take a post-humanist approach to agency (Braidotti, 2019)— entangled human and non-human/more-than-human agency - founded in agential realism theorizing. I further rely on sociomateriality within a more significant effort in social research "to displace the human subject as the centre seat of agency, the one in control of the world, the one from whom intentional actions emanate" (Gherardi, 2019, p. 759).

3.3 LIMINALITY: HOTSPOTS, INNOVATION AND PERMANENCE

There is no correct theory for our times of uncertainty and ambiguity. I take the counsel from recent work by Orlikowski and Scott (2021), suggesting researchers and practitioners move away from "disaster mode" during the COVID-19 pandemic and look for inspiration in liminal literature, organization learning and adaptive processes resulting from liminal innovation.

Studying digitalised practices during times of global pandemic requires accounting for the uncertain and ambiguous contexts. Changes and transformation are more ubiquitous in social and material configurations due to time – the passing of seasons—and space – moving from one region to another. Individuals, communities and societies are in constant flux. Moreover, this is more patent in modern and increasingly digitalised societies, where boundaries are less clear (Deleuze, 1992).

In 1909, the anthropologist and ethnographer Arnold Van Gennep pointed out these hallmark transitions and their rituals in the influential book Rites of Passage (1960 (1909)). In his work, van Gennep observed how different communities, across time and space, performed rituals to ease the passage from one state to another, childhood-adulthood, life-death, and marriage. He found three stages, pre-liminal, liminal and post-liminal, as the separation, threshold and incorporation. The stage of liminality was then further explored by Victor Turner, the liminal phase, the "betwixt and between" (Turner, 1974). From their original application in small-scale societies and groups, liminality has also been studied in more extensive contexts (Thomassen, 2009). Recently due to the COVID-19 pandemic context, even as a global liminality (Boland, 2020; Boland & Bența, 2020).

Across contexts and scales, a key element for liminality is suspended normativity (Turner, 1974). It is characterized as blurring boundaries, distinctions and positions –the anti-structure—and even the suspension of society itself (Boland, 2020). Moreover, Liminality is both a place of potentiality and danger in modern organizations, cultures, and societies (Horvath, 2013). On one side, liminality creates a temporary space for generativity, disruption and creativity (Czarniawska and Mazza, 2003), while on the other, the capacity of liminality to become permanent generating constant uncertainty and disintegration, characterized by spirals of imitative behaviour, trickster or cynicism (Boland & Bența, 2020; Horvath, 2013; Szakolczai, 2017). Permanent liminality refers to practices becoming institutionalized when individuals, organizations and societies cannot reach post-liminal stability (Szakolczai, 2017).

Particularly relevant is the concept of liminal hotspots, which is defined as "an occasion characterised by the experience of being trapped in the interstitial dimension between different forms-of-process, and in the situation of ontological indeterminacy that characterises such a dimension" (Greco & Stenner, 2017, p. 154). Liminal hotspots, are situations or occasions of high tension in which friction or tension between intra-acting agencies increases, generating a "troubled becoming" and deepening the state of indeterminacy.

Bringing together, the potential dynamics of liminal hotspots proposed by Greco and Stenner and Szakolczai (2017; 2017) from social anthropology as well as the line of thought Orlikowski and Scott (2021) from digital innovation and organization. From these two streams of research, we can outline the five Ps of liminality, i.e., paradox, paralysis, polarization, pattern shift, and permanence.

Paradox Every liminal practice begins with a paradox (1974) which gives rise to tensions (Orlikowski and Scott, 2021). The paradox or tension is triggered by changes that suspend the configurations of the practice in place, opening a liminal space and time. Furthermore, they identify tensions (instead of paradoxes) at three levels: pragmatic, tactical and existential (Orlikowski and Scott, 2021). Tensions are the why and how sociomaterial practices are suspended. The paradox or tension makes the past practices and potential future one exclusive. Thus one practice be enacted together with the other practice.

Furthermore, the tensions generating pressure for change in practices have been identified as *pragmatic* (the practice has become difficult to perform), *tactical* (interrupted because it is not viable), and *existential* (discontinued due to its finality missing, the why is missing) (Orlikowski and Scott, 2021). Those tensions can lead the way to liminal innovation and/or permanence.

It is important to note that liminal hotspots, innovation and permanence are not linear, and consecutive processes. Likewise, one organization can be affected by pragmatic, tactical, and existential tensions in parallel. There is a temporal element, but not necessarily linear. For example, in a process of liminal innovation, during the implementation of a solution, the level of uncertainty increases generating a new hotspot which opens the space for innovation, or the risk of permanence in that state of suspension.

Paralysis is a potential phase in which individuals, organizations, and societies may find themselves during liminal practices represented by inaction. The change, shock or crisis creates confusion and dissent, which may lead to stagnation. For example, in the wake of COVID-19, some Courts of Justice were closed, a judicial holiday was ruled, and the service was interrupted due to mobility limitations.

Polarization, another dynamic liminal practice may make sense of the change by swinging between one position and the other, taking extremes to force a known stability by applying known ways of doing (Greco and Stenner, 2017). For example, eventually switching between all-analogue Courts, and all-online Courts depending on the number of cases in different moments of the pandemic, or the illusory notion of going back to "before the pandemic", once the crisis is over.

Permanence refers to the institutionalization of liminal practices. In this constant limbo, individuals, organizations and society stay in a suspended normativity, without boundaries given and open to the influence of tricksters, cynicism, imitative behaviour, and disintegration (Horvath, 2013; Szakolczai, 2003, 2017). Permanence occurs when tensions arising are not worked through.

Pattern shift or liminal innovation (Greco & Stenner, 2017; Mertens, 2018) may result when liminality is worked through with novel practices. As a result, new practices, an innovative gestalt and a new normativity are configured (Greco and Stenner, 2017). If a pattern shift occurs two options are prevalent: First, it may be that liminality ceases, and a new practice with its own norms regime takes place. Second, and more interesting to our work, the liminal practice, while successfully working it through, learns the dynamics of liminality, and implements new practices and regimes, while experimenting with new ways of doing (Mertens, 2018). Thus, individuals, organizations and societies can enact new ways of doing, a third way. This is the central aspect of liminal innovation, to simultaneously enact the pattern shift while staying as a liminal practice. With this, individuals, organizations and societies ensure that "innovations remain malleable, even after implementation" (Mertens, 2018, p. 286).

In summary, liminal innovation "fosters an awareness of ongoing boundary remaking as the challenges of particular pragmatic, tactical, or existential tensions engender opportunities for including novel, alternative, or revised practices and materializations" (Orlikowski and Scott, 2021, p. 5).

3.4 SUMMARY OF THE THEORETICAL FRAMEWORK

A relational ontology to account for the human and non-human agencies.

Sociomateriality, to sustain the relational ontology in the context of technologies and organization (Orlikowski & Scott, 2008). Considering that organizations are enacted through performative practices, a configuration of human and non-human agencies (Suchman, 2012).

Liminality, to frame the suspended normative in times of change and transformation, is characterized by liminal hotspots which can give place to paralysis, polarization, pattern shift or liminal permanence (Greco & Stenner, 2017; Szakolczai, 2017). Also complemented by notions of liminal innovation in

organization studies, in which new practices are enacted while remaining open for further change (Mertens, 2018; Orlikowski & Scott, 2021).

CHAPTER IV

4 RESEARCH METHODS FOR DESIGNING FOR DIGITAL JUSTICE

By drawing on the aforementioned methodological foundations, Designing for Digital aims to investigate how novel materializations of judicial practices came to be in the context of the rapid digitalization due to the COVID-19 pandemic. I chose an inductive qualitative research design for three main reasons: (1) the novelty of the topic, (2) the lack of prior research on the conditions of possibility for the emergence of digitalized practices in justice systems, and (3) our lack of understanding as a society how the rapid introduction of digital technologies is redefining justice systems during pandemic (Eisenhardt, 1989; Eisenhardt & Graebner, 2007; M. Myers, 1997).

In this regard, Designing for Digital Justice characterizes the processes of rapid digitalization in the Chilean judiciary during the COVID-19 pandemic –how did they come to be. For that purpose, I have systematically gathered data from multiple sources for over two years and a half – encompassing events that occurred during 30 months between March 2020 and October 2022. The high dynamism of changes in court practices during the pandemic made it a moving target. In this regard, for the past 30 months, my engagement with the judiciary has been daily, multiple times a day, following their news, social media activity, and any digital trace they would leave.

Specifically, I conducted an in-depth longitudinal case study of the two focal types of courts (i.e., criminal and civil court), as well as the Administrative Corporation and the Communications Directorate in the Chilean judiciary system in Santiago (Yin, 2008). I chose the case of the Chilean judiciary in Santiago de Chile for two main reasons. First, access to key stakeholders of judiciary systems and respective interviews is a difficult endeavour but was feasible in the case of the Chilean judiciary system with a promising number of interviews (n=30) to gain rich insights into the effect of COVID-19. Second, the pandemic situation hit Chile later than other Western regions of the world, allowing some time for the preparation of my research.

The practices studied in Designing for Digital Justice are related to 1) remote work in courts, 2) hosting hearings online, and the use of social media. The use of social media was then specified into 3) attention to the public online, 4) judges' engagement with users on social media, and 5) broadcasting and uploading recordings of hearings to social media platforms.

In detail, I examined two sub-systems, criminal and civil justice. The two sub-systems were chosen because the first has been subject to recent reforms and is predominantly oral (Code of Criminal Procedure, 12th October 2000), whereas the second one has a text-based system designed more than a century ago (Code of Civil Procedure, 20th August 1902). The Administrative Corporation and the Communications Directorate were of interest because they represent the managerial and operational aspects of the court, being the first in charge of providing the infrastructure to the courts and the second in charge of all communications and the use of social media.

In this regard, part of the data comes from direct observation of the process online and qualitative interviews with court staff members (primary data). Together with that, I gathered a large set of archival data from a variety of sources, ranging from bodies of law, acts and protocols from the Supreme Court, annual reports from the judiciary to annual fillings to the securities exchange commission SEC by Zoom Inc., Facebook – now Meta (2019 - 2021), as well as terms and conditions of service, and privacy policies of the referred companies plus WhatsApp and YouTube.

For the analysis of the data, I followed first a grounded theory approach (Charmaz, 2006; Strauss & Corbin, 1990; Urquhart, 2012) and later a historical approach informed by the technique of genealogy (Foucault, 1971a, 1971b).

***Table 2**. Overview of research methods, data collection and analysis during 2020, 2021, and 2022.*

<table>
<tr><th></th><th>2020</th><th>2021</th><th>2022</th></tr>
<tr><td rowspan="3">Data Collection</td><td colspan="2">Interviews</td><td>Archival Data</td></tr>
<tr><td></td><td colspan="2">Annual Reports of the Judiciary</td></tr>
<tr><td colspan="3">Observation of Judicial Practices Online</td></tr>
<tr><td>Data Analysis</td><td colspan="2">Grounded Theory</td><td>Genealogy</td></tr>
</table>

Before jumping into the data collection and corpus of data, I would refer briefly to some nuances in the way I addressed the research design and my role as a researcher in producing the phenomena. The central element of the methodology is diffraction (Barad, 2014). It's the pillar of Designing for Digital Justice (and previous related publications).

4.1 Diffraction, Standpoints & Situated Knowledges[14]

To embrace much-needed conceptual creativity and theoretical courage (Braidotti, 2019), we need a methodological resource to account for the plurality of agencies and multiple ways of becoming in the digitalization of the courts. A useful methodological concept is *diffraction* (Barad, 2014).

Originally from the physics of light, diffraction is the effect of having light pass through a small hole or bend due to an obstacle (see Figure 7). In contrast to reflection and refraction, the results are interference and spreading of the light produced by the obstacle, yielding a diffractive pattern. Such disturbance can produce multiple images of the same object at the same time. Diffraction as a research methodology is used to make explicit that "there is no unmediated photograph or passive camera

[14] This section is based on my published article Designing with theories: Producing legal design diffractively in courts of justice (2022) co-authored with Jonathan A. Edelman published in Lockton, D., Lenzi, S., Hekkert, P., Oak, A., Sádaba, J., Lloyd, P. (eds.), DRS2022: Bilbao, 25 June - 3 July, Bilbao, Spain. https://doi.org/10.21606/drs.2022.697 and the conference paper Organizing with knowledges: Diffracting imperfections from and by the Global South presented at the 38th European Group for Organizational Studies (EGOS) Colloquium: 'Organizing: The Beauty of Imperfection', Sub-theme 50: 'Organizational on and from the Global South: Overcoming the "Perfect/Imperfect" Dichotomy' At: Vienna, Austria.

obscura in scientific accounts of bodies and machines; there are only highly specific visual possibilities, each with a wonderfully detailed, active, partial way of organizing worlds" (D. Haraway, 1988, p. 583).

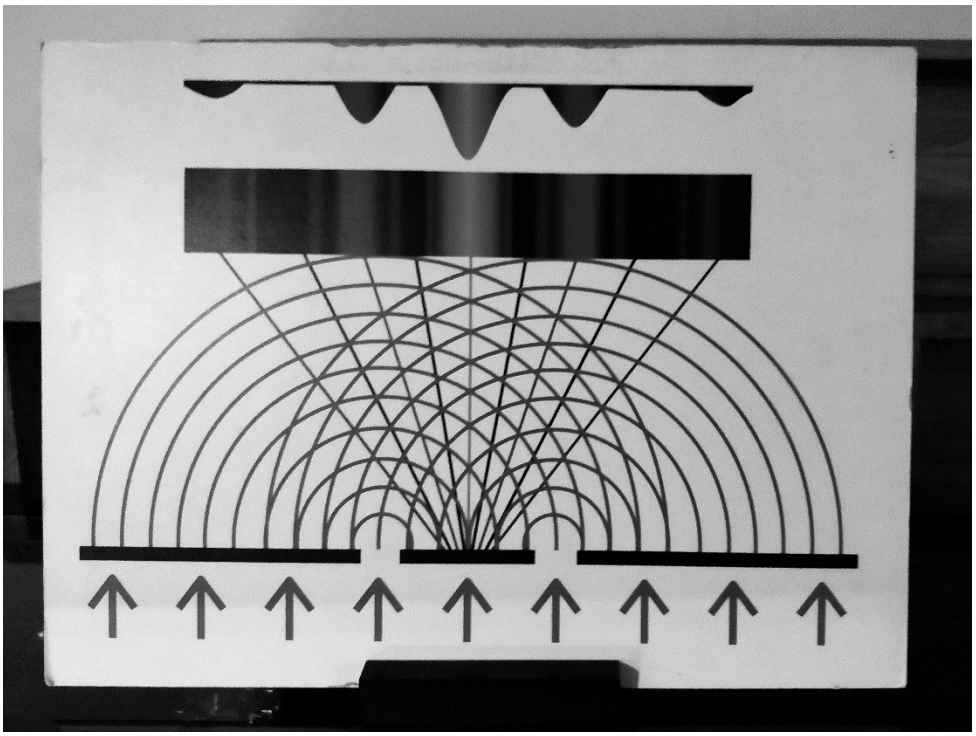


Figure 7. *Visualization of the physical process of diffraction in which the patterns of the light form because of the interference of the object placed in between the light source and the surface. The image was part of the permanent exhibition at the Museum of Science at the University of Coimbra. Credit: Joaquin Santuber*

A fundamental starting point for this proposal is to take a relational ontology (see Theoretical Framework). The main proposition is that subjects and objects are not given substances. Instead, one and the other are enacted in a relation - 'beings do not preexist their relatings' (D. J. Haraway, 2003, p. 6). The phenomena we observe are constantly becoming enacted in situated practices. In this sense, Designing for Digital Justice takes situated knowledges as a process which defines the observed relation differently and allows us to enact alternative realities. Situated knowledges (D. Haraway, 1988) comes from the struggle to find an alternative standard for objectivity and the question of feminism within science. Or, to put it bluntly in Haraway's terms: "Feminist objectivity means quite simply situated knowledges" (1988, p. 581). Moreover, this is not only a way to "acknowledge the social situatedness that is the inescapable lot of all knowledge-seeking projects but also, more importantly, **transform it into a systematically available scientific resource**" (Harding, 1992, p. 446 my emphasis).

The situatedness of knowledges is key to the development of Designing for Digital Justice because:

> the knowing self is partial in all its guises, never finished, whole, simply there and original; it is always constructed and stitched together imperfectly, and therefore able to join with another, to see together without claiming to be another. (D. Haraway, 1988, p. 586).
>
> knowledge claims are always socially situated, and the failure by dominant groups critically and systematically to interrogate their advantaged social situation and the effect of such advantages on their beliefs leaves their social situation a scientifically and epistemologically disadvantaged one for generating knowledge (Harding, 1992, p. 442).

> knowing and thinking are inconceivable without a multitude of relations that also make possible the worlds we think with (de la Bellacasa, 2012, p. 198).

As already mentioned, when studying forms of organizing and practices, no object or subject pre-exists or is foreshadowed. Instead, boundaries are enacted at a specific place and time because of an apparatus. The research apparatus enacts what matters and excludes what does not; it discloses certain attributes of an observed practice and leaves others out (Barad, 2014; D. J. Haraway, 1997).

Standpoint theorists argue that "marginalized lives are better places from which to start asking causal and critical questions about the social order" (Harding, 1992, p. 447). The design of an apparatus is given by the standpoint, theoretical framework, data collection and analysis methodologies it embodies. Furthermore, "the apparatus implies not a mere observing instrument but rather boundary-drawing practices that define a phenomenon"(Østerlund et al., 2020, p. 4). Thinking with care frames this in a way that "compels us to look at thinking and knowing from the perspective of how our cuts foster a relationship, more than how they isolate figures" (de la Bellacasa, 2012, p. 204). Thus, careful apparatuses mark distinctions, boundaries, and properties; they produce the reality observed, not just any reality but as an attempt to offer a better account of the world (D. Haraway, 1988). Moreover, "to produce a caring account, critical cuts shouldn't merely expose or produce conflict but should also foster caring relations" (de la Bellacasa, 2011).

Designing for Digital Justice leverages approaches to reading data based on a diffractive approach (Mengis & Nicolini, 2021; Nicolini, 2009; Østerlund et al., 2020). In this sense, we can read our data diffractively by changing our research apparatus (Santuber, Dremel, Owoyele, et al., 2020). Diffraction, in contrast to reflection and refraction, implies that what we see is being modified (partially blocked) by an object that we place with the purpose of giving us an alternative and partial perspective. As a methodology, diffraction serves as a generative tool for researchers – and practitioners – to expand the field of possibilities provided by what can be observed. The apparatus helps the observer define what is observed: the tools, the theoretical frameworks, previous experiences of the observer, and the position and role of the observer (internal or external to the Courts) (Santuber, Dremel, Owoyele, et al., 2020). The design of an apparatus is given by the theoretical framework, data collection and analysis methodologies it embodies.

In Designing for Digital Justice, diffraction is about producing the observed practices in courts differently; it is about exploring new perspectives on judicial practices by bringing artefacts, theories, and data to create blind spots and to shed light on the phenomena at the same time. It is a move to account for other alternative views on "partial, locatable, critical knowledges sustaining the possibility of webs of connections called solidarity in politics and shared conversations in epistemology" (D. Haraway, 1988, p. 584). From this standpoint, when designing for justice, no object nor subject pre-exists or is given; instead, they are produced because of an apparatus (Santuber & Krawietz, 2021). Moreover, apparatuses mark distinctions, boundaries, and properties within a judicial practice; they produce the reality observed; they include and exclude what matters (Santuber & Krawietz, 2021).

Taking a diffractive approach with an emphasis on its generative potential "is about creating other relations, other possibilities of existence, namely other beings" (de la Bellacasa, 2012, p. 200). Designing for Digital Justice diffracts by taking different perspectives – individual, social, judicial, legal, material, and digital- situating them in the context of the Chilean courts. With this approach, Designing for Digital Justice brings in other agencies not generally considered in the literature to create novel fields of possibility for action to design better justice systems.

4.2 Data Collection for Designing for Digital Justice

The first corpus of data collected was qualitative interviews. I used snowball sampling to obtain an adequate set of interviewees (M. D. Myers & Newman, 2007). As soon as I realized during our data

collection process that I reached saturation of a specific perspective (e.g., different agencies) I stopped adding interviewees. For conducting the interviews I developed a semi-structured interview guideline was developed based on the recommendations of Schultze and Avital (2011) (see Appendixes A and B). In detail, I conducted two rounds of interviews.

1) An explorative, open first round allowed me to gather rich information on the overall context and goals of courts during the beginning of April, coinciding with the beginning of COVID-19 in Chile.
2) A focused second round targeted understanding the sociomaterial entanglement of intra-acting agencies to explore the enacted configurations coming to be in the time of the pandemic, in the doing and sayings in online courts. This round was conducted to obtain additional insights into the infrastructural, procedural, and institutional challenges of the emergent practice in online courts.

To triangulate the findings, I included multiple data sources as sources for empirical evidence. Mainly legal documents such as protocols, regulations, and pandemic-related laws were used for triangulation purposes. Likewise, I analysed video recordings of more than 30 hours of online hearings held during the COVID-19 pandemic.

These documents and videos are publicly available documents in the Chilean Judiciary website (*Inicio - Poder Judicial,* 2020) and their official YouTube channel (*(1) Poder Judicial Chile - YouTube,* 2020). The respective rich set of data sources allowed us to capture the complexity of the phenomenon of interest from various perspectives. Further, by recruiting a broad set of interviewees (n= 30, see Table 3), I was able to capture different materializations of judicial practices. All interviews were conducted remotely via Zoom and recorded (audio and video) with the consent of the interviewee. The integrity of my interview data was ensured by working exclusively with recorded and transcribed interviews. After every interview, the video/audio recording of the interview was uploaded to shared cloud storage and discussed between the two researchers in charge of conducting the interviews.

4.2.1 Qualitative interviews

Table 3. *Interview participants' profiles from the Chilean judiciary*

Ref	Role	Male/Female	Years of Experience in Courts	Duration
[A] Civil Court				
[A1]	Civil Judge	F	Eighteen years	44 minutes
[A2]	Court Coordinator	M	Three years	53 minutes
[A3]	Court Official	M	Six years	68 minutes
[A4]	Court Official	F	One year	40 minutes
[A5]	Court Administrative Official	F	Two years	43 minutes
[A6]	Court Official	M	24 years	66 minutes
[A7]	Court Official	F	Ten years	40 minutes
[A8]	Court Official	F	Eight years	44 minutes
[A9]	Bankruptcy Official Court	F	Six years	73 minutes
[A10]	Court Official Drafter	M	Four years	34 minutes
[B] Criminal Court				
[B0]	Judge	M	Twenty years	89 minutes
[B1]	Assistant Prosecutor	M	Six years	65 minutes
[B2]	Public Defendant	M	Five years	60 minutes
[B3]	Public Defendant	30-40	Six years	71 minutes
[B4]	Assistant Defendant	20-40	Three years	62 minutes

[B5]	Assistant Public Defendant	20-40	Two years	43 minutes
[B6]	Private Defendant	30-40	Five years	62 minutes
[B7]	Human Rights Public Defendant	30-40	One year	69 minutes
[C] Law Clinic				
[C1]	Law Clinic Attorney	M	-	54 minutes
[C2]	Law Clinic Complainant	M	Three years	36 minutes
[C3]	Sexual Crimes and Childhood Complainant	M	Six years	65 minutes
[C4]	Law Clinic Attorney	M	Two years	54 minutes
[C5]	Law Clinic Psychologist	F	Fifteen years	57 minutes
[D] Administrative Department of the Judiciary				
[D1]	Communications Dept.	F	Five years	60 minutes
[D2]	Modernization Unit	M	Seven years	58 minutes
[D3]	Communications Dept.	M	-	74 minutes
[D4]	Social Media Unit	F	Ten years	54 minutes
[D5]	Social Media Unit	M	Four years	59 minutes
[D6]	Journalist North Region	F	Five years	57 minutes
[D7]	Journalist Center Region	F	Twelve years	62 minutes
[D8]	Journalist South Region	M	Three years	58 minutes

The semi-structured interviews were conducted in a conversation style, supported by guiding questions to ensure consistency across interviews. (see Appendix A for the questions). To address the members of the communication department with questions more related to their social media work, I slightly changed their formulation (see Appendix B).

4.2.2 Direct observation of digitalized practices online

Together with the interviews, the first round of data collection was completed with direct observation of video recordings of online judicial hearings posted to the judiciary's official YouTube channel(*(1) Poder Judicial Chile - YouTube*, 2020). This resulted in the creation of my playlist with videos from the Chilean courts, amounting to a total of 44 selected videos available (Santuber, 2022). Most of the videos were added to the playlist during April and July 2020. During the second round of data collection and analysis, I added to the playlist recording related to the situations emerging from the genealogies, i.e., Genealogy E the recording of the judicial hearing with more than one million viewers.

4.2.3 Second Round of Data Collection

While qualitative interviews tend to strongly reflect the perspective of ***individual agencies*** on the entanglement, the secondary data collected and analyzed served primarily to account for the other agencies: ***physical***, ***digital***, ***legal***, ***judicial***, and ***managerial***. This data has been collected from archival resources available online.

4.2.3.1 Physical

Information about courthouses, courtrooms, equipment and hardware was obtained via Annual reports, as well as the inventory of the judiciary available on the transparency website of the judiciary Poder Judicial en Números (Poder Judicial En Números, 2021). There are two inventory documents, one corresponding to real-state assets and the second one to furniture and technical equipment. To account for the virus development, I collected the epidemiological reports from the Chilean Ministry of Health of March 30, 2020, as well as all reported numbers of infections available on an open repository of the Chilean Ministry of Science, Technology and Knowledge on GitHub (Ministerio de Ciencia, Tecnología, Conocimiento, e, 2020/2022)

4.2.3.2 Digital

In the case of Zoom, annual fillings to the securities exchange commission SEC by Zoom Inc., corresponding to the fiscal years 2019 and 2021, terms and conditions of service, and privacy policies for Latin America. Software release notes and updates from April 2020 to September 2022.

Facebook – now Meta, including Chat Messenger and FacebookLive, annual fillings to the securities exchange commission SEC by Zoom Inc., corresponding to the fiscal years 2019 and 2021 (2019 - 2021), as well as terms and conditions of service for Latin America (2022), and privacy policies of the referred companies (2022).

WhatsApp terms and conditions of service for Latin America (2022) and privacy policies (2022)

YouTube terms and conditions of service for Latin America (2022) and privacy policies (2022)

4.2.3.3 Managerial

Annual reports of the judiciary years 2003 to 2021. (over 1000 pages excluding financial books), as well as the law that created the Administrative Corporation.

Regulation of the Communications Directorate of the Supreme Court

Strategic Plan of the Judiciary 2021-2025

4.2.3.4 Legal

1. Law 1552, August 30 1902 (Code of Civil Procedure),
2. Organic Law of the Courts, July 9, 1943,
3. Law 18969, March 10, 1990, which creates the Administrative Corporation of the Judiciary,
4. Law 19.665, March 9, 2000 (Reform to the Criminal Procedure),
5. Decree 100, September 22, 2005 (Reform to the Political Constitution of the Republic from 1980),
6. Supreme Decree supreme decree 104 March 18, 2020 (imposed a state of emergency and mobility restrictions),
7. Law 21226, April 2, 2020 (regulated the suspension of hearings in judicial proceedings),
8. Law 21379, September 30, 2021 (extended emergency conditions for the judiciary beyond the end of the emergency state),
9. Law 21394, November 30, 2021 (created a transitory phase of one year for the judiciary, extending the regulation to practices that originated during the pandemic).

4.2.3.5 Judicial

1. Act 71-2016 Regulating The Operation Of Courts Which Process Electronically
2. Agreed Order 41, dated March 18 2020 Regulating Teleworking And The Use Of Videoconferencing In The Judiciary
3. Agreed Order 53, dated April 17, 2020, On The Functioning Of The Judiciary During The National Health Emergency Due To The Outbreak Of The New Coronavirus
4. Agreed Order 271, 18 December 2021 On Hearings And The Hearing Of Cases By Videoconference (Article Sixteenth Transitional Article Of Law No. 21.394)
5. Act 159-2001 which creates de Communication Directorate
6. Agreed Order 1999 Order Determining The Form Of Operation Of The Courts And Other Judicial Services
7. AD 1873-2018, Technology policy in the field of media and social media
8. Act 159-2008, with instructions to use electronic means in procedures

Table 4. *Overview of data corpus, organized by agencies and sources.*

Agency	Source
Physical	1. Inventory of real state assets of the judiciary

	2. Inventory of hardware and technical equipment of the judiciary 3. Direct observation of video recordings of hearings 4. Database of the number of COVID-19 cases in Chile by the Ministry of Science, available on GitHub 5. Epidemiological Report on COVID-19 by the Chilean Ministry of Health, March 30, 2020
Digital	1. Annual filings to the SEC years 2019 and 2021 for Zoom Inc and Facebook/Meta 2. Terms and conditions of service for Latin America for Zoom, Facebook, WhatsApp, and YouTube in effect as of 2022 3. Privacy Policy for Latin America for Zoom, Facebook, WhatsApp, and YouTube in effect as of 2022 4. Zoom's software release notes and updates from April 2020 to August 2022 5. Direct observation of social media activity of the judiciary on Facebook, Instagram, and YouTube.
Legal	1. Law 1552, August 30 1902 (Code of Civil Procedure), 2. Organic Law of the Courts, July 9, 1943, 3. Law 19.665, March 9, 2000 (Reform to the Criminal Procedure), 4. Decree 100, September 22, 2005 (Reform to the Political Constitution of the Republic from 1980), 5. Supreme Decree supreme decree 104 March 18, 2020 (imposed a state of emergency and mobility restrictions), 6. Law 21226, April 2, 2020 (regulated the suspension of hearings in judicial proceedings), 7. Law 21379, September 30, 2021 (extended emergency conditions for the judiciary beyond the end of the emergency state), 8. Law 21394, November 30, 2021 (created a transitory phase of one year for the judiciary, extending the regulation to practices that originated during the pandemic).
Judicial	1. Act 71-2016 Regulating The Operation Of Courts Which Process Electronically 2. Agreed Order 41, dated March 18 2020 Regulating Teleworking And The Use Of Videoconferencing In The Judiciary 3. Agreed Order 53, dated April 17, 2020, On The Functioning Of The Judiciary During The National Health Emergency Due To The Outbreak Of The New Coronavirus 4. Agreed Order 271, 18 December 2021 On Hearings And The Hearing Of Cases By Videoconference (Article Sixteenth Transitional Article Of Law No. 21.394) 5. Act 159-2001 Which Creates De Communication Directorate 6. Agreed Order 1999 Order Determining The Form Of Operation Of The Courts And Other Judicial Services 7. AD 1873-2018, Technology Policy In The Field Of Media And Social Media 8. Act 159-2008, With Instructions To Use Of Electronic Means In Procedures
Individual	1. 30 Semi-structured interviews in civil courts, criminal courts, and the Communications Directorate of the Supreme Court 2. Direct observation of video recordings of hearings
Managerial	1. 22 Annual reports of the judiciary years 2003 to 2021. (over 1000 pages excluding financial books), 2. Law 18969, March 10, 1990, which creates the Administrative Corporation of the Judiciary. 3. Regulation of the Communications Directorate of the Supreme Court

4.3 DATA ANALYSIS FOR DESIGNING FOR DIGITAL JUSTICE

Recognizing the nascent stage of topic knowledge, I adopted a predominately inductive approach, acknowledging that the researcher is not an "independent knowledge-generating agent but is herself constituted as a particular actor in the situated enactment of a sociomaterial practice" (Schultze et al., 2020, p. 807). As such, in the first round of analysis, I did not impose an a priori theory on our empirical data or test a theoretical framework; rather, I analysed the emergent relationships enacting material-discursive practices (Schultze et al., 2020).

Moreover, I collected and analysed data iteratively, shifting between empirical data and theoretical concepts in a cycle between interviewing, transcribing, analysing, and checking back with the theoretical body of knowledge and our focus on the sociomaterial practices emerging due to COVID-19. My initial analysis started after each taken interview when I reflected on the interview itself, accounting for mine --the researchers'-- local context, i.e. locked-down working from home (Schultze et al., 2020). Further, along with the data analysis, I draw on iterative discussions with other researchers I have collaborated in previous years [15] (Forman & Damschroder, 2007).

The analysis of the data went through several rounds, being the two of the most important analysis approaches grounded theory and genealogical analysis.

4.3.1 Grounded Theory

To analyse the gathered case data, I pursued step-wise coding which consisted of open, axial, and selective coding in order to elaborate on agencies from the technology, law, and organization domain in the emergence of online courts (Strauss & Corbin, 1990; Urquhart, 2012). After the first round of interviews, I employed the open-coding stage. The first codes emerged through interview write-ups and summaries of our first round of interviews, which were used to condense the transcripts and obtain an initial overview of all case data (Yin, 2008).

Codes were initially developed inductively due to the novelty of the topic, with an emphasis on social and material entanglement. With the increasing maturity of our data analysis, key themes emerged that delineated us at the intra-acting agencies of online courts and allowed for detailed coding of the transcribed interviews. In the axial coding stage, I condensed the data based on the dimensions of sociomateriality and agencies as well as the theorizing on e-justice.

During coding, I continuously corroborated the detailed insights derived from analysing the interviews by constantly comparing and triangulating these insights with the results obtained from analysing the videos of online hearings and legal documents material (e.g., laws, regulations, protocols) (Charmaz, 2006). To analyse the data and systematically manage the collected data, I used ATLAS.ti as our computer-assisted qualitative data analysis software. Since our focus is on the embodied doing and sayings, the transcripts were analysed together with video/audio recordings of the interviews, also known as "multimedia transcripts". The interviews were conducted, transcribed and analyzed in Spanish by two of the authors. The quotes presented in this paper were initially translated using Deepl software, checked, and corrected afterwards.

The findings of those analyses have been published in (Santuber, Dremel, Hermosilla Zuñiga, et al., 2020; Santuber, Dremel, Owoyele, et al., 2020; Santuber et al., 2021; Santuber & Edelman, 2022a, 2022b; Santuber & Krawietz, 2021b, 2021a).

With that, I took a turn in my approach to data analysis and delved into the deep waters of genealogy.

4.3.2 Genealogical Approach

To trace back how the courts in Chile materialized their practices the way they did, I took inspiration from the genealogical technique elaborated by Foucault (Foucault, 1971a, 1971b). A genealogical approach tries to answer how did we get here by "uncovering of hidden conflicts and contexts as a means of re-valuing the value of contemporary phenomena" (Garland, 2014, p. 365). Genealogy does not oppose itself to history, but it is opposed to a search for "origins" (Foucault, 2019). Moreover, genealogy is about excavating the depths, cultivating the details and accidents that lead to now, "attentive to the petty malice […] must be able to recognize the events of history, its jolts, its surprises, its unsteady victories and unpalatable defeats" (Foucault, 2019, p. 144).

[15] The researchers are María José Hermosilla Zuniga, Nicolás Browne, Christian Dremel, Reem Abou Refaie.

From this inspiration, I went back to my corpus of data to re-read the passages of the interviews, looked for the unexpected, and followed through. That led me to look into places I did not think of; thus, my task diverted from a mere observer to a searcher, almost a detective, looking for traces of those events that, with time, we will no longer remember. The five genealogies presented in the findings section are the genealogy of the materialization of court practices during COVID-19 in Chile. The genealogical method can accommodate the constitutive dimensions of discursive practices, i.e., "history, materiality, [and] the conditions of possibility"(Hook, 2005, p. 3).

A genealogy of sociomaterial practices prioritizes two procedures 1) emergence and 2) descent (Hook, 2005). With that in mind, I searched for different emergence, understanding that "different points of emergence do not conform to the successive configurations of an identical meaning, they result from substitutions, displacements, disguised conquests, and systematic reversals" (Foucault, 2019, p. 151). And followed points of descent, which, in genealogic methods is

> *"to maintain passing events in their proper dispersion; it is to identify the accidents, the minute deviations, -or conversely, the complete reversals- the errors, the false appraisals, and the faulty gave birth to those things that continue to exist and have value for us; it is to discover that truth or being do not lie at the root of what we know, but the exteriority of the accidents" (Foucault, 2019, p. 146)*

Following previous research on organization studies, the working principles of genealogical approaches are "1) *diagnosing* 'the present' and 2) *problematizing* 'how we got here' " (Scott & Orlikowski, 2022, p. 318 numbering and emphasis mine). In other words, diagnosing the history of the present complies with "critical observations of present-day phenomena from which a history of the present begins" (Garland, 2014, p. 365). Put in the words of Foucault, it begins from a "'problem expressed in the terms current today and I try to work out its genealogy. Genealogy means that I begin my analysis from a question posed in the present" (Foucault & Kritzman, 1988, p. 262).

Continuing with Foucault's account of genealogy, **effective history and knowledge** is the "**affirmation of knowledge as perspective**" (p. 155), in which knowledge is not "for understanding but for cutting" (p. 155). To make a cut in reality, to produce and disclose an aspect of it, to configure it in its excessive being. This is related to the notion of apparatus, or *dispositive*, as a means of allowing critical observation and problematizing about the emergences and descents from a different perspective.

It is important to mention that a genealogical account, like other qualitative methods, can always be otherwise (Law, 2004). Connecting it back to the remarks on diffraction at the beginning of this methods section. All research methods are political (Law, 2004), and it is our ethical commitment to producing the realities that foster caring relationships in the world we research (de la Bellacasa, 2012).

4.4 THE PROCEDURE OF DESIGNING FOR DIGITAL JUSTICE

To operationalize the research methods presented in the previous section, I applied the following steps to the data corpus, grounding the agencies of digital justice and tracing the genealogies of digital justice.

4.4.1 Grounding the Agencies of Digital Justice

During the first round of analysis, I used the multimedia transcripts feature in Atlas.Ti. This means that I was able to code the data by having the video and audio recordings of the interview running synchronized with the transcripts (see Figure 8). The multimodality of the data allowed me to grasp better the utterances and meanings beyond the written text.

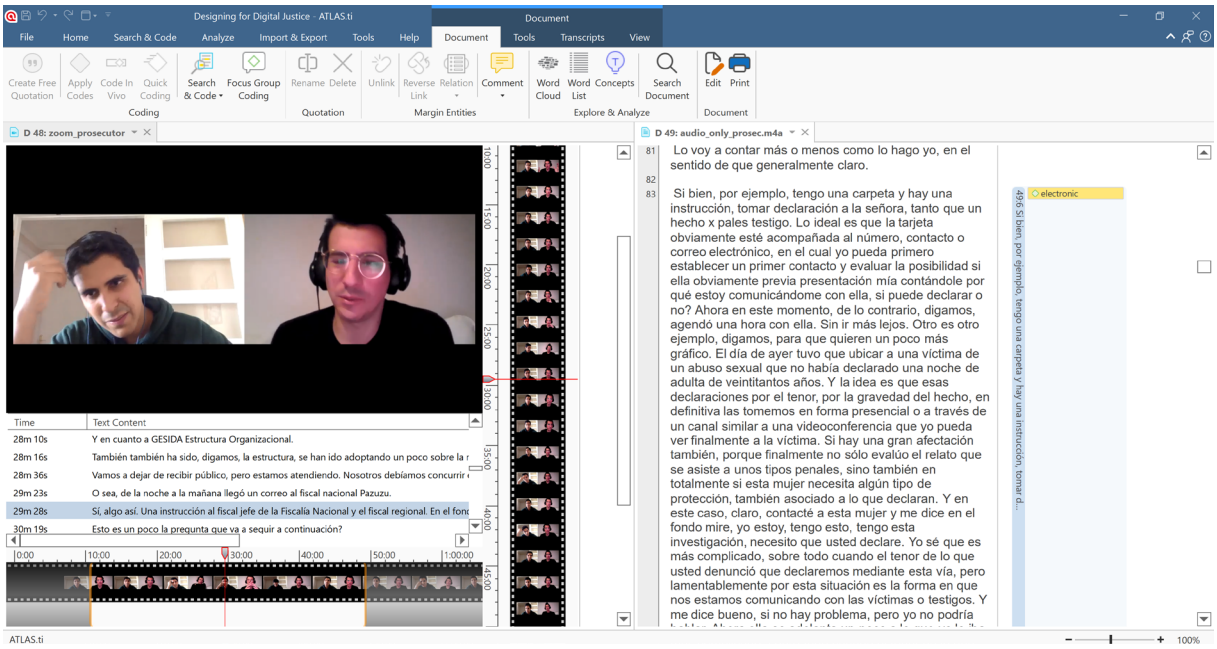


Figure 8. *A screen capture of the software-assisted analysis tool Atlas.Ti22, with the multimedia interview video, audio, and transcripts to analyse the data collected during the interviews.*

Along this process, I identified material (physical) and digital agencies in the dimensions of technology. In our analysis regarding the organizational domain, I uncovered distinctions between social agencies and agentic individuals. During our analysis, evidence emerged for the legal and judicial agency in the context of online courts and the legal domain. With increasing theoretical saturation, I aggregated codes to identify reoccurring themes in the axial coding stage for all interviews. Finally, selective coding allowed us to sharpen our focus on the intra-action between the identified concepts. Over the three coding stages, the data analysis led to a total of 169 codes (as of September 2020). During this first coding, 20 interviews were used, and the dominant themes were the six agencies grouped later under **sociomateriality** and a temporal dimension, grouped under **time** (see Table 5, rows 1 and 2)

The analysis of the 30 interviews and their transcripts, as well as the 23 annual reports of the judiciary, resulted in a total of 282 codes (see Appendix D). As some themes and patterns became more explicit, a selected number of those quotes were grouped into the themes: **digitalization (10 codes), emotions (8 codes), innovation (1 code), liminality (17codes), principles of digital justice (7 codes), social media (8 codes), sociomateriality (18 codes), and time (3 codes)** (see table 5)**.** For the present work, the themes of principles of digital justice and emotions were excluded, but the results have been published in (Santuber, Dremel, Owoyele, et al., 2020; Santuber et al., 2022; Santuber & Krawietz, 2021b, 2021a).

Table 5. *Overview of the thematic coding, arranged by groups, number of codes within the group, code with the number of coding in brackets (grounded), and the date created.*

Theme (Code Group)	Number of Codes	Code (grounded)	Created
1. Sociomateriality	18	ambiguity of judicial agency (1) ambiguity of legal agency (1) citizens agency (7) digital agency (121) individual agency (5) individual agency private account Zoom (1) individual agency, help from others to solve problems (2) judicial agency (8) judicial agency in shifting proceeding to videoconferencing (3)	6/17/2020

		judicial agency independence in courts (3) judicial agency references from other practices (3) lack of legal agency replaced by judicial agency (2) layers of judicial agency (1) legal agency (4) legal agency falls short and there are other procedures not consider (2) social agency (2) tempo of legal agency (1) using Zoom individual agency (1)	
2.Time	3	during-COVID19 (32) pre-COVID19 (24) shift-COVID19 (34)	6/18/2020
3. Liminality	17	external liminality (2) home as liminal space (1) internal liminality (2) liminal emotional labour (10) liminal goals (18) liminal hotspot (22) liminal innovation (25) liminal materiality (4) liminal permanence (10) liminal polarization (15) liminal practices (4) liminal roles (1) liminal strategies (14) liminal tension (15) liminal victims (4) liminality (11) role liminality (1)	4/22/2021
4. Social media	8	facebook (8) instagram (4) radio (12) spotify (2) streaming (7) tv (5) Twitter (6) youtube (5)	9/23/2021
5. Innovation	1	innovation (109)	9/23/2021
6. Digitalization	10	computer (148) digital (155) electronic (473) informatic (206) internet (58) platform (96) portal (88) technology (204) videoconference (34) web (148)	9/23/2021

In this second phase, legal and judicial documents and documents related to digital and physical aspects were added. In the added documents, the code was run automatically, searching for specific keywords extracted from the previous themes, and then revised manually by myself. In total, after the three rounds of coding, 5337 quotations were coded, 4249 unique quotations (excluded double coded) (see Appendix D).

With the emergence of themes around sociomateriality and agencies, the documents were organized in groups reflecting the dominant agencies. In the case of interviews, they were grouped under **individual agency**, and for the annual reports of the judiciary, the group was **managerial agency**

(originally coded as social). Later, the legal and judicial documents corpus was added to the coding system, resulting in **legal agency and judicial agency** (see Figure 9). Physical agency (originally coded as material agency) and digital agency emerged from the coding.

However, to account for the digital and physical agencies, I needed a more nuanced approach to trace it in their own language and style. That is how I moved to the second approach, genealogy.

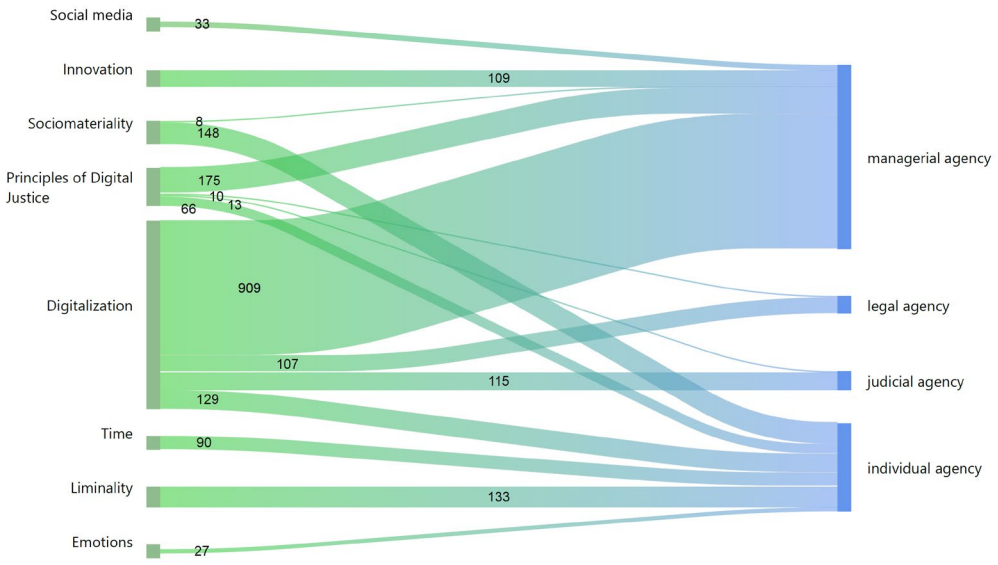


Figure 9. *A Sankey diagram showing the distribution of groups of codes and groups of documents; the numbers represent how many times the code was assigned to a document belonging to the category.*

The grounded theory analysis made it possible to identify and characterize the conditions of possibility (or the constitutive conditions) of digitalized court practices. The six agencies were an adequate frame to address research question 1 and characterize the conditions of possibility for the novel court practices to materialize during the pandemic.

The entanglement of these six agencies materialized the practices in novel ways, which I could identify as **1) working from home**, **2) hosting hearings via videoconference** and the use of social media **3) engaging with users individually via Facebook**, **4) reaching out to users massively via streaming**, and **5) publishing video recording of hearings on YouTube**.

Looking at those novel materializations of judicial practices, the fundamental question that emerged was: **how did the Chilean judiciary get there?**

4.4.2 Tracing the Genealogies of Digital Justice

In the following paragraphs, I am describing a dynamic entanglement, the digital justice entanglement, and the six agencies I have identified that provide the conditions of possibility for the materialization of the practices in courts:

Physical, Digital, Judicial, Legal, Managerial, and Individual

Starting from the observed practices, I worked reversely on how each one of these agencies conditioned the materialization of the practice. Taking a genealogical approach consists of two movements, the first of diagnosing the present and the second about problematizing.

The following five genealogies unpack the characteristics and mechanisms of the digital justice entanglement: a) Delivering Justice from Home, b) Videoconferencing Justice, c) Posting Justice on Social media, d) Streaming Judges Online- Live!, and e) Following Justice on YouTube.

Context of the genealogies:

6. **Delivering Justice from Home:** entangled practices of remote work in civil courts.
7. **Videoconferencing Justice:** entangled practices of hosting hearings via videoconferencing platform in a civil court.
8. **Posting Justice on Social Media:** entangled practices of social media to engage with external users and internal staff members by the Communications Directorate of the Judiciary.
9. **Streaming Judges Online- Live!:** entangled practices hosting live streams of judges answering questions to the audience in courts via Facebook Live.
10. **Following Justice on YouTube:** entangled practices of publishing video recordings of hearings in social media and social movements coordinated via social media

With a basis on the six agencies identified and the five (5) novel practices of digital innovation in courts, I dove deeper into the genealogies and the role of each agency in materializing judicial practices during the pandemic. Following previous research on genealogical approaches, after the diagnosis (see genealogies), I problematize the **co-incidences**, **resonances**, and **frictions** between agencies in providing the conditions for the practices to be. In problematizing, Designing for Digital Justice emphasises the friction between the digital and managerial agencies and the legal and judicial agencies in their capacity to regulate and coordinate the practices. The inspiration for **resonances** as a category comes from the project "Tectonic Resonances" presented by Chile at the London Design Biennal 2021 (Chile, 2021)[16]. The inspiration for **frictions** comes from two design research pieces on more-than-human design by Chilean researchers Hermansen and Tironi (2018b).

Once the genealogies were ready, I analysed them in light of the Dimension of Engagement Framework (J. Edelman, 2011, 2019), and identified the material conditions of the three levels to intervene in the justice system: 1) Touchpoints/Usability, 2) Functions/Use-case scenario, and 3) Core/Networks for each of the six agencies (Physical, Digital, Judicial, Legal, Managerial, and Individual).

The exercise of diagnosing and problematizing the emergence of novel court practices addresses research questions 2 and 3. It addresses research question 2 by characterizing the tensions emerging from digital innovation processes in highly regulated procedures and practices. And it addresses research question 3 by pointing out how new possibilities for designing and intervening in justice systems are created by novel configurations of digital justice in courts.

4.4.3 How to Read the Genealogies

Each Genealogy is arranged into three sections: **1) the traditional state of affairs (pre-pandemic)**; **2) the paradox and tensions arising from the pandemic**; **3) the pattern shifts and innovations.** The results are not shown in chronological temporal order. Thus, the appearance of it in different situations is given by the relevance they have in that situation.

To show the richness of the data, I employ multiple approaches to presenting findings in qualitative research (Reay et al., 2019). The findings are presented in each Genealogy, starting with a short introduction from a **vignette** I drafted. This is followed by **raw data excerpts** organized in **temporal phases (non-chronological)**. The raw data excerpts representing each one of the agencies are colour-coded to aid the reading (Digital, Physical, Judicial, Legal, Individual, and Managerial). At different points, raw data excerpts have been transformed into tables or charts to facilitate the inclusion of data that otherwise would have required too much space.

[16] The designers of the Tectonic Resonances project are Macarena Irarrázaval, Sistema Simple Studio, Design Systems International, and Valentina Aliaga. The curators are Marcos Chilet, Martin Tironi, Carola Ureta Marín, and Pablo Hermansen.

Following previous research on liminal innovation, each case is divided into two parts: 1) traditional state of affairs (pre-liminal phase), and 2) pattern shifts and permanence (liminal innovation). Parts 1 and 2 are divided by a Paradox section (see Figure 10).

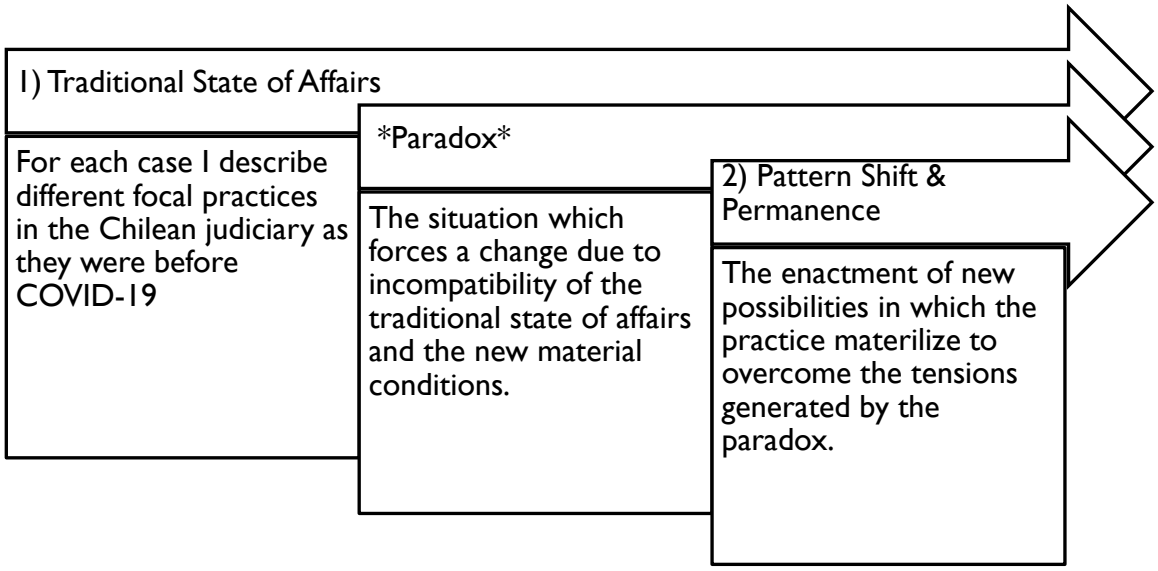


Figure 10. *The structure of the following case studies is divided into 1) traditional state of affairs, *paradox*, and 2) pattern shift and permanence.*

The first phase, **the traditional state of affairs**, describes the characteristics and mechanisms at play in a relatively stable environment, for example, the use of courtrooms as the stage for the performance of justice or the practice of in-person participation. Some of these are obvious, like the practice of situating the judge on an elevated platform; some non-obvious, like the interactions and instruments for establishing the identity of the participants.

The **paradox** creates the liminal hotspot and tension between pre-pandemic materializations of the practice – described in the traditional state of affairs, and the new conditions. The paradox is described in a short paragraph pointing at the conditions that triggered the court's practice changes. While it is easy to assume that all paradoxes emerged because of the COVID-19 virus, as we will observe in the genealogies, the virus creates the material conditions for other agencies to create tensions, i.e., legal restrictions to mobility to prevent the spread of the virus, which restricted the access to staff members to their workplaces—the courthouse.

The second phase, **Pattern Shift & Permanence**, describes the coincidences, resonances and tensions of the six agencies with respect to destabilizing the traditional state of affairs. This can be considered a liminal space, where previously subordinate factors may become dominant, and the mechanisms of entanglement are in flux and shift. Previously non-obvious interactions amongst the factors come forward and present themselves as problems and opportunities that demand being addressed, as they are now understood as essential links in the performance of justice and courts' practices.

The genealogies are given each its own chapter (chapters VII, VIII, IX, X, & XI) and sections (7, 8, 9,10, and 11).

CHAPTER V

5 CASE STUDY CONTEXT: CHILEAN JUDICIARY

At the beginning of 2020, a pandemic crisis hit the world. Cities were locked down for weeks, and remote work was the alternative for millions of workers worldwide. Courts of Justice were forced to change their work practices overnight. Because of mobility restrictions to control COVID-19 spreading, courts all over the world were shifting to online or remote courts for the continuity of the administration of justice.

Without much planning and only with the resources available many justice systems around the world began to work from home to keep judicial systems running (Remote Courts, n.d.). The pandemic crisis could not impede the timely, fair, and just adjudication of matters, which constitutes a fundamental duty of the justice system. In simple terms, justice cannot stop. Against this background, Designing for Digital Justice investigates how courts enact configurations to circumvent an eventual major crisis caused by the pandemic in Chile.

5.1 CHILE

Chile, officially the Republic of Chile, is a developing country in the south of South America (the south of the south). It is the southernmost country in the world, and the closest to Antarctica, occupying a long and narrow strip of land between the Andes to the east and the Pacific Ocean to the west[17]. Chile covers an area of 756,096 square kilometres (291,930 sq mi), with an estimated population of 19.7 million as of 2022 (*Chile - OECD Data,* 2022a).

In terms of technology adoption, 87% of households have an internet connection, and the mobile broadband subscription rate is 108 per 100 inhabitants (*Chile - OECD Data,* 2022b)

Regarding digitalization of public services in government (not the including the judiciary) has been a long effort, with a successful example of an integrated digital identity for public services, "Clave única" (OECD, 2020b).

Relevant to this research is that the country's capital and largest city is Santiago, with about 6 million inhabitants (the civil courts I studied for case studies A and B are located in Santiago). Chile's national language is Spanish – thus, all interviews were conducted in Spanish, same with all the legal and judicial regulations which were translated into English.

It is a founding member of the United Nations, the Community of Latin American and Caribbean States (CELAC) and the Pacific Alliance, and joined the OECD in 2010. It is considered a high-income country, Chile ranked 32 out of 139 countries on the rule of law (*WJP Rule of Law Index 2021 | World Justice Project,* 2021)

5.2 CHILEAN JUDICIARY

Based on the aforementioned theoretical foundations, my research aims to frame and digitize justice in light of its implementation in Chilean courts' emergency responses during COVID-19. I chose the case of the Chilean judicial system in Santiago de Chile because of the access to key stakeholders of the judicial systems and the respective interviews, which I obtained through a cooperation agreement. Specifically, I focused on two focal types of courts, the criminal and civil courts in the Chilean judicial

[17] Adapted from the Chile entrance in the 21st-century base of wisdom Wikipedia

system in Santiago. To achieve this, I conducted an in-depth study of the Chilean judicial system "Judicial Power of Chile"; a unitary organization serving a population of 18 million citizens with a high territorial distribution: the length of Chile is equal to the width of the United States from New York to Seattle, or the distance from northern Norway to Libya. It is composed of the Supreme Court, 17 Courts of Appeals and 448 lower courts, with a total of 1490 judges plus 11,000 employees (see Figure 11). What is relevant about the structure of the judiciary is that courts are geographically distributed, yet operationally centralized being the centre the Supreme Court in Santiago. Meaning that regulation and coordination of their practices, from a judicial point of view are centralized in the authority given by the Constitution to the Supreme Court.

Figure 11. *Overview of the Chilean judiciary structure adapted and translated from the Annual Report 2021.*

5.2.1 Judicial governance in the Chilean judiciary

The composition of the judiciary is divided into two large groups. The first group comprises the traditional court body, composed primarily of lawyers and legal professionals who occupy positions all along the hierarchy in the court. From justices in the Supreme Court to judges at the lower courts, the legal was always the dominant profession among court stakeholders. In this regard, for over 200 years, the Chilean court was predominantly lawyers' ground with specific language, traditions, and norms. Moreover, the court professionals are always referred to as members of a judicial career, which means that they start from the very bottom, moving up the scale through the different courts in different jurisdictions to reach first the Court of Appeals and later the very selective Supreme Court. In this sense, there is a history around the court members, including the staff members who work in court for a lifetime.

This was a context throughout the last two centuries. However, at the end of the 20th century, in the 1990s and after the return to democracy in Chile, the government introduced a new organization called the Administrative Corporation of the Judiciary (Corporación de Administrativa del Poder Judicial). This organization was created within the judiciary's structure and depended on the Supreme Court. The judiciary had its own internal body that could help them to manage all court operations. The mission of this organisation has evolved through the years, but the current mission remains: the organisation is dedicated to providing an excellent service to the court, contributing to improving the quality of justice and facilitating access to the community efficiently and transparently.

Furthermore, it describes itself as a technical organisation that would help the judiciary excel in all the services they provide to improve its quality and access to justice. Among the organizational values, the focus is on efficient management, innovation, and sustainability. The internal structure of this

organisation also follows a corporate way of organising. In this sense, it has human resources, finance and budget, planning and control, procurement, IT, institutional development, and a department dedicated to the maintenance and physical infrastructure. By 2021, the Administrative Corporation represented 10% of the judiciary's total employees, with a highly multidisciplinary background, diversifying the court's relatively homogeneous composition. Among the professions we can find in this corporation are engineers, managers, economists, psychologists, and journalists. This diversity of backgrounds and character of the mission of the administrative corporation brings in a different set of logic which differ from the logic of the lawyers in court.[18]

As in the 2019 annual report, the mission, vision and values of the judiciary and the Administrative Corporation of the Judiciary show the differences between one and the other (see Table 6).

Table 6. *A comparison of the mission, vision, and values between the judiciary and the Administrative Corporation*

	Judiciary	Administrative Corporation of the Judiciary
MISSION	"To resolve the matters within its competence in a clear, timely and effective manner, with the full force of all the rights of the people, thus contributing to social peace and the strengthening of democracy."	We are an organization dedicated to providing an excellent service to the courts of justice, improving the quality of Justice and facilitating the community's access to it, administering in an efficient and transparent way the resources of the Judicial Power.
VISION	"To be recognized by the community as the way to solve the issues of its competence, in a prompt, fair and reliable manner."	To be a technical organization known, validated and legitimized by the Judiciary and the community due to the excellence of its services, which contribute to improving the quality and access to justice in the country.

[18] The study of multiple institutional logics in judicial governance, is not part of Designing for Digital Justice. There are however few examples in the literature on the topic (Eicher & Schedler, 2014; McPherson & Sauder, 2013). While relevant as a background, this research does not dwelve into institutional logics during recent times (Lounsbury et al., 2021; Oborn et al., 2021), for a recent study on Swedish courts see (Björkdahl & Kronblad, 2021).

	Judiciary	Administrative Corporation of the Judiciary
VALUES	• Substantially fair and generating legal certainty • Axiologically promoting respect for all fundamental rights • Ethically proven and integral • Objectively independent • Subjectively impartial • Functionally autonomous • Socially responsible • Temporarily timely • Normatively adjusted to law • Committed to quality and excellence, close and giving a good treatment • Institutionally accessible, reliable and transparent • Procedurally respectful of guarantees • Professionally prepared • Recognize the dignity, equality and inclusion of all people • Understandable in the use of language • Communicationally clear and simple	• Respect for people • Integrity and transparency •Efficiency • Management oriented to the needs of the Judiciary and the community • Innovation and sustainability

5.3 INNOVATION IN THE CHILEAN JUDICIARY

5.3.1 Innovation beginnings in Chilean courts "with no money and no law".

When it comes to innovations in the public and private sectors, the reference to a limited budget is commonplace. That was also the case in the courts beginning with internal innovation programmes in which they engage judiciary members, from judges to staff members. In this regard, these internal innovation programmes, leveraged in competitions, are the experiences of front-line service providers invited to propose new ideas for improving the court's services. However, innovation in the context of the courts does face not only an issue of a limited budget but also an issue of lack of regulation and often the lack of law that can facilitate these innovative processes. Because of the authority of the courts, given by the Constitutions, in order to be valid, all changes in a court of justice have to pass through specific regulatory procedures. However, while regulation often covers or provides a framework for performing specific actions, the regulation does not specify the details of those actions. This creates an opportunity for internal staff members, who know better than anyone else the everyday practices, to discover ways in which the services are provided and to innovate without needing to change the law.

The title of this section, "Innovating with no money and no law," is a quote by the Supreme Court justice, head of the innovation committee of the judiciary, when referring to how innovation was done in the Chilean judiciary (Poder Judicial Chile, 2019). In court, the internal staff face a double challenge of being innovative with a limited budget and without a framework while being agile enough to keep changing at the same speed as practices change. Thus, the innovations committee stimulated an innovative mindset by hosting open calls for projects yearly since 2015. By 2022 the judiciary has implemented six open calls for innovation within the courts. Each of these open calls for innovative projects has been received with a high level of interest, receiving 200 to 300 applications every year. The interest and the high number of applications for these open calls reveal how innovation was also driven from bottom to top in the Chilean courts before the pandemic. In this sense, the Supreme Court justice head of the innovation committee mentioned that it is critical to engage all judiciary members, especially those frontline service providers because they know better than anyone else the actual problems that justice faces daily (Poder Judicial Chile, 2019).

However, it is also important to note that because of the background and professional experiences of staff members of the court, it is often challenging for them to go from an idea to formulate it as a project and its eventual implementation. For that reason, the winning projects to be implemented are followed up by an expert group from the Administrative Corporation that would help and work together with the staff members of the court to bring those projects to life. This has proven to be a successful formula for the court to leverage the real-life experiences of court employees and augment them with the expertise of engineers and innovation managers to implement such innovations.

The order of magnitude of such projects is very diverse. However, most of them have a digital component which contributes to augmenting the project's impact. For example, one of the first projects to be approved in the Open Call for Innovation 2016 was implementing a conferencing tool to notify people in prison. The problem behind the project was an emergent issue that came after an earthquake in the southern region of Chile. Because of the earthquake, many penitentiary facilities were closed due to structural damage. Therefore, the penitentiary population was moved to different locations in neighbouring areas, making their transport to the court very troublesome and expensive. In order to avoid the high costs in terms of personal resources and transportation of prisoners into the court, the court members responded to the open call with a proposal that included a conferencing mechanism that enabled notification and communication regarding certain decisions to inmates.

5.3.2 The Role of the Corporación Administrativa del Poder Judicial in the Digital Transformation

The creation of the Administrative Corporation in 1990 was a big novelty for the traditional court system. While it constitutes an effort to keep the judiciary independent from the executive power – the government, it has played a fundamental role in modernising the courts. In this sense, the creation of the new Administrative Corporation aims to remove some of the managerial tasks by judges in the administrative judicial function. With the increase of digitalization, the power of the Administrative Corporation also has increased. This change in the internal dynamics and organisation of the judiciary is very relevant for Designing for Digital Justice. First, the Administrative Corporation is in charge of all things related to the daily operations of the court, providing infrastructure which encompasses the various technologies and physical resources with which the court works every day. Thus, the implementation of digitalization efforts in the judiciary is mainly in the hands of administrators who follow a managerial approach of which transformation is part and parcel. Second, the task of the administrative corporation is to be in charge of all projects related to innovation and to bring a more agile and efficient organisational culture within the judiciary. Hence many of the innovation processes that I have observed and that we will observe in Designing for Digital Justice are efforts of internal units within this corporation.

5.4 WAVES OF DIGITALIZATION IN THE CHILEAN JUDICIARY

The Chilean judiciary has been through two waves of digitalization, which can be identified in two decades: The first wave in the 2000s and the second wave in the 2010s. Designing for Digital Justice looks at the third digitalization wave, which is currently underway and will be carried out throughout the 2020s (see Figure 12).

The first and second digitalization waves of the judiciary follow a regulation-to-implementation principle in line with almost all e-justice projects from literature. In the case of the emergent third wave, which I cover in detail in the results section, the dominant principle was implementation followed by regulation (see Findings section).

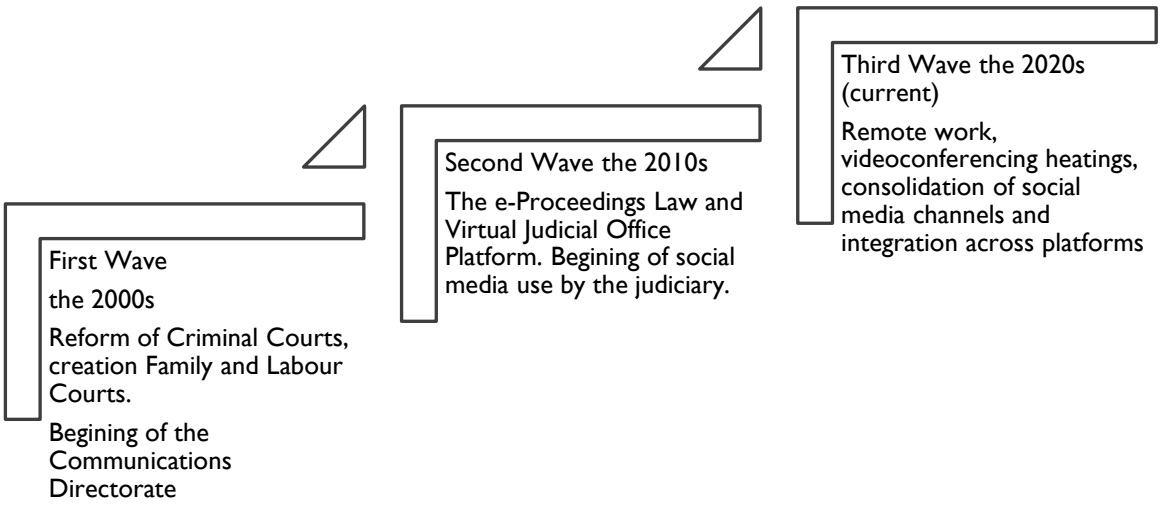


Figure 12. *Overview of the three digitalization waves in the Chilean judiciary.*

5.4.1 First digitalization wave in the Chilean judiciary

The first digitalization wave began with the creation of criminal courts in the early 2000s. This was the beginning of the so-called "reformed judicial systems". For the sake of analysing the waves, it is crucial to make a distinction within the judiciary. Two extensive systems are parallel in the judiciary: the **reformed** and the **non-reformed**. Significantly, this distinction was created due to the first digitalization wave. The 2000 New Criminal Proceedings law (Law N° 19.696) states that any judicial activity must be registered in a faithful format, which allows for storing and reproducing its content (paraphrasing art. 39 of Law N° 19.696).

Similarly, article 41 states that all hearings in a criminal trial must be recorded via any means that ensure fidelity to its content. In turn, this broad formulation required the Supreme Court to specify later that **the recording must be in audio format mp3 using digital means**. The modifications in the criminal process gave place to the first large-scale implementation of digital infrastructures in the Chilean courts (Farfán Manns & Paiva Jara, 2021).

The court systems can be identified by those which have been reformed, meaning the procedure and the organisation of those courts by topic. The introduction of digital technology to support the audio recording of the hearings also conveyed the large deployment of managerial practices in the courts' administration. One particularity of the reformed court is that the role of administration and operation of the court was given to a specialized unit within the court, i.e., the Administrative Corporation. Divided by topics, the courts which had been reformed are the Criminal Court (2000), Family Court (2004), and the Labour Court (2008) (see Figure 13), and this division happened during the first digitalization wave.

In contrast, the non-reformed court system is composed mainly of the civil justice system, which has a regulation that has been in effect since the beginning of the 20th century (1902). However, the civil court and the reformed courts went through a significant innovation with the e-Proceedings law in 2015, which is the milestone of the second wave of digitalization.

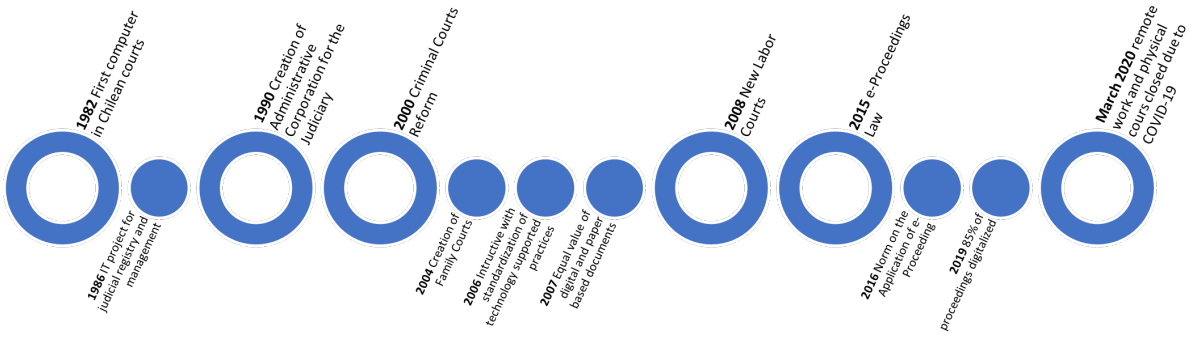


***Figure 13**. Timeline of the digitalization milestones in the Chilean judiciary, from 1982 with the first computer to 2020 with the setup of highly digitalized practices in courts. Note the establishment of the criminal, family, and labour courts in the first digitalization wave (the 2000s and 2010s).*

5.4.2 Second digitalization wave in the Chilean judiciary

During the Second Digitalization Wave (the 2010s), the e- Proceedings law changed the practices in courts dramatically. With the Principles of the Chilean e-Proceedings: The processing of cases governed by e-Proceedings law shall be subject to the following p**rinciple of functional equivalence of electronic support**. This means that all jurisdictional acts and other procedural acts signed by an electronic signature will be valid and produce the same effects as if they had been carried out on paper. Other **principles are *fidelity***, ***publicity***, good faith (bona fide), and the **principle of updating computer systems**, which is a task of the Administrative Corporation of the Judiciary. The Chilean e-Proceedings also embrace the p**rinciple of cooperation** and interoperability with other public and private institutions.

This reform to all judicial proceedings in the judiciary was a big change in terms of new practices, challenging both staff members and users of the court. Despite the strict application of the law and the obligation to submit electronically, the law also considers an exception to submitting documents electronically, ensuring accessibility to those without digital means.[19]

Moreover, in this second wave, it is possible to trace the legislator's concerns of having personal data massively processed as stated: "The massive processing of personal data contained in the electronic processing system of the Judiciary is prohibited, without its prior authorization. The infraction committed by public and private entities to the provisions of this paragraph will be sanctioned under Law No. 19,628."

[19] "In exceptional cases, when the circumstances so require or it is a person authorized by the court for lacking the necessary technological means, the writings may be submitted to the court materially and on paper through the respective minister of faith or the mailbox specially authorized for that purpose.

The writings submitted in paper format will be digitized and entered into the electronic folder immediately."

Regarding interoperability, article 10 states that all communication between courts must be carried out using electronic means. Furthermore, article 11 states that communication and orders to public and private institutions external to the judiciary must be carried out electronically when possible. The requirement of electronic interoperability with external private institutions was a change introduced because of the pressure generated by the retention of the 10% pensions during the pandemic (see Genealogy D) Streaming judges online- Live!). The last reform at the end of 2021 extended the interoperability to private institutions – before only public institutions.

The innovations in the first and the second wave were the significant changes in the digitalization of the Chilean judiciary at the time the pandemic started and gave place to the third wave of digitalization in the courts.

5.4.3 Third digitalization wave in the Chilean judiciary

The third wave of digitalization is the object of Designing for Digital Justice. While the conditions for it to happen were already there, the COVID-19 pandemic played a significant role. In the following pages, Designing for Digital Justice presents how the third wave of digitalization in the Chilean judiciary came to be, which were the material conditions of possibility and the dynamics between different agencies.

As a preview of how stark the third and most recent wave of digitalization driven by the responses to the pandemic, let us have a look at the front cover of the annual reports of the judiciary before and during the pandemic. In Figure 13, corresponding to 2019, we can observe a traditional materialization of the court's authority in the form of brick and mortar—a Greek caryatid crowned with laurels and a sword as the dominant element. In the background, we can observe what appears to be a classic piece of architecture with a decorative frieze.

In contrast, the cover page of the annual report of the judiciary corresponding to the year 2021, see Figure 14, shows the main courthouse of the country, the Palace of Justice in Santiago. This building which hosts the Supreme Court is now shown as a digital render. This very telling image sheds light on organizational self-perception and reflects how the judiciary sees itself with the transformations during the pandemic. In a sense, it is possible to say that what we see in Figure 14 is a snapshot of digital justice in Chile.

***Figure 14**. (above) and **Figure 15**. Front cover of annual reports corresponding to years 2019 (above) and 2021(below), in which the contrast between the materiality of a caryatid statue in stone and this digital render of the Palace of Justice in Santiago is telling about the changes in the judiciary during the pandemic.*

CHAPTER VI

6 FINDINGS OF DESIGNING FOR DIGITAL JUSTICE

"As a Judiciary [...], we established a strategy to ensure the continuity of the judicial service in the middle of a pandemic and confinement. This strategy was possible thanks to the measures we were developing previously, such as remote work and the intensive use of new technologies in administrative proceedings and customer service." President of the Supreme Court, Chile, Annual Report of the Judiciary 2020 (*Memoria Digital PJUD 2020 – Poder Judicial 2020*, 2021).

The words from the president of the Supreme Court reflect very well the role digital technologies played in response to pandemic limitations. Not only the existing e-proceedings platform and online archives but also a strong digital platform that enabled the judiciary to quickly move its services online by extending its IT capabilities. However, this was possible because different agencies co-incidentally provided the conditions for the new practices to materialize.

6.1 CONDITIONS OF POSSIBILITY FOR THE DIGITALIZATION OF CHILEAN COURTS: SIX AGENCIES

IT projects design and development usually take long planning and alignment of different stakeholders. In the case of the courts, as a public sector organization, the factors that influence digitalization efforts present certain peculiarities. During the pandemic, the practices in courts experimented with rapid changes in their configurations. This is largely because of the visibility of legal and judicial regulation, which nuances this case. In the setup of online courts during the pandemic, I have identified six central agencies[20] that need to be considered when designing and implementing digital solutions in courts.

1. **Physical Agency**: the capacity of physical settings and contexts, including hardware, to provide possibilities for the materialization of the courts' practices

2. **Digital Agency**: the capacity of platforms, networks, and online environment, as well as the software codes, functions, features, and interfaces to provide possibilities for the materialization of the courts' practices

3. **Legal Agency**: the capacity of legal documents, such as laws, regulations, and protocols to regulate and coordinate the materialization of the courts' practices

4. **Judicial Agency**: the capacity of courts, especially the Supreme Court and its decisions to regulate and coordinate the materialization of the courts' practices

5. **Managerial Agency**: the capacity of the internal administrative corporation of the judiciary and a communications department to articulate and coordinate the materialization of the court's practices

[20] To facilitate the understanding of the notion of agency, the reader could think of them as factor that influence the configuration of practices. Factors are understood as "one that actively contributes to the production of a result" (Merriam-Webster Dictionary, 2022). Factors, from its origins refers to "doer", and could be also named as actors or agent. In other publications, I have used the term agency to refer to these factors. The characterization of these factors is grounded on the agential realist concepts of agency. In the sense that those factors or agencies perform the emergent digitalized court practices.

6. **Individual Agency**: the capacity of individuals and small groups of individuals to perform and adapt to the materializations of the practices

In the following pages, Designing for Digital Justice shows how these different factors define how online courts emerge.

Table 7. *Summary characterization of agencies and instantiations during the COVID-19 digitalization of courts configurations in Chile*

Agencies	Instantiations	Characterization
Physical	Restricted access to courts Home office setting Laptop	Limited access to physical spaces pushed courts online, yet physical/hardware elements are critical.
Digital	Virtual Private Network (VPN) E-proceeding platform Video-conferencing platform Social media platforms: Facebook (Chat Messenger and FacebookLive) and YouTube	Online court work is anchored in the remote access to the installed infrastructure: internal network, and the e-proceeding platform. The design of the video conferencing platform guides procedural aspects informing the practice. The possibilities provided by social media platforms.
Managerial	Administrative Corporation of the Judiciary Communications Directorate of the Supreme Court	The role of the administrative branch of the judiciary facilitating resources and coordinating new working practices. The Communications Directorate coordinates social media activity.
Individual	Remote setup Resourcefulness	Officials and judge's initiatives played a fundamental in setting up the conditions, learning, and even providing resources to start up the online work of the courts.
Judicial	COVID-19 homologation of e-due-process Continuity of service	Supreme Court regulation via Act 41 (13th March 2020), Act 42 (18th March 2020), Act 51 (31st March 2020), and Act 53 (8th April 2020).
Legal	Regulating of procedures Fair and timely justice	Law N° 21.226 (2nd April 2020), Code of Civil Procedure (20th August 1902), Code of Criminal Procedure (12th October 2000).

6.2 Every Agency is a Field of Possibilities for Designing Digital Justice

Organizations with complex institutional and regulatory can count on the efforts to adapt will pay off in the present and the future. Emergent practices are inscribed in the doings of the organization. In a crisis, no effort to thrive is in vain, but a resource which becomes part of the infrastructures, procedures, and institutions. With the liminality created by the paradoxes, in the form of hotspots the strong regulative agencies concede and give space to generativity and the regulative regime of technologies.

In line with previous research in design, the novel materializations of the practice and the respective reconfiguration of agencies offer the practitioner a field of possibilities that were not visible before. In this regard, the Designing as Performance approach has emphasized the role of the designer as being able to disclose the world as a field of possibilities, and reconfiguring it with skilled action (J. Edelman, Owoyele, Santuber, et al., 2021). This understanding of the phenomena of digitalization in courts is well aligned with the case studies and the discussion in the previous sections.

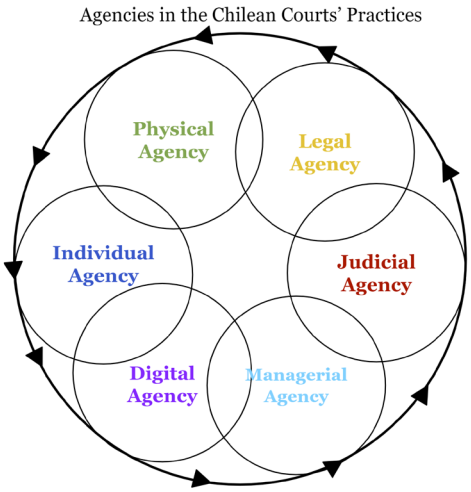
The rich account of the resonances and collisions of agencies allows us to further explore how could each one of the agencies be leveraged for design. In this regard, each agency provides a world of possibilities for reconfiguration, and each one has different dimensions of engagement (DoE).

The Dimensions of Engagement framework provides practitioners with actionable levels from which they can reconfigure judicial practices. These levels have an object/context focus, being touchpoints/usability, functions/use-case scenarios, and core/network. An overview of such relations from the Videoconferencing Justice Genealogy is in Table 8.

Table 8. *Summary of findings on agencies and dimensions of engagement framework.*

Agencies in courts	**DoE Object-Context**		
	Touchpoints/Usability	Function/Use-case scenario	Core/Network
Physical	Private living rooms, desks, paintings on the background, bookshelves, cabinets	Allow court members to place their laptop/PC, connect to the internet, sit down and host hearings	Provide spaces for people to live, gather and socialize.
Digital	Zoom web-based and application interfaces to start, join or schedule a meeting.	Zoom, allows sending and receiving audio and video in real-time	Zoom: frictionless communication over the internet
Legal	Legal text in electronic format (PDF) for reading	Gives overarching parameters for the judiciary to operate, i.e., hearings will continue by electronic meaning, as long as fundamental rights and due process is guaranteed	Create and provides validity and effect to judicial practices in accordance with fundamental constitutional rights.
Judicial	Acts and Protocols in written text for reading (usually distributed in PDF format)	Set rules on how the practices materialize in the everyday work of courts i.e., by succinctly stating: the courts may hold hearings via videoconference.	Regulate court practices i.e., remote work ensuring access to justice and the rule of law in coordination with the Administrative Corporation.
Managerial	Via institutional email with the Zoom account credentials	Provides access to Zoom accounts	Administers the human, financial, technological and material resources allocated to the operation of the different Courts
Individual	Verbal and written exchange of messages with superior and administration	Coordinate the setup of hearings online with the resources available	Facilitate the oral and written exchanges between parties, and make binding decisions on the matters under their competence

Each agency provides the material conditions for the practice to emerge. Moreover, every **agency co-incidentally** adds and removes conditions to the practice, **creating resonances and frictions**. These dynamics of resonances and frictions are traced in the form of genealogies (see Figure 16).



Genealogies	Agencies	Materializations
Delivering Justice from Home	Physical Digital Legal Judicial Managerial Individual	Remote work practices
Videoconferencing Justice		Practices of hostings hearings via Zoom
Posting Justice on Social Media		Attention to users via Facebook practices
Streaming Judges Online-Live!		Practices of streaming a program with judges to answer questions from users via Facebook Live
Following Justice on YouTube		Publishing video recordings of online hearings on YouTube

***Figure 16**. Agencies configure the online courts' emergent practices during the COVID-19 pandemic and the respective ontologies.*

6.3 Genealogies of Designing for Digital Justice

The entanglement is made of alignment and mismatches between agencies. The materialization of the practices differs from the procedures because it is shaped by other agencies, such as the physical and digital. This creates a sense of no organization. However, it represents the paradoxes and tensions between the agencies. The general technology one-size-fits-all design overwrites the specific procedural regulation, and the practice is defined by the software architecture, functions, and features.

"The legal framework in which we move is super limited, and I think it is done in a reactive way. Therefore there is no real organization. I think I can imagine that, as in many institutions, we're sort of on the go, learning how to function correctly, and that's because there are no guidelines from the law, from the Supreme Court." Official Civil

Despite the existence of judicial and legal regulation (SC Act 41, 42, 51, and 52 together with Law 21.226), this multiplicity of regulations generates ambiguity and uncertainty, enabling individuals and digital agencies greater performative power.

This complexity is characterized by multiple layers, each having legal and judicial agency. Due to the thick and rigid normativity and regulation of the judiciary, courts encounter multiple sources, and regulations are subject to interpretation. Often these agencies pass the duty to one another at a lower hierarchic level diffusing their agency to perform the court practices.

"So, in general, there have been instructions explaining how that law is going to be applied. In this particular law, the decision-making is given to the Supreme Court and the Supreme Court, in turn, delegated that also to the Courts of Appeals in each jurisdiction. So, we have the law, the instructive of the Supreme Court, the instructive of the Courts, and each court or committee of judges in each subject. For example, in this case, we are civil matters. There is a committee of civil judges. They have also provided information. That and in addition, each particular court also has its definitions." Civil Court Coordinator

I would add to the layers described by the court coordinator that then there are also physical possibilities, which are extended or limited by the digital possibilities for that practice to be enacted. Together with that, there is a managerial agency which provides the operational possibilities and what every individual does, as seen in the following quote:

"Finally, who organized it, who made it possible, who implemented it from the computer itself until it takes us to run the meetings has been us plus the other 12 colleagues. Also, the judge, somehow the coordinator who did a great job in this sense and another colleague that they are more into computing." Official Civil

This friction of agencies is also produced by a vacuum of legal agencies. Between the lockdown and the law regulating the new practices, there was a 3-week gap in which every court leadership and the team pulled out existing resources to keep functioning remotely.

In this collision of agencies, material and digital agencies play a stabilizing factor in the short-coming legal and judicial agencies. Thus, together with social and individual agency, technology channels it into constrained procedural enforcement performed by technology. Normally all these agencies intra-act in rather stable ways, with a strong dominance of legal and judicial ones. During COVID-19, the dynamics are re-shuffled, and physical, digital and individual agencies take a more protagonist role. With that, the managerial agency becomes dominant since physical (re-accommodating century-old physical spaces), digital (providing the digital means to function), and individual (court employees, also known as HR) fall under their sphere of action. The big loser in this game is the legal and judicial agencies. While the first one is too slow to react to the tensions arising and relies on the judicial one to figure things out. The judicial, in turn, while very agile to keep up with the changes by digitalizing, is losing the capacity to affect the state of affairs, becoming normalised by technology, with the risk of becoming irrelevant in the longer term.

As shown in Table 9, the Designing for Digital Justice identified co-incidences, resonances and frictions in each of the genealogies.

Table 9. *Summary of findings, under co-incidences, resonances and frictions among agencies in the five genealogies.*

Genealogy	Co-Incidences	Resonances	Frictions
Delivering Justice from Home	**Co-incidences**: a regulation prepared by the Supreme Court for remote work, the installed digital infrastructure like the Oficina Judicial Virtual, and the use of VPNs allowed access to the internal platform Oficina Judicial Virtual.	**Resonances**: The resonances between digital, managerial and judicial agencies are especially relevant. Besides these three dominant agencies, the individual agency of judges and staff members also played a significant role in accommodating resources to fulfil the regulation.	**Frictions**: the frictions arose from the physical limitation of the space and the hardware. These frictions forced the accommodation of physical resources to make possible the materialization of work practices remotely.
Videoconferencing Justice	**Co-incidences:** the availability of videoconferencing platforms as ready-to-use services and some previous experiences of individuals in the courts allowed the rapid materialization of this practice.	**Resonances:** This coincidence resonated with the need to ensure the continuity of the service imposed by the judicial agency, moving hearings online. The Administrative Corporation coordinated this process providing the resources for the setup of online hearings.	**Frictions:** The unavailability of physical spaces to host hearings. This initial liminality was increased by the lack of or short-coming regulation from the Supreme Court and the Law, which created ambiguity in some court practices. The legal agency, later on, allowed the suspension of hearings when due process was not guaranteed. The latest legal and judicial regulations are still incomplete, and only extended the existing regulation to match

			certain novel aspects of videoconferencing hearings.
Posting Justice on Social Media	**Co-incidences**: the existing followers base of the judiciary on social media in charge of the Communications Directorate, and the possibilities offered by different platforms, i.e., Chat Messenger to have private conversations.	**Resonances:** The move to social media resonated with the more extensive practice of remote work and hosting hearings via videoconferencing. With all activities happening online, the attention to users became a matter of directing people to the right online resource within the judiciary online ecosystem. Another resonance comes with integrating all services in a one-stop virtual window Conecta.Pjud, and the re-use of self-attention modules as physical access to the virtual attention of the public via the Punto.Pjud modules.	**Frictions**: the lack of legal and judicial regulation of the practice creates tensions which have not been addressed yet. When the online activity of the courts' remote work and hosting hearings online, is combined with social media, the judicial services are exposed to the generativity of digital platforms, in which the services are being performed across platforms, and mixed in terms of media and content. In other words, these practices are increasingly being regulated and coordinated by the Communications Directorate, the Administrative Corporation, and the possibilities offered by social media platforms.
Streaming Judges Online- Live!	**Co-incidences**: an active judiciary on social media was an excellent bridge to provide the conditions to reach users of the judiciary massively in a way that also feels closer to them.	**Resonances:** the streaming functions of Facebook Live allow the direct interaction of users with judges via the comments function. The Communications Directorate coordinated digital resources and individual judges to set up this new form of engagement. With judges working online and used to videoconferencing, the conditions were optimal for easy and rapid adoption by the judges. Likewise, users consuming information from the judiciary's social media activity found in FacebookLive is an extension of their regular use of social media.	**Frictions:** the lack of regulation judicial and legal regarding the use of social media by judges in the context of their public functions as judges (the only regulation available is for staff members as private individuals) gave place to a practice regulated by the unfolding of the situations. However, the program Judges on Line was discontinued, removing the tension by polarizing the practice to its pre-pandemic materialization. Thus, the friction has not been solved.
Following Justice on YouTube	**Co-incidences:** the possibility to stream and permanently publish video recordings via YouTube and other social media channels came to fill the need to make judicial hearings public and transparent (especially in criminal courts).	**Resonances**: This co-incidence was aligned with court practices online, especially hosting hearings via Zoom, which allowed a swift integration with social media platforms to publish the recordings. Together with that, the publications of the judiciary were amplified by the activity on social media by users with a particular interest in the published cases.	**Frictions:** the remaining frictions come from the lack of regulation of the activity of the judiciary on social media. Moreover, the influence that certain groups can exercise on the courts over social media also raises tensions regarding the independence and impartiality of judges.

Let us have a look at how the judicial practices materialized in these ways in the following five genealogies: A**) Delivering Justice from Home**, B) **Videoconferencing Justice**, C) **Posting Justice on Social Media**, D) **Streaming Judges Online- Live!** and E) **Following Justice on YouTube**.

CHAPTER VII

7 GENEALOGY A: "DELIVERING JUSTICE FROM HOME"

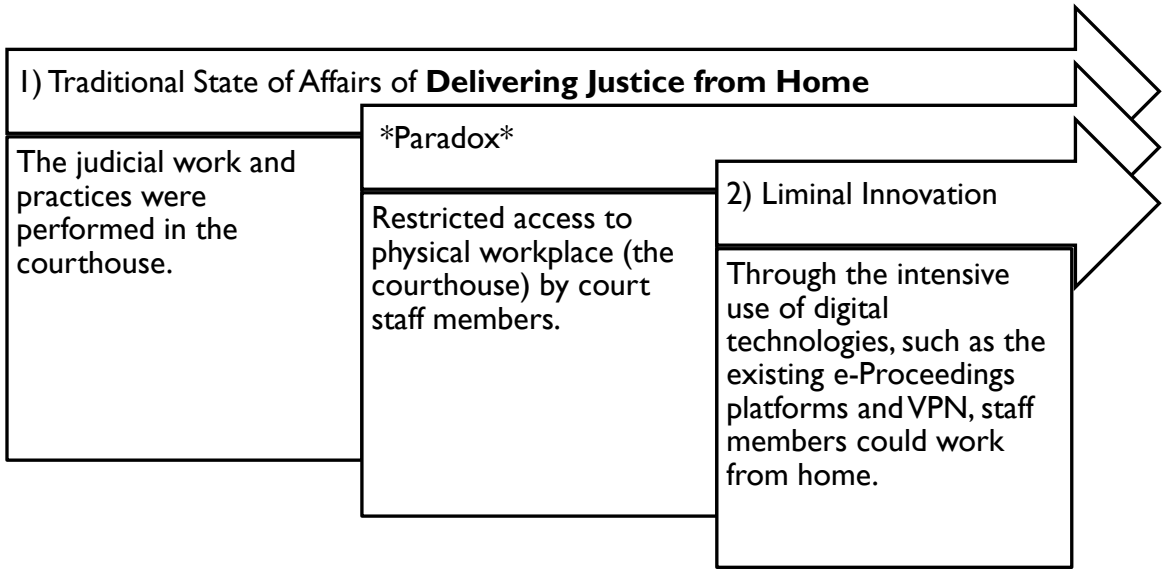


***Figure 17**. Overview of the structure of the Genealogy A) Delivering justice from home, divided into 1) traditional state of affairs, *paradox*, and 2) pattern shift and permanence.*

***INTRO:** In a civil court in Santiago, the morning routines were structured around the "agenda maestra" (the master schedule). All hearings and day appointments are registered in this big book in the Court office. The "agenda maestra" was opened every morning, and the work was organised based on what was in it. In the judge's words, referring to the day's activities, "what is not in the "agenda maestra", does not exist". A book with handwritten entries was an anchor of the court's everyday doings directed by the agenda maestra. It coordinated the hearings to be taken, the involvement of the officer and the judge, giving the rhythm to call upon the users to come into the hearings room. The judge sits in her office next to the shared office for the providers, connected to the shared room by a door. From time to time, the judge would work around attending to specific issues, and from time to time, officers would hand in drafts and manuscripts to be signed by placing them on a metallic tray "la bandeja". In the public waiting room, there is a counter from which an officer answers questions and inquiries from users. This is how the Court members found themselves when they were sent home to work remotely. The "agenda maestra" was reconfigured into a WhatsApp group, "la bandeja" into an email service provider, and the improvised living room, kitchen or bedroom became the courtroom.*

How did the judiciary get there?

Let us have a look at the entanglement of agencies and their materializations.

7.1 PART 1: TRADITIONAL STATE OF AFFAIRS

Traditionally, at the foreground of court practices are the material, legal, and judicial agencies which provide the material conditions for the practices. For the **physical agency**, predominantly the *court-room/house*, the *documents*, the *signatures*, and the *tray*. For the **legal agency**, the law creates the *courts* and their *procedures*. Moreover, for the **judicial agency**, those procedures are further regulated in

how they materialize by the Supreme Court, unifying *practices* across the judiciary's 100 civil courts and almost 500 courts. In the background, there is the **digital agency** structuring the trials through the *e-Proceedings platform* and its *Virtual Judicial Office* since 2015; the **managerial agency** running the *operations* of the courts; and the **individuals**, which had little margins of changing the state of affairs in a highly regulated system (strong legal and judicial agencies).

From March 2020 until today, the Chilean judiciary has been working remotely. Let us look at the six agencies of the entanglement that constituted the state of affairs and business as usual before March 2020.

Entanglement factor: Legal

Only the Courts can exercise justice delivery as a constitutional duty, and its continuity accepts no excuses. The imperative of administering justice given by the Constitution is so strong that the court must decide on a solution, even in the absence of a law that resolves the conflict.

Legal: **"Article 76**.- The power to hear civil and criminal cases, resolve them and enforce what has been judged belongs exclusively to the courts established by law. [...]

Once their intervention has been claimed in a legal manner and businesses within their competence, **they will not be able to excuse themselves from exercising their authority, even for lack of law that resolves the dispute or matter submitted to their decision**. [...]" (Political Constitution of the Republic, Chile (Decree 100, 2005 (1980)))

The law then specifies this general duty by creating the courts in every region and specifying the commune in which the courts will be seated. In the case of the Metropolitan Region, the largest jurisdiction[21] is comprised of 30 civil courts, all based in Santiago.

Legal: Article 40. In the Metropolitan Region of Santiago, there will be the following courts of letters: A.- CIVIL COURTS: Thirty courts of letters in the civil, with seat in the commune of Santiago, with jurisdiction over the province of Santiago [...] (Código Orgánico de Tribunales, July 9 1943)

Entanglement factor: Physical

The fact that the law dictates where and how many courts would be in a specific jurisdiction is not trivial because it represents a limitation to other agencies- i.e. managerial agencies cannot decide to build civil courts in a different commune without a legal change.

Physical: According to the inventory on infrastructure as of 2018, the thirty (30) civil courts of the jurisdiction of Santiago are located in one building in the city centre, which hosts 463 staff members and 30 judges. The building space is 22.380 square meters, giving 45 sqm per person working in the courts (see Table 10).

Table 10. *Excerpt from the inventory of the judiciary's real state assets.*

Jurisdiction	Type	Status	Address	#Staff	#Judges/Courts	Square meters	Sqm/Staff
Santiago	Tribunal-CAPJ	In use	Huerfanos 1405	463	30	22380	45

The court's work was performed on-site, regulated by the Supreme Court (according to Article 96 number 4 of the Organic Code of Courts). The Supreme Court regulated the judicial work and its operation in the courts by an agreed order from 1999.

[21] There is a smaller second jurisdiction covering a few southern communes within the metropolitan region.

Entanglement factor: Judicial

"AGREED ORDER DETERMINING THE FORM OF OPERATION OF THE COURTS AND OTHER JUDICIAL SERVICES (January 29 1999)

1º) The judicial workday, from Monday to Friday, will begin at eight o'clock and end at sixteen hours.

2º) The external attention for lawyers, solicitors, auxiliary services and the general public will be from eight to fourteen hours.

(3) The obligation for judges to assist shall be extended from nine to fourteen hours." (Agreed Order, 1999)

The materialization of the judicial work practices was given by the co-incidence between the physical conditions of the courtroom and the judicial regulation above. Based on the individual perspective of a judge, traditionally the practice is materialized as follows:

Entanglement factor: Individual

"Before the pandemic, **I** always arrived at the court at half past seven in the morning. **I** checked my emails because email is a work tool; therefore, many instructions could get up to date in everything that did the court's communications. Then **I** opened the *agenda maestra*. We have in the court a master schedule, and this is not common to all the courts, but we use an *agenda maestra* in which we say that if it is not on the agenda, it does not exist. We open the *agenda maestra* in the morning, and then it informs me of all kinds of hearings, whether in all the processes, the hearings that **I** had to do that day, personal impressions, or some work meeting later. Therefore, the first thing **I** did in the morning was to check the *agenda maestra*, see how the morning came, and from there, at eight in the morning, the court is opened to the public, and people are received. **I** start checking the dispatch ("despacho"). The dispatch reaches the judge through a tray, a fairly efficient system. Officers ship the dispatch after reviewing the process, they send it to the judge's chamber because the judge reviews the entire dispatch, signs the resolutions and from 9 in the morning there are also the court hearings[22][…]" (Judge Civil)

Those resources which make the materialization of the practice were provided by the Administrative Corporation, which embodies the managerial agency.

Entanglement factor: Managerial

"The jurisdictional work of the Courts of Justice is supported in the administrative field by the **Administrative Corporation of the Judiciary**.
This is a body with legal personality and its own assets, through which the Supreme Court administers the human, financial, technological and material resources allocated to the operation of the different Courts." (Annual Report 2003)

The **Administrative Corporation of the Judiciary** is in charge of all administrative and operational aspects of the judiciary. The **Administrative Corporation of the Judiciary** was created on March 10, 1990, by Law No. 18,696. It was critical in implementing the e-Proceedings law in 2015 with the creation of the Virtual Judicial Office. According to the description on its website, the Virtual Judicial Office is the:

Entanglement factor: Digital

[22] For an account of the online hearings see Genealogy B – Videoconferencing Justice for the account of court hearings practices.

"access mechanism to process electronically in the computer systems of the Judicial Power. It is composed of a set of services that are delivered to users on the www.oficinajudicialvirtual.cl page.

[...] Through the Virtual Judicial Office, you can consult cases and make presentations regarding all the cases that the courts know**"** (*Oficina Judicial Virtual,* 2022)

In this genealogy, "Delivering Justice from Home" I have described how the characteristics of six agencies of the digital justice entanglement were at work in the traditional state of affairs before March 2020. In short:

Digital: the work of the court was supported by an e-Proceedings platform called Virtual Judicial office
Physical: The 30 civil courts in Santiago operate in the same court complex.
Judicial: the procedural aspects of work are regulated by the Supreme Court via Decree and Acts.
Legal: Justice delivery is a constitutional duty which courts can only exercise, and its continuity accepts no excuses –even in the absence of a law that solves the matter.
Individual: judge and staff would start the day in the courtroom at 8:00.
Managerial: operations of the courts are carried out by the Administrative Corporation

Figure 18*. A screen capture of a recording of the hall of a civil court in Santiago (2018).*

7.2 Paradox

The paradox emerges from the co-incidences of multiple agencies. First, the physical agency, as COVID-19 is a natural biological phenomenon, a virus, alone does not have the agency to prevent court members from accessing their workplace. However, the individual agency -fear of being infected- and the legal agency restricted the mobility of people by ordering confinement co-incidentally created this paradox.

Physical: On March 2, the first positive COVID-19 case was reported in Chile. By March 18, over two weeks later, there were 100 new cases, totalling 350 (see Figure 19).

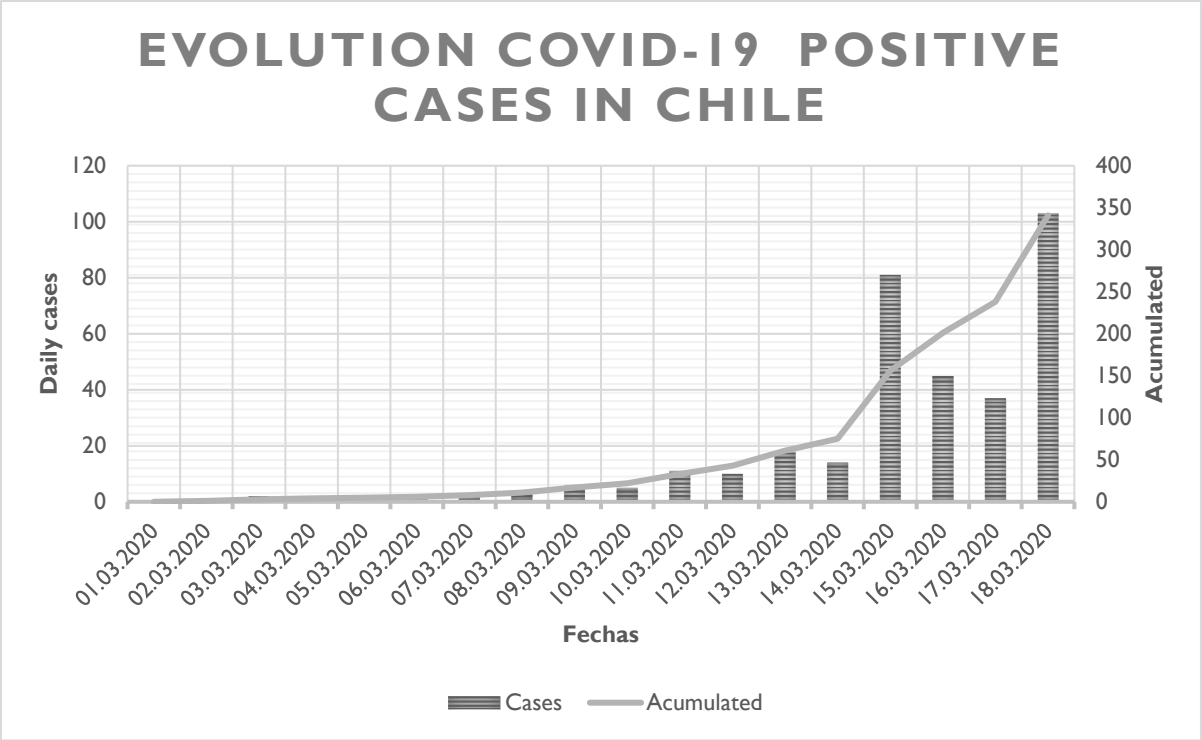


Figure 19. *Chart showing the development in numbers of confirmed positive cases of COVID-19 in Chile between March 1, 2020, and March 18 2020. Source, Ministry of Health.*

With news about the pandemic and the imminent mobility restrictions, the possibility of suspending the activities of the courts was on the table, at least as a rumour.

Individual: "During the first weeks of March, "there was a rumour. They are always just rumours, but there was a formal request from the association of the judicial employees, and I also think that on the part of some civil judges in which they asked a judicial holiday to be decreed." (Civil officer)

The central government, through its policing power, enforced restricted mobility via the Supreme Decree Nº 104 (18th March 2020),

Legal: **"First article**: A state of constitutional exception of catastrophe, due to public calamity, shall be declared in Chilean territory for a period of 90 days from the publication of this decree in the Official Gazette, in accordance with the provisions of Article 8 of Law 18,415." (Supreme Decree 104, 2020)

With this Supreme Decree (equivalent to a law, but enacted solely by the President of the Republic), which included mobility and transit restrictions, it became clear that physical access to the courthouse was no longer possible. This paradox created resonances and frictions in civil court practices. Let us see how the co-incidences, resonances and frictions were figured out.

7.3 Part 2: Pattern Shift and Permanence (Liminal Innovation)

In the pattern shift, we can observe how the digital agency, individual, and judicial-managerial alliance come to the fore, leaving the legal and material agencies in the background.

On the same date that the restriction mobilities were in place, the judiciary published the Autoacordado 41, which was approved by the Supreme Court plenary on the 13th of March and stated:

Judicial: **"Article 1.** Object, concept and purpose. The purpose of this agreed order is to incorporate, regulate and improve teleworking in the Judiciary.

Teleworking consists of a modality of labour organization that allows the institution to ensure the continuity of its operations and with respect to civil servants, to comply with their work obligations, with the particularity that these are developed in a physical place different from the usual seat of the judicial unit to which they belong, or without physical travel to perform tasks corresponding to another court, usually through technological means to provide services, respectively, to its own judicial unit or a different one." (Agreed Order 41, March 18 2020.)

In a ten-page Act, the Supreme Court regulates how remote work would operate in the judiciary – to the details. By that time, the judiciary had been working for two years on a pilot project for remote work. So, when the mobility restrictions came into force on March 18, the document was already drafted and approved for five days (March 13).

Managerial: "First of all, the issue of teleworking in the Judiciary is something that we have been working on for a long time, as in 2018. And notice that when the time came for the pandemic, the agreed order was almost ready. In fact, it seems to me that the agreed order was approved and two days later we were told to go home" (Head of Innovation Judiciary)

Despite the preparation, this limited access to the court's physical space, including access to its digital infrastructure, caused confusion and different positions among judges and staff members.

Individual: "At the beginning, there was very little clarity about how we should face the work. Most of the judges understood that teleworking had to work. Some did not understand it very well. Some understood that we were practically closing down the courts, which caused some negative experiences because the lawyers [users] did not understand what was going on very well. Nevertheless, it was understood that the working system had to be teleworking, which indicated that we had to move forward, making the hearing as much as possible through the video conference system." (Judge Civil)

This pattern shift to remote work would not have been possible without the e-Proceedings platform and the Oficina Judicial Virtual. A milestone in digitalising their practices is the "Nueva Ley de Tramitación Electrónica 20.886" from 2015 (New Law of e-Procedure), which set in motion the second wave of digitalization of judicial service delivery.

Legal: "Article 3.- Compulsory use of the computer system, back-up and conservation. Judges, assistants in the administration of justice and officials of each court shall be obliged to use and record in the computer system all rulings and procedural actions that take place in the trial" (Law 20.886, 2015).

Law 20.886 established a new digital platform to manage judicial proceedings, exchange, storage, and access procedure documents. From then on, all new proceedings were stored digitally and could be accessed remotely via the platform. This legal reform introduced an e-folder, e-signature, and a web platform as a user touchpoint which makes judicial activities publicly available via a unified online interface called the Virtual Judicial Office(*Oficina Judicial Virtual,* 2022). At the same time, it created a single platform for courts to draft documents online or upload documents related to the trial.

Since 2015 this digital platform has been the central place for the work in courts, which is maintained by the Administrative Corporation as indicated by the Supreme Court's Act-71 of 2016:

Managerial: "The Administrative Corporation of the Judiciary will carry out all the necessary tasks to guarantee the availability and accessibility of the Virtual Judicial Office service twenty-four hours a day, every day of the year. " (Act-71 of 2016)

To regulate the application of the law in courts, the Supreme Court, through Act-71 of 2016, made the use of the provided e-proceedings system mandatory. While this was in effect for4 years already, it came to the fore as a dominant structure.

Judicial: **"Article 20.** Mandatory use of the computer system. Judges, auxiliaries of the administration of justice and officials of each court will be obliged to use and record in the computer system all the decisions and procedural actions that are verified in the trial, constituting this the exclusive tool for the processing of cases.
The court will not create parallel records, nor will it form folders or physical files to process cases." (Act 71-2016)

The judiciary has primarily taken these practices for granted until the COVID-19 pandemic hit. However, those first steps were crucial:

Digital: "I am grateful for the impetus given to the civil courts to finally have electronic proceedings. The Electronic Proceeding Act made it possible for us to work with an electronic system today. If it weren't for that, I don't even want to think what we would do because today [during the crisis], the processing of all cases is done digitally." (Civil Judge)

However, using the virtual digital infrastructure from home faced friction because of the lack of laptops in the inventory of the court. This is represented by how former practices did materialize. In this regard:

Physical: The everyday routines in that Court were framed by a large common room with over ten officers and their desks, computers and papers. As of 2019, there were 26 desktop computers, one laptop, one printer, and 13 scanners in that civil court. A total of 41 devices (see Table 11).

Table 11. *Excerpt from the judiciary's inventory of technical equipment and hardware, corresponding to a civil court in Santiago.*

COURT	PC	LAPTOP	PRINTER	SCANNER	TOTAL
Juzgado Civil De Santiago	26	1	1	13	41

To overcome the lack of private computers at home or to have to share the "family PC" with other household members, many interviewees reported that staff members had to take their desktop computers from the courtrooms to their private houses:

Individual: "I went to pick it up because I wanted to anticipate because I wanted to be there and be able to fulfil my duties […] in fact, my own colleague, and I also know from other colleagues that many had to go and get their computers and bring them in a suitcase, exposing themselves to being robbed, to having it stolen." (Civil Court Staff)

Despite the oddness of seeing court official carrying their desktop computers -public assets- it shows how at that moment, decisions that in normal circumstances are not appropriate –not even legal- were part of this response. In this sense, individual agency (employees) stretched the legal agency to fulfil the judicial agency (timely justice), which was limited by the material agency (lack of a computer a home).

Physical: "*It was a Wednesday, it was said: on Monday, no one shows up at the Courthouse. So, we had two days to get organized, no more. Who would take the computers from work to home or who would take the private computers to the office to be set up [with a VPN to work remotely]. Two days… and we never came back." (Civil Court Staff)*

Solving the hardware issue, quick adaptation to the emergence of online courts was possible because of a series of concrete steps taken by the judiciary to foster the digitalization of judicial practices during the previous decade. However, new frictions emerged in practice, such as the impossibility of connecting to the internal platform from outside the courts' network. Thus, setting up Virtual Private Networks (VPN) to work from home was vital. Fortunately, the VPN was installed for some staff members during a social uprising in 2019. However, after the situation passed, it was no longer used:

Digital: "In October (2019), as a result of the social outbreak, an attempt was made to implement this remote system (VPN). It was already implemented in some cases, but not all of them used it. In fact, there were very few who used it. They did install it, but they did not use it". (Civil Courts Staff)

Individual: "Online work began with this protocol that officials who could not attend court could connect through remote access to work from their homes. I have had my password for remote access since October 24th [2019]. Therefore, I already had an idea about how to work [remotely], but not all my colleagues." (Court Coordinator)

In the lack of routines and work practices, the emergent practices rely on relatively stable infrastructures. As a digital materialization, the VPN anchors the practice and is called a wonder.

"Well, I think that VPN is wonderful. The remote control. So, the fact that I can access my computer there is key, especially because the system we use is not a system that I can open a page like Hotmail and open it from any computer. The system itself was only on that internal network. It would have been extremely complicated if the remote control had not existed." (Official Civil)

When asked about the emerging new routines, most interviewees referred to the e-proceeding platform and the remote desktop, as a form of connecting themselves to the court system. As an illusion of virtually extended physical connection. Furthermore, the digital agency is so dominant in this configuration that when asked about significant changes in working routines, one official answered that

"the only system is that this remote VPN that makes me connect to my court computer, but it's the same, it's exactly the same, it hasn't changed at all." (Official Civil)

Without that previous experience using VPN in the judiciary, the quick transition to remote work in the courts would not have been possible in the way it was implemented. IT support became the new gold in the remote courts' set-up in this context. The ability of court members to communicate and solve tech problems promptly was key to the daily work. In these liminal times, individuals took a more direct communication approach to IT, overriding inter-department communication protocols put in place before the pandemic time.

"Well, our judge is special. She got the phone numbers of all the tech assistants, and we are free to call them, but it is not the usual thing in the courtroom, which is a mail and send them exactly as something super formal, even make a request via this platform and wait for the answer there. We have been lucky enough to have the phone numbers. I have even managed to get the head of the entire IT department to talk to him directly on the judge's orders." (Court Coordinator)

Once the possibility of connecting to the internal network and accessing the e-Proceedings platform from home was solved, other resonances and frictions emerged with the need to communicate and coordinate internally during remote work.:

Judicial: "Article 24. Of internal communications in court. Communications between those who are part of the court will be made by e-mail, and a copy of the documents must be attached when appropriate. " (Act 71-2016)

In constant need of communication and coordination, emails proved to be slow and insufficient. This pragmatic issue was solved initially using personal email and WhatsApp. Thus, this regulation required a modification to how courts communicated internally regulated by Act 71 in 2016, extending it to other digital means such as instant messaging:

Judicial: "Article 9. Obligation to stay reachable. The obligation of the official to remain locatable, in the domicile or dependency informed for the performance of functions through telework, will be maintained during the ordinary working day of the unit to which he belongs. [...]

The teleworker will remain communicated through the following means:

- Institutional email.
- Personal email.
- Private telephone.

In addition, other equivalent means, such as instant messaging and videoconferencing applications, may be agreed upon." (Act 71-2016)

While email remained a major communication channel, the coordination of remote teams happened mostly via WhatsApp thanks to the ability to create groups and broadcast messages within those groups. However, the coordination of the daily work involves exchanging sensitive information about cases and court operations. According to the WhatsApp terms and conditions of service, those messages are stored globally, meaning that sensitive data is transferred outside the country, creating a potential new focus of friction:

Digital: "Grant access to our Services. To operate our Service globally, we must store and distribute content and information in our data centres and systems around the world, including regions outside your country of residence. The use of this international infrastructure is necessary and essential to provide our Services. Our service providers or our affiliated companies may operate or own this infrastructure." (WhatsApp, Terms & Conditions)

This tension has not been solved yet, which creates a potential for the permanence of the practice enacted during the pandemic.

7.3.1 Latest state of affairs

Since August 2022, more than two years after the beginning of delivering justice from home, remote work is still the dominant practice in Courts. In February 2022, the Supreme Court regulated the return to face-to-face, with a limit of 60% of the staff allowed to be in court:

Judicial: "As long as the transitory articles of Law No. 21,394 remain in force, and the state of health alert has ended, the administrator or coordinator of courts and judicial units will organize rotating face-to-face shifts that consider a presence of up to 60% of their total endowment, excluding those who are hired in 100% telematic mode within the framework of the project of transitory reinforcement of courts for the processing of cases accumulated by the pandemic." (Modification to AD-335-2020, introduced on February 2, 2022)

Physical: According to official statistics of the courts of 2022, in the Chilean judiciary there are almost 27,000 digital devices (PCs, laptops, printers and scanners). By the same year, the number of employees in the judiciary was almost 13,000 people. The number of digital devices is twice that of people working in the courts and their administration. Looking at the numbers closely, by 2022 the number of PCs in the court inventory was more than 15,000, while the number of laptops was only 1,000. This large gap of difference between desktop and mobile computers has not yet been resolved, even though it created a huge challenge during the COVID-19 pandemic.

7.4 Summary of Findings "Delivering Justice from Home": co-incidences, resonances, and frictions

Facing the imminent restricted access to courts for the staff members, the Supreme Court passed a remote work regulation they have been working on for more than two years. However, the judicial regulation did not contemplate other tensions. One of the tensions was the lack of computers to work from home; there were two alternatives. First, civil court officers used their privately owned computers set up with the court's VPN. Second, due to the extraordinary circumstances, judges allowed staff members to get their desktop computers from the office to their homes. Solving the hardware issue, quick adaptation to the emergence of online courts was possible because of a series

of concrete steps taken by the judiciary to foster the digitalization of judicial practices during the previous decade. The friction that remains open is the communications of teams and the use of WhatsApp.

Co-incidences: a regulation prepared by the Supreme Court for remote work, the installed digital infrastructure like the Oficina Judicial Virtual, and the use of VPNs allowed access to the internal platform Oficina Judicial Virtual.

Resonances: The resonances between digital, managerial and judicial agencies are especially relevant. Besides these three dominant agencies, the individual agency of judges and staff members also played a significant role in accommodating resources to fulfil the regulation.

Frictions: the frictions arose from the physical limitation of the space and the hardware. These frictions forced the accommodation of physical resources to make possible the materialization of work practices remotely.

The six agencies in this genealogy were characterized by:

Digital: relying on the existing e-Proceedings platform "Virtual Judicial Office", via virtual private network (VPN), and team communication over WhatsApp to complement e-mail.
Physical: The courtroom and chamber space was replaced by home, yet a lack of mobile computers (laptops) made desktop computers mobile and taken home.
Judicial: the Supreme Court had been working on a pilot project and regulation on remote -work for two years, thus, working from home was regulated to the details.
Legal: the law dictates where courts should function in terms of geography, i.e., civil courts in Santiago. With remote work, courts were functioning from everywhere.
Individual: with the challenges, resourcefulness was critical to overcoming difficulties not considered by the regulation.
Managerial: the Administrative Corporation was in charge of communicating and setting the remote-work practices and coordinating the IT support.

CHAPTER VIII

8 GENEALOGY B: "VIDEOCONFERENCING JUSTICE"

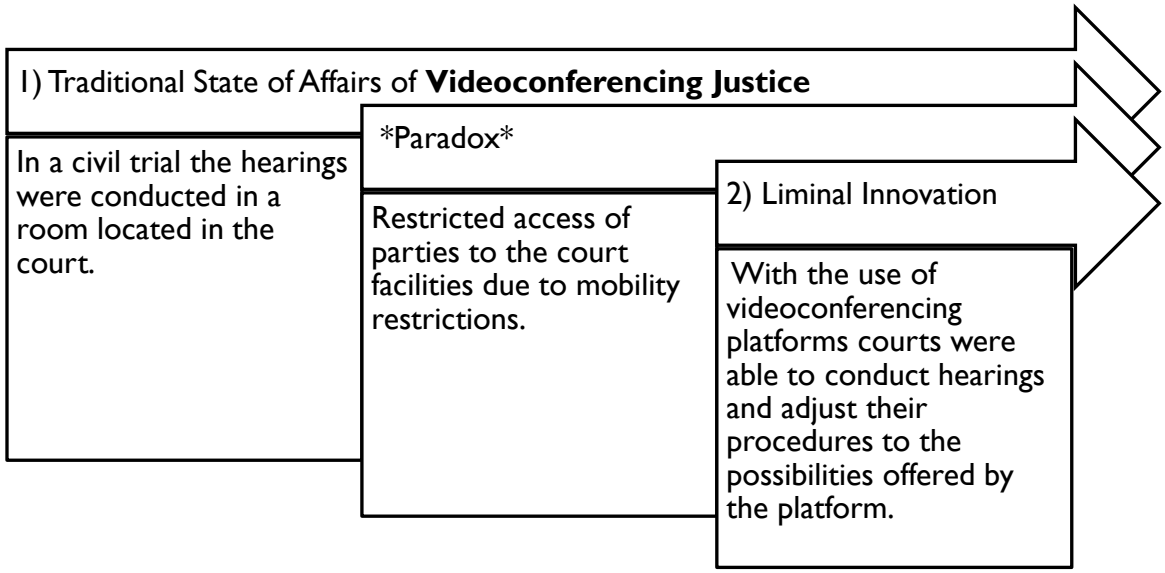


Figure 20. *Overview of the structure of the Genealogy B) Videoconferencing Justice, divided into 1) traditional state of affairs, *paradox*, and 2) pattern shift and permanence.*

INTRO *With the mobility restrictions, the judiciary decided to move their work in the Court to remote mode (see the previous Genealogy). Together with that came the question of how to host hearings online. In a more or less planned fashion, some courts started using Zoom's videoconferencing software. A hearing, usually taking place in the Courtroom, was defined by the physical possibilities of the space, the distribution of desks, and the availability of chairs. In the (un)planning of the online hearings, the practice was defined based on the software capabilities. An algorithm randomly decided the positions on the screen. Sometimes the Court, represented by the Judge or an officer, would be at the bottom of the videoconference list of participants, far from its central position in the Courtroom. In online hearings, each participant's video size is the same. Against this setup, many questions arose. Who talks first? Can we mute or unmute other participants? Together, they figured out using the screen-sharing feature to show evidence through presentation slides. Using the video feature, the courts enacted a novel identity verification procedure. This new procedure was achieved by having the parties turn their video on and show their national ID card to corroborate that the person taking part in the hearing was who was supposed to be. Users were placed in virtual waiting rooms before joining the meeting, and after authorization from the court's coordinator could join the hearing. Like these, there are many examples of how the hearing practice in the online court was configured around the possibilities offered by the tool used, Zoom, while still referring to previous practices.*

How did the judiciary get there?

Let us have a look at the entanglement of agencies and their materializations.

8.1 PART 1: THE TRADITIONAL STATE OF AFFAIRS

Before the pandemic, judicial hearings in a civil court were held in the courtroom every morning. As recounted by the judge of the civil court:

Individual: "From 9 a.m., there are also court hearings in which the different parties participate. They are taken by the providers or collaborators of the judge, and the judge then begins to take the hearings through different officers, each officer takes the hearing with the lawyers and the parties, and the judge intervenes in the hearings as needed. […] From nine to about eleven in the morning, the court is busy with many hearings and testimonies of all kinds." (Judge Civil)

The practice of hearings is regulated by Act-71, 2016 (judicial) which came into effect with implementing the new e-Proceedings law.

Judicial: "**Article 8.** Speed and timeliness in the decision. In the fulfilment of their role, and in particular in the conduct of hearings all the necessary measures to carry out the process with the greatest possible speed shall be adopted by the judges; therefore, **the hearings may only be suspended, not carried out, and reschedule in the cases indicated in the law** […]" (Act-71, 2016)

The regulation on hearings sets a strict limit to suspending, rescheduling, and cancelling hearings, which is possible only exceptionally and solely in the cases described by the law.

Physical: In the civil courts in Santiago, there is a big common room where all providers work. The court officers take the hearings in their respective desks arranged in a U shape around the room, and the judge walks around the room assisting them or resolving when the parties have raised a procedural incident.

8.2 Paradox

Based on the increase in the number of infections from the virus (physical agency), the access to the courtroom where usually hearings were held was limited by the legal "restrictions imposed by the authority within the framework of the aforementioned constitutional state of emergency, such as limitations on mobility or entry or exit to certain areas, or due to the consequences caused by the health emergency caused by the COVID-9 disease, such as isolation measures" (Article 1 Law 21.226, April 2, 2020).

This state of exception granted by the Constitution provides the government special powers due to a situation of emergency. Among those powers is restricting mobility or entry and exit from certain areas. Previously, it has been used after earthquakes, during civil unrest, and now during the pandemic.

8.3 Part 2: Pattern shift and permanence (Liminal Innovation)

The Supreme Court, in the Agreed Order 41, agreed on March 13, 2020, stated the use of videoconferencing to hold hearings for the following three months:

Judicial: **"Article 28.** The court may hold hearings by videoconference in order to give continuity to the administration of justice, ensuring at all times the validity of the rights and procedural guarantees of the parties and interveners." (Agreed Order 41, March 2020).

In contrast to the regulation of remote work, which was in the making for two years, the videoconferencing regulation is concise, without defining the operation of the online hearings. Hosting hearings via videoconference was a novel materialization of the practice in courts. Nevertheless, there were some experiences in the judiciary (but not in civil courts), in which videoconferencing was used for specific hearings during the criminal trial. For example, in 2016, the hearing to communicate the criminal court's decision was conducted in a hybrid mode as described.

This previous experience resulted from an innovation contest, and the Administrative Corporation was in charge of the innovation contest and the project implementation[23].

The uncertainty and ambiguity of video conferencing instructions (one-paragraph-long article 28) created multiple views and confusion. However, the digital agency of the chosen videoconferencing platform came to fill in the missing details of the new configuration. In this sense, the technology design performed the regulation. It came to define the short-falling regulation. From the video analysis of online hearings, evidence was presented to the court through the "screen sharing" feature. This digital agency, which was and could not yet be regulated in any protocol or document, enacts a particular configuration in which all parties benefit from richer multimedia to present evidence and argumentation to the court.

Because the priority was the continuity of the service, extraordinary means were employed to make it happen. Initially, the timeframe was three months, so many decisions were adopted because of its temporary nature, and more complex issues were avoided – or postponed. In this sense, online hearings via videoconference created resonances and friction. Technology development and implementation are decided after careful and time-intense study in this highly normative and regulated institutional setting. However, COVID-19 challenged the judiciary to use what was at hand. The experimental character of these rapid innovations is reflected in the following quote:

Individual: "The Court did not have a Zoom account. We had to operate with a Zoom pro account of another person, and that person had to accept us [to the call] as a Court. From there, we were able to meet, but the Court did not have an account until later. After that, now all the courts have an account, but at that time, nobody believed that it was an experiment. It was like: let us do it, and if it works, it will be used later." (Civil Court officer)

A videoconferencing platform called Zoom was leveraged to overcome this tension. According to the Annual SEC Filling for the fiscal year ended January 31, 2020, by Zoom Video Communications, Inc., the description of the product Zoom Meetings:

Digital: "Zoom Meetings provide HD video, voice, chat, and content sharing across mobile devices, desktops, laptops, telephones, and conference room systems. Our architecture can support tens of thousands of video participants in a single meeting. Conversations can be one-to-one, one-to-many, or many-to-many. […] Our meetings are a flexible tool for on-the-go employees who rely on their mobile devices or tablet throughout their business day. In fact, one in six meeting participants join Zoom Meetings through the Zoom mobile app." (ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934)

Zoom interface allows court staff and users to start a new meeting, join a meeting or schedule a meeting, and during a videocall to mute/unmute, start the video, share screen, record, view other participants, and show reactions with emojis (see Figure 21 and Figure 22).

[23] Excerpt from the Annual Memory of the Judiciary corresponding to the year 2016: "Reading Sentences via Videoconference: Unprecedent at the national level is the project "Communication of sentence by videoconference" of the Court of Oral Trial in criminal matters of Los Angeles, which in December began its white march. The initiative is the product of the national contest of innovative ideas of the Judiciary and seeks to deliver a better service to the community, using existing technological tools and saving resources to the State. As the Yumbel Preventive Detention Center is the facility that has the best technical conditions to develop these contacts, in a first stage the project will be implemented only with its inmates. However, after its evaluation, it is expected to be extended to penal units in other cities."

Figure 21. *Adapted screen capture of Zoom Meeting with touchpoints and functionalities corresponding to a civil court hearing.*

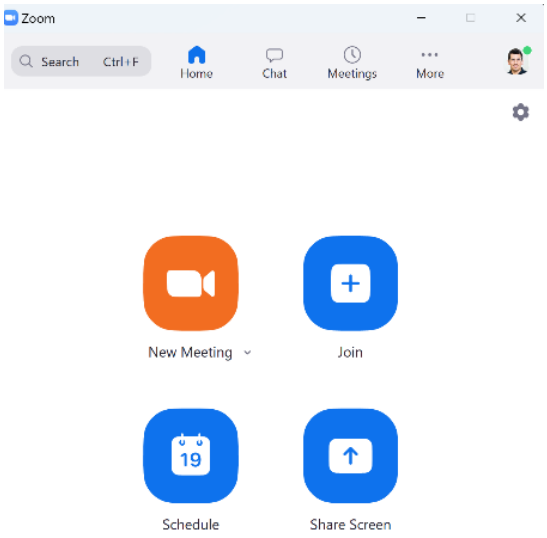


Figure 22. *Zoom home interface, with buttons to start a new meeting, join a meeting or schedule a meeting.*

On April 2, 2020, when it was more apparent that the pandemic situation would go beyond three months, Law 21.226 gave the Supreme Court the power to suspend trials when remote means could not comply with fundamental rights and due process.

Legal: "**Article 1.-** The Supreme Court, during the validity of the state of constitutional emergency of catastrophe, [...] shall order that the hearings in the courts referred to in the fourth subparagraph be suspended, in accordance with the terms provided for in the following paragraphs.

The Supreme Court will comply with the obligation indicated in the previous paragraph when it is a public and notorious fact that [...] the hearings may not be held, **for lack of bilaterality, contradictoriness, the assessment of the evidence, the procedural impulse of the parties,**

publicity and other basic guarantees of due process, contemplated in the Political Constitution of the Republic and the international treaties ratified by Chile and that are in force. " (Law 21.226, 2020, emphasis mine)

This article of Law 21.226 provides constraints to the wide adoption of videoconferencing platforms to conduct hearings. Staying away from the issue, it relied on the judicial agency represented by the Supreme Court to decide when the hearings online were not compliant with fundamental rights, and due process and the suspension of the case was preferable. For all the other cases, the judicial service delivery must continue. Here we observe a liminal situation, which avoids *paralysis* by creating alternative online hearings or suspensions, which can be seen as a polarization of positions – online or nothing.

At that time, with the wide adoption of videoconferencing technologies across countries and sectors, questions about security in Zoom conferences, to the point that some courts used a different provider due to security reasons, such as Cisco Webex.

Digital: On April 1, 2020, Zoom CEO published a letter directed to users recognizing "incidents of harassment (or so-called "Zoom bombing"[24])" happening in the platform, as well as acknowledging and apologizing for the lack of transparency ("confusion") regarding data encryption on Zoom platform (*A Message to Our Users*, 2020).

Simultaneously, Zoom the videoconferencing software took a serious effort to improve its security as shown in this release note from **April 4, 2020.**

Digital: **Changes to existing features**. **Updated wait room settings** and password for Individually Licensed Basic and Pro accounts. The Waiting Room feature now requires a password for Personal Meeting ID (PMI) and will be enabled for all users of the Basic plan and individually licensed Pro accounts, including preschool-to-high school education accounts that have the 40-minute limit temporarily exempt. The new password requirements apply to both meetings and webinars. (*Release Notes for Web*, 2020)

During 90 days, Zoom paused the release of all new features to concentrate its resources to improve the security of the platform. These updates during the first two weeks included

- Security icon in host's meeting controls
- Added setting "Only authenticated users can join meetings from Web client"
- User eligibility verification during sign up
- Renaming chat encryption to Advanced Chat Encryption
- Assign host within the account when the host leaves the meeting
- Enforce the setting "Require password for participants joining by phone" if settings are locked
- Updated recording password settings
- Remove the ability to claim host control by host key on versions below 4.6.0 (*Release Notes for Web*, 2020).

In the 90 days feature-freeze period Zoom released 35 updates – 16 during April, 12 during May, and 7 during June.

With these actions, the tensions arising due to security issues of the platform were overcome.

[24] Zoombombing was a malicious practice possible because of Zoom 's weak security standards. It usually occurred when an unauthorized stranger would break into a Zoom meeting, takeover the screen-sharing function showing harmful and sensitive content, disturbing the participants with different degrees of affectation. It became a general concern, when hackers and internet trolls inserted "material that is lewd, obscene, racist, misogynistic, homophobic, Islamophobic, or antisemitic in nature, typically resulting in the shutdown of the session" ("Zoombombing," 2022).

In the meantime, while Zoom was improving its security standards the Supreme Court, passed a new regulation in the Agreed Order 53, dated April 17, 2020, which dictates the intensive use of technological means available is always limited by the legal basic principles and fundamental rights. This new regulation set the timeframe connected to the state of emergency as stated in Law 21.226.

Facing the liminality produced by law 21.226 which provided a polarization between online hearings and suspension of the trials, the Supreme Court leaned for the intensive use of technological means to safeguard the access to justice and health of individuals. With this, the emergence of a pattern shift becomes more visible.

Judicial: **"Article 6. Use of electronic means.**

To ensure access to justice, due process and to safeguard the health of individuals, the Judiciary shall endeavour to use all the technological means at its disposal, privileging its flexible, up-to-date and timely use, provided that it does not constitute an obstacle to the exercise of the basic principles that have been enunciated, and the rights of the interveners and parties are fully respected, and the provisions of article 10 of Law No. 21,226." (Agreed Order 53-2020)

Based on Article 6, the remote work practices and online hearings took full steam.

Managerial: "Today there are 11,000 employees and we are all connected to this platform. The use of videoconferencing is common both at the daily work level as well as hosting the hearings." (Communications Directorate)

Physical: With the judicial hearing going online, the traditional courtrooms and their atmosphere representative of the power of the law and the State, were replaced by a variety of domestic places such as the living room, the kitchen, or an improvised desk from the private spheres of the stakeholders. In the past news about the Courts' decisions would make it into people's private life through the TV. Now, justice is being delivered from homes, living rooms, bedrooms, gardens, etc. (Santuber, 2022).

Watching the recording of online hearings hosted on the YouTube channel of the Poder Judicial, and analyzing the background reveal all the situations from which judicial practices were embedded. Justice from home. In the words of a communications department journalist:

Managerial: "The pandemic has played a lot in our favour and it has to do with this issue. Before a judge was untouchable; before a judge was always on a stand. There, a little bit higher. *I had to look up to the judge*. And today a judge appears to you *talking from his bedroom or his living room*. In fact, this week I had the experience of a judge who was speaking from her kitchen because she had a better connection there --and that's good because [seeing someone] in the kitchen I have an immediate connection. So I think that the community began to see the judges as someone, normal people [. . .] there is a person who has some usual problems that we all have and also has a problem with the internet connection or problem with the microphone. Then one can say well, that happens to me too."(Journalist Court Region South)

While these unusual background spaces which replaced the solemnity and gravity of the courtroom made justice closer, a new feature updated by Zoom allowed managers to set common virtual backgrounds for the participants of the organization.

Digital: **"August 23, 2020 Administrator Features** Upload Virtual Backgrounds for a Group or An Individual User. Account owners can now upload and manage virtual backgrounds for a group in the Zoom web portal. Individual users can upload and manage virtual backgrounds for their own use." (*Release Notes for August 23, 2020,* 2020)

By adding the virtual background administrator feature, the digital agency tries to cover the diminished material agency, creating an illusion of shared materiality within the courts.

Furthermore, the co-incidental process of Zoom updates and the changes in the online hearings setup shows how open the courts were to adapt and adjust to make the most out of the possibilities offered by the videoconferencing platform.

Individual: "We are using the Zoom platform to make the video conferences. It is not that it was imposed on us by anyone, just that when the pandemic started, I had this premium account because I was going to celebrate my birthday. I had 8 guests and I had to buy the premium account. Then I proposed to the judge that hearings could be taken through this channel and that it seemed reliable. We did not try another system because this one worked for us. Then we asked the administrative corporation at the Supreme Court." (Court Coordinator)

Interestingly and also paradoxically, other courts followed this coincidence just because "it was the system" being used by other courts. Many procedures, such as proof of identity, needed to be creatively "hacked". In a physical hearing, the lawyer would show the ID. Via Zoom, the ID is placed in front of the camera and visually inspected. In the words of the Court Coordinator:

Individual: "We polish [the procedures] along the way and I think we're getting to learn a little bit" (Court Coordinator).

Then the law and judicial policy comes in and fixes them, after almost two years of practice.

Passed at the end of 2021, Law 21.394 regulates and extends for another year (2022) the extraordinary measures enacted during the pandemic. The large majority of them are related to innovations using digital means. The need for this new law comes from the ending of the "state of exception" in place during most of 2020 and 2021. What is relevant is that after gradually going back to a state of normalcy, the Government together with the parliament passed a law to extend the use of electronic means in judicial proceedings for another year, in a similar way as it was done during the pandemic. In other words, law 21.394 comes to integrate many of the digital innovations carried out during the pandemic into procedural and jurisdictional activity in normal times.

While this law does not introduce a new system or a grand change in the justice system, it makes multiple small adjustments to many articles in different legal bodies. Many of these changes are done by introducing a short sentence i.e., in civil procedures:

Legal: Article 3, 5, c: "The electronic notification will be understood to be made from the moment of its sending" (Law 21.394, November 2021).

This reform creates a legal fiction, meaning that the notification is successful when the communication is sent via the electronic means for notification (usually an email address provided by the party) assuming its reception. In normal circumstances, it would be challenging for the legislator to foresee these situations. For that reason, the experiences with digital technologies in courts have shown more practical issues, that nevertheless require to be legally regulated. Like this example, there are plenty of in the law 21.394. Another example is the regulation of "technical hiccup" during an online hearing, meaning that during a court hearing the internet connection fails and one party can no longer attend the hearing virtually. First, the law state that:

Legal: **Article 8**: […]"the availability and correct functioning of the technological means of the parties who appear remotely in dependencies outside the Judiciary will be their responsibility." (Law 21.394, 2021)

However, "the party may claim hindrance if the malfunction of the technological means is not attributable to it. In case of accepting this incident, the court will set a new day and time for the

continuation of the hearing, without losing what was done prior to said malfunction. At the new hearing to be set, the court shall ensure the equality of the parties in the exercise of their rights."(Law 21.394, November 2021)

An interesting novelty of this law is the regulation of hybrid hearings. Meaning hearings in which at least one party attends the hearings remotely using digital means, and the rest attend the hearing physically in court. This is a balanced solution, that looks after those parties which still prefer to be physically in court, as well as those that cannot attend virtually because do not have the digital means to do it. On the other side, the courts also continued to experiment with virtual hearings finding new ways to make justice more accessible. As stated in the Agreed Order 271, 18 December 2021 by the Supreme Court:

Judicial: "Article 2. Conducting hearings and pleadings. As a general rule, hearings and pleadings must be conducted electronically, both with respect to the court and the parties. [...]" (Agreed Order 271-2021)

With this overarching frame and the impulse coming from the law fostering online hearings, the Supreme Court went ahead and adapted procedures that presented difficulties in their implementation such as the excuse of the parties for having a poor connection, and the remote verification of identity (see Figure 23).

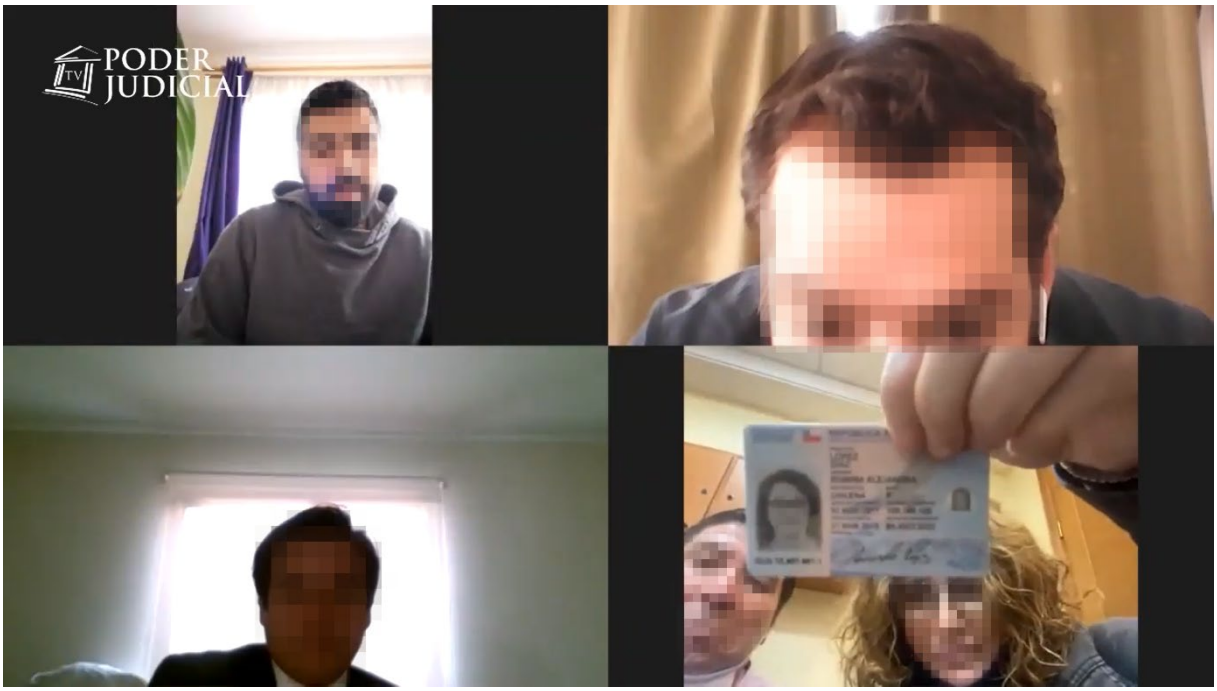


***Figure 23**. Screen capture of a recording of a hearing in a civil court held on May 12, 2020, in which a party performs the identity verification showing her ID by placing it in front of the camera to be inspected by the judge.*

"Article 7. Verification of identity. The verification of the identity of those who appear must be made immediately before the start of the hearing, remotely before the minister of faith or the official determined by the respective court, by means of the exhibition of the corresponding identity document, of which a record will be left." (Agreed Order 271, 18 December 2021)

In the context of hosting hearings online, many pandemic-related specific solutions were added to the existing temporary video conferencing workarounds, enlarging the "patchwork style" of the judiciary's digital platform. Moreover, during the last quarter of 2020, the judiciary launched a beta version of a unified platform, that integrates the different online services. The former web portal dated from 2014, from the time when the judiciary was preparing for the e-proceedings platform. On April 1st 2021, the

new platform was officially adopted. Among other features, the new web platform makes available all information that could be found in the courthouse, a "virtual courthouse" for every court in the country. From there, users can check the hearings of the day and access them via the Zoom link provided by the virtual courthouse to enter the "virtual courtroom".

8.3.1 Latest state of affairs

With the wide adoption of videoconferencing platforms as a way to overcome the mobility restrictions

Digital: In the annual report filed to the SEC corresponding to the fiscal year ending on January 2022, Zoom added to their product Zoom Meetings description:

"An end-to-end encryption ("E2EE") option is available to free and paid Zoom customers globally who host meetings with up to 200 participants. Zoom's E2EE uses the same 256-bit AES GCM encryption that secures Zoom meetings by default, but with Zoom's E2EE, the meeting host generates encryption keys and uses public key cryptography to distribute these keys to the other meeting participants." (Annual Report 2022 SEC, Zoom Inc.)

Legal: Against this background, in April 2021 the government sent to the parliament a long-awaited reform of the civil justice that leverages the momentum of the times to put the reform of a system more than 118 years old. The project to be discussed introduces among many other changes to the digitally enabled possibilities that were experimented during the pandemic such as online hearings using videoconferencing as a tool to conduct remote hearings. With this project, the use of video conferencing tools in trials will be further regulated. By September 2022, the reform has not been approved.

Managerial: Similarly, the judiciary has used this temporal window given by the pandemic to improve its digital service delivery. The situations emerging from the pandemic restrictions revealed several gaps in digitalizing practices in the court. Many improvements were quickly implemented on the way and in parallel to ensure the continuity of the service.

8.4 Summary of Findings "Videoconferencing Justice": Co-incidences, Resonances, and Frictions

With the impossibility to host hearings in the courtrooms, the civil courts resorted to videoconferencing platforms (Zoom) to host hearings online. Without regulation, the Supreme Court authorized hearings to be held via videoconference. Later on, the law came to offer the possibility to suspend hearings, when the digital means did not safeguard fundamental rights and due process. Hosting hearings remotely, changed the physical conditions of the court for improvised offices in living rooms, kitchens, and bedrooms, among many others. With the practice, staff members and users adapted procedures to the possibilities offered by the platform, using screen sharing to show evidence, or turning the video on to verify the identity of the party. These fixtures were later included in the legal and judicial regulation.

Co-incidences: The availability of videoconferencing platforms as ready-to-use services and some previous experiences of individuals in the courts allowed the rapid materialization of this practice.

Resonances: This coincidence resonated with the need to ensure the continuity of the service imposed by the judicial agency, moving hearings online. The Administrative Corporation coordinated this process providing the resources for the setup of online hearings.

Frictions: With the unavailability of physical spaces to host hearings, the practice of hosting hearings via videoconference was beyond the existing regulation. This initial liminality was increased by the short-coming response via regulation from the Supreme Court and the Law, which created ambiguity

in some court practices. The legal agency, later on, allowed the suspension of hearings when due process was not guaranteed. In the latest state of affairs, legal and judicial regulations are still incomplete, and only extended the existing regulation to match certain novel aspects of videoconferencing hearings.

The six agencies in this genealogy were characterized by:

Digital: Zoom, as a videoconferencing platform provided the conditions for the practice to materialize.
Physical: the courtroom was replaced by the private households of judges and staff, be it the living room, the kitchen, or the bedroom, among others.
Judicial: the regulation went from the courts may hold hearings via videoconference, to make videoconferencing a general means for conducting hearings.
Legal: courts may hold virtual hearings with digital means when fundamental rights and due process can be guaranteed.
Individual: staff members adapted analogue procedures to the possibilities offered by the videoconferencing platform.
Managerial: the Administrative Corporation coordinated the Zoom accounts, after the first successful test in courts.

CHAPTER IX

9 GENEALOGY C: "POSTING JUSTICE ON SOCIAL MEDIA"

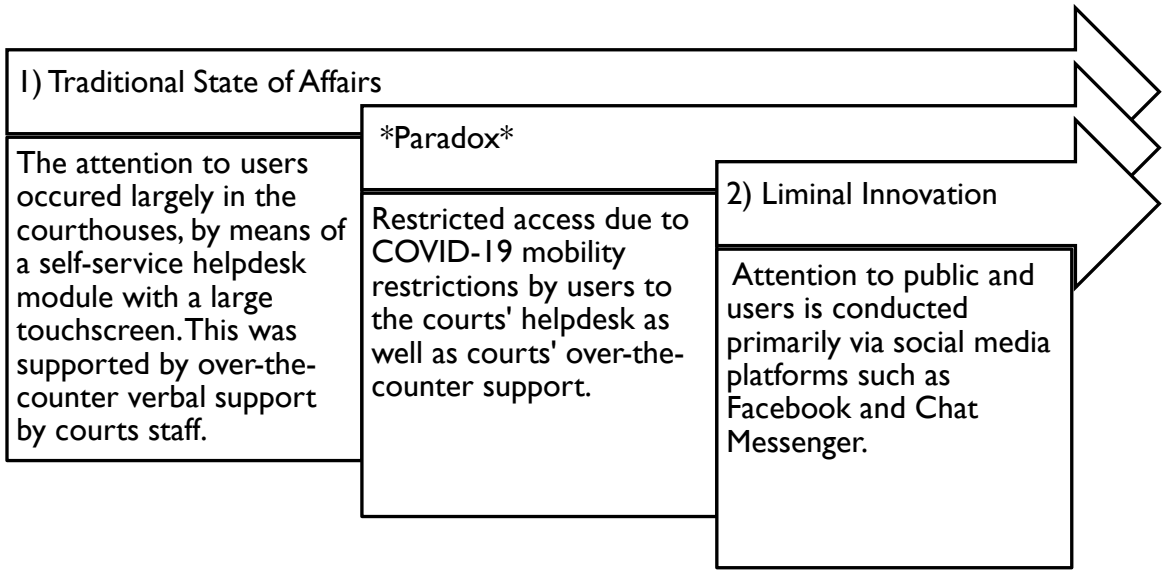


***Figure 24**. Overview of the structure of the Genealogy C) Posting justice on social media, divided into 1) traditional state of affairs, *paradox*, and 2) pattern shift and permanence.*

INTRO: *The Genealogy "Posting Justice on Social Media" talks about the use of social media by the judiciary, which is a task of the Communications Directorate, dependent on the Supreme Court. The interface between courts and citizens happens traditionally via a self-service station placed in the hall of the court. In these stations, user can access their electronic folders (see Figures 25 and 26). The self-service stations are supported by a service over the counter, in which users of the justice system can ask when they have questions or want to inquire about any progress in their cases (see Figure 27). With the mobility restrictions, Court staff moved to work from home, and the counter was empty. Thanks to a well-supported social media strategy and presence, the judiciary could leverage a large base of followers in their social media channels to engage directly with citizens. The attention to users moved from the "over-the-counter" in every local court to a centralized department that could connect with users via Facebook, Twitter, Instagram, and YouTube. The attention of the public moved from the courthouse to the smartphone or the laptop, and from a public place to the citizens' personal and domestic everyday lives. The intensive use of social media is also reflected in numbers, going from 3.000 inquiries to 13.000 in 2020*[25].

How did the judiciary get there?

Let us have a look at the entanglement of agencies and their materializations.

9.1 PART 1: THE TRADITIONAL STATE OF AFFAIRS

The Supreme Court regulates the public's attention and users in courts via At-71 of 2016. This regulation came in the context of the new e-Proceedings "Virtual Judicial Office". With a significant

[25] As reported by the Head of Social Media of the Communications Directorate.

change introduced by the digitalization of all cases and their respective documents, the attention to users changed dramatically to be done electronically in the courts.

Judicial: "Article 34. Information on the status of cases. The basis for delivery information on the status of a case will be the computer system and must be communicated verbally, being printed only in exceptional and well-founded cases.
[...]
The Administrative Corporation of the Judiciary shall provide the different units in charge of the attention of users all the technological tools necessary to carry out this work." (Act 71-2016)

Physical: To provide the physical conditions for this new practice to be possible, the civil courts in Santiago equipped the hall of the courthouse with large touchscreens as self-service helpdesk modules. The physical space and module can be observed in Figure 25.

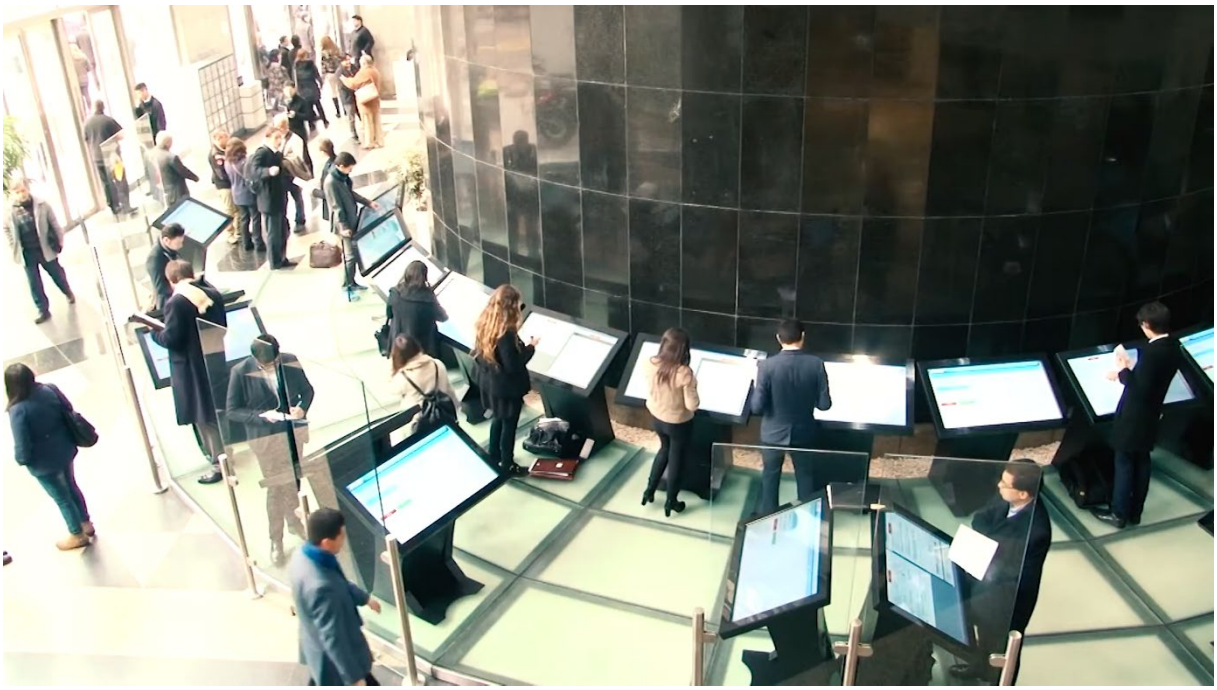


***Figure 25**. Hall of the Civil Courthouse in Santiago with Helpdesks implemented due to the e-Proceedings Law (Capture from a recording from 2018)*

Figure 26. *Close-up view of the self-service helpdesks (capture from a recording of the year 2018).*

These self-service digital modules are supported by a counter service where support is provided verbally (see Figure 27).

Figure 27. *The counter is located in the hall of the Civil Courthouse in Santiago (capture from a recording of the year 2018).*

9.2 Paradox

With the mobility restrictions and to safeguard public health, the physical helpdesks were no longer available. As shown in Figures 25 and 26, the court hall is crowded, and the use of touchscreens was against all health recommendations to prevent the dissemination of the virus.

9.3 PART 2: PATTERN SHIFT AND PERMANENCE (LIMINAL INNOVATION)

During COVID-19, a new story emerged. In highly volatile court operations, quick, direct, and effective communication with users became crucial. In this context, the Supreme Court regulated attention to the public, assigning a major role to the Communications Directorate:

Legal: "Article 26. Access to justice for people in vulnerable situations. [...]

(c) The Communications Directorate shall establish an **information and continuous dissemination plan in order to communicate to citizens their rights and the new channels of attention to access to justice." (**Agreed Order 53 – 2020, 17 Abril 2020**)**

The story goes back to the creation of the Communications Directorate in 2001, with the beginning of the first wave of digitalization of the Chilean judiciary.

Managerial: On January 4 2002, the Supreme Court created via Act 159-2001 the Communications Directorate of Poder Judicial. The Communications Directorate reports to the plenary of the Supreme Court and the Administrative Corporation of the Judiciary.

"Areas of Work:

[…] External communication.

a) To propose to the Hon. Court a **communications policy** that contemplates the short- and long-term objectives and the mechanisms to achieve them,
b) Propose the necessary documents to implement the adopted policies (agreements, instructions, etc.) and
c) **develop the approved communications program**. [...]" (Act 159-2001)

Because of the early development of social media for personal use in 2001, there was no mention of social media in the descriptions of tasks of the Communications Directorate. In the following years, social media became more relevant since the creation of Facebook in 2004 (see Figure 28), YouTube in 2005 (by 2006 was already acquired by Google), and Twitter in 2006. [26]According to the terms and conditions of services of Facebook and YouTube, these digital platforms' core functions are:

Digital: "Facebook enables people to connect, share, discover, and communicate with each other on mobile devices and personal computers. There are a number of different ways to engage with people on Facebook, including News Feed, Stories, Marketplace, and Watch." (Terms & Conditions of Service, Meta)

Digital: YouTube: "The Service allows you to discover, watch and share videos and other content, provides a forum for people to connect, inform, and inspire others across the globe, and acts as a distribution platform for original content creators and advertisers large and small."(Terms & Conditions of YouTube)

The pervasiveness of social media led the Supreme Court to open the first social media account of the Chilean judiciary. Social media was understood as a form of a novel mechanism to achieve the objective stated in the communications policy of the Judiciary. At the opening of the Judicial Year 2012, the president of the Supreme Court announced that

Managerial: "From this year, the Judiciary will be incorporated into virtual social networks: Facebook, Twitter and YouTube, to disseminate official information and offer a faster and more expeditious way of resolving queries […] these initiatives and projects seek to bring the Judiciary closer to citizens so

[26] The relevance of social media platform in the web was so strong that those years are called the Web 2.0, the Social Web (Meinel & Asjoma, 2021).

that they understand our work and have timely access to information on cases and judicial procedures" (Annual Report 2012)

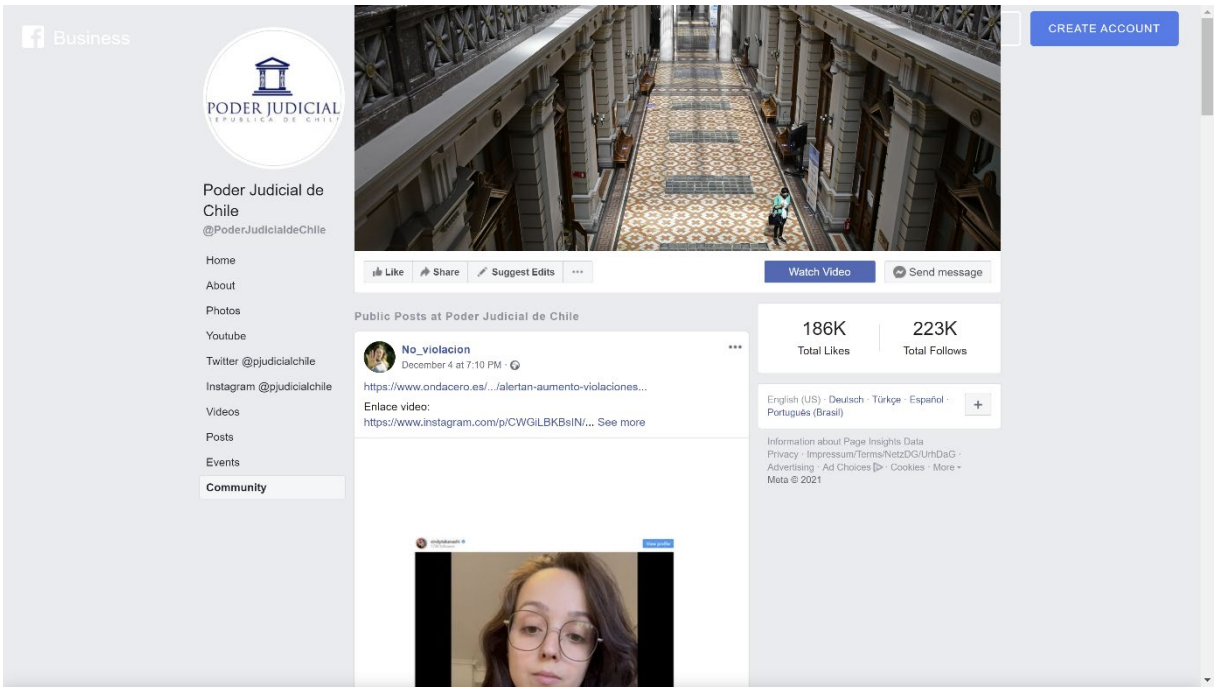


***Figure 28**. Screen capture of the judiciary's official Facebook page by December 2021. Note that the page at that time was using Facebook Business services.*

One year later 2013, the social media presence of the judiciary already gained traction, reaching almost 50K followers across Facebook and Twitter.

Managerial: "The official social media networks of the Judiciary reached a significant number of followers and have become a key instance of contact with the community. For example, Twitter has 25,000 followers, and Facebook reaches 23,000 fans. In 2013 a new social network was launched, Instagram, which through photographs seeks to publicize the institutional function." (Annual Report 2013)

With these early successes, the Judiciary extended its presence to other platforms as they became mainstream, such as Instagram in 2014[27].

Digital: "Instagram brings people closer to the people and things they love. It is a place where people can express themselves through photos, videos, and private messaging, including through Instagram Feed and Stories, and explore their interests in businesses, creators and niche communities." (Terms and Conditions of Service, Meta)

Each one of the social media platforms provided novel material conditions for the judicial communications practice to be materialized otherwise. As the followers came in, those new practices gained legitimacy inside the courts and the judges.

Managerial: "Within the framework of the engagement and education strategy, social media networks were consolidated as a direct and expeditious means of communication, validated and recognized by

[27] In the following years, the judiciary presence also included LinkedIn. As reported by chief of social media in one of the interviews, the judiciary already has an account in TikTok, ready to be used when a strategy focusing on younger users is set into play.

the different users. Facebook reached 33,342 fans, Instagram 1,040, Twitter 30,036 followers and YouTube 2,284 subscribers." (Annual Report 2014)

By 2014, social media was already a central part of the judiciary's communication channels, validated and recognized by the users. The judiciary continued leveraging social media to be closer to them. In 2018, the plenary of the Supreme Court approved a report on a policy for using social media in the judiciary. In the report, the numbers of social media engagement show a constant increase, especially in Facebook and Twitter, reaching almost 100 thousand and 80 thousand followers by the end of 2017 (see Figure 29).

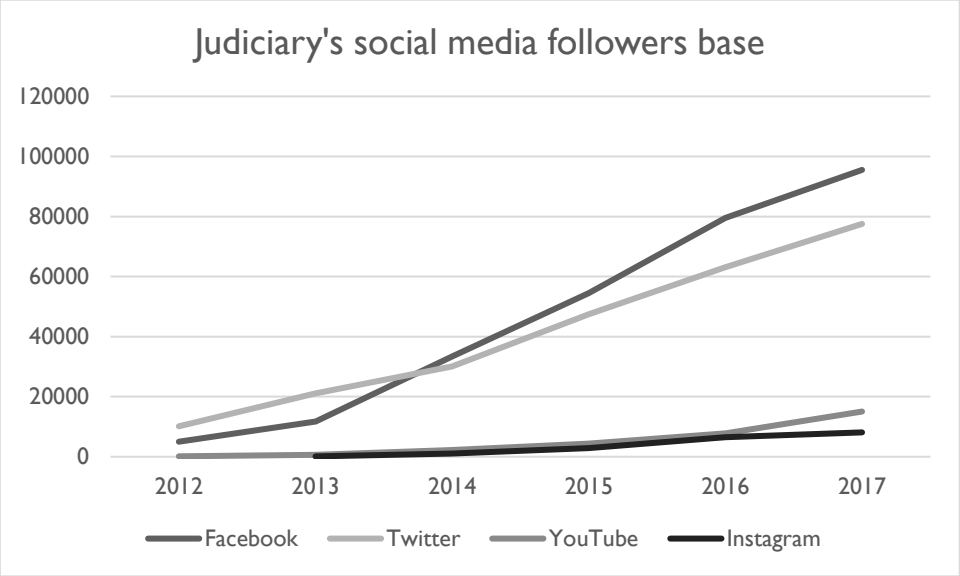


Figure 29. *Chart showing the growth of followers of the judiciary's social media accounts on Facebook, Twitter, YouTube, and Instagram between 2012 and 2017*

With these successful numbers in hand, the decision of the plenary of the Supreme Court regarding this matter was not to provide further recommendations. The regulation and control by the judicial authority of their social media activity came down to one sentence in the document AD 1873-2018:

Judicial: "In view of the data presented, it is concluded that the scope and dissemination of judicial events through institutional social networks and citizen communication platforms are completely efficient and satisfactory, which is why this Committee does not propose recommendations in this area." (AD 1873, 2018)

This process had tensions between judges and the communications directorate. The use of social media was part of a strategy to better position the judiciary in public opinion. In this regard, as mentioned by a journalist working in court

Individual: "We convinced the judges that in communication, the one who strikes the first communication blow is the most relevant and even with little information, and the one who gives the frame of what is happening is the one who wins most of the battle" (Communications Directorate).

The use of social media created a direct channel with citizens that allowed the judiciary to "control" the message being delivered – as opposed to being filtered, trimmed and recomposed by journalists from traditional media channels and the press. The interviewee from the Communications Department of the Court highlighted that

Individual: "The organization [judiciary] understood this need of the citizenship […] being a consumer of the Judiciary's own social network, it was better for the people to find out by ourselves than to outsource the information delivery [to press and journalists]" (Communications Directorate).

Together with that, the social media activity of the judiciary is centralized, meaning the central offices in Santiago manage it. This novel materialization of the practice contrasts starkly with the traditional decentralized engagement with media and journalists in every region – local radio stations, newspapers, and TV shows. [28]

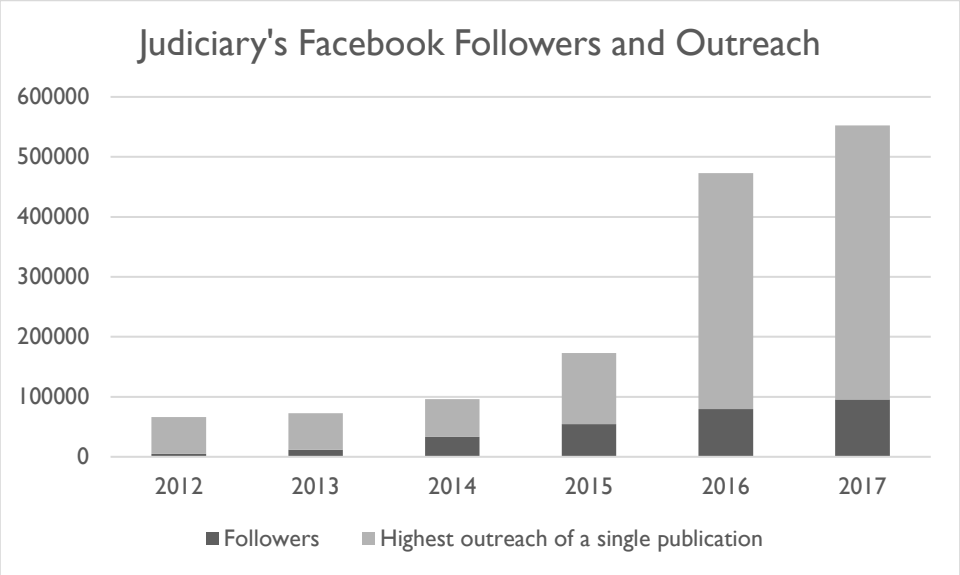


Figure 30. *Bar chart showing the relation between Facebook followers and post outreach by the judiciary's Facebook page between 2012 and 2017.*

The extensive network of users, followers and contacts in social media platforms built during the previous eight years served as the basis – and convenient ally-- to an organization on the move. By 2017, the outreach capacity of a single post from the judiciary's official Facebook page was over half a million users (see Figure 30). With the pandemic outbreak,

Managerial: "[…] the Communications Directorate became a customer's service. In other words, we were all over the place. Everybody called us. People were calling as if we were an information office and not the communications directorate." (Communications Directorate.)

The new tasks of the Communications Directorate included communicating changes related to opening hours and procedural or legal-related helpdesk services. Even more, in the absence of a physical "helpdesk", the contact point for citizens was no longer the courtroom or hotline but social media channels.

Managerial: "The attention to users, which used to be a counter service, became absolutely social media networks" (Communications Directorate).

As the judiciary's social media chief reported, that can also be seen in numbers, going from 3.000 inquiries to 13.000 during 2020. When opening the judiciary website, users were given attention through digital channels such as Facebook's Chat Messenger, Zoom, and telephone (see Figure 31).

[28] In cases D) Streaming Judges Online – Live! and E) Following Justice on YouTube, it become clear how the intensive use of videoconferencing platforms, allowed judges from other jurisdictions to become more visible in the social media activity. With everyone being online, the physical location of the court did not play a role anymore when it came to be part of the social media activity of the judiciary.

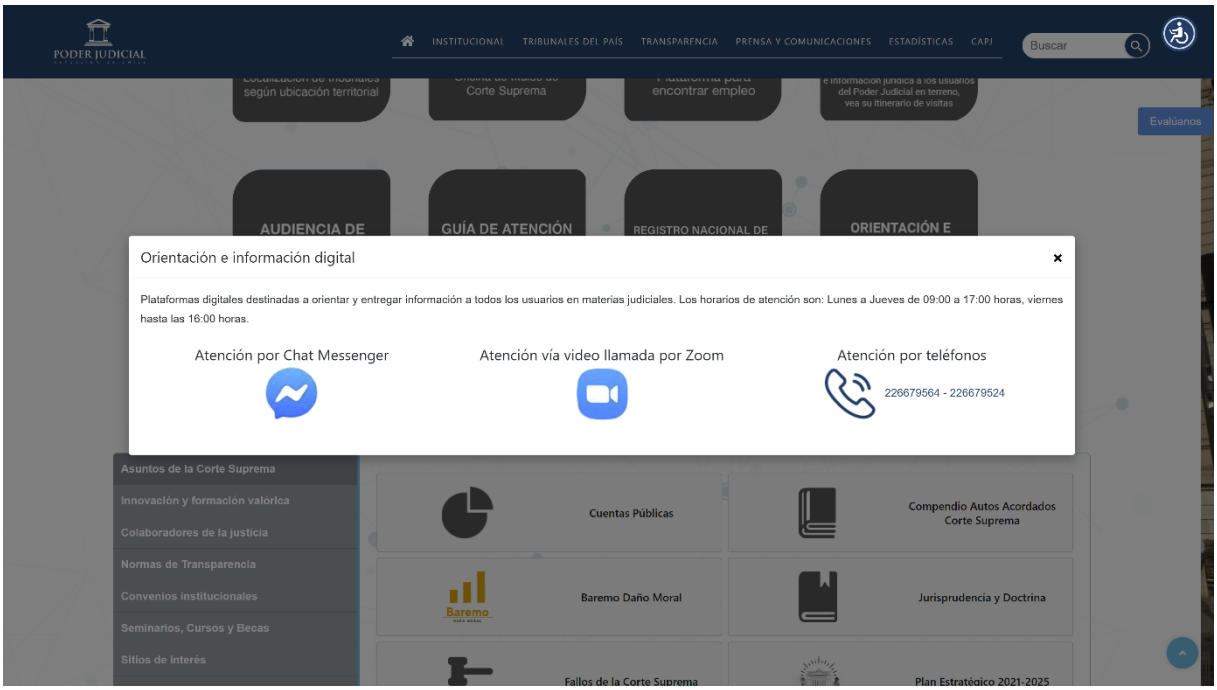


Figure 31. *Screen capture of the digital channels to provide orientation and information to users via Chat Messenger (Facebook), Zoom, or hotline taken in 2022.*

Regarding social media, the most relevant is Facebook's Chat Messenger.

Individual: "Our type of user comes to Facebook because they have the possibility to ask in private [using Chat Messenger]. Formerly, one could print a phone number and they could call. However, now the information a court has to give the user is a link. The links are [directed to] specific parts of the webpage so that we can answer the most quickly in social media. " (Communications department)

This practice is possible because of the functions of Facebook's Chat Messenger:

Digital: "Messenger. Messenger is a simple yet powerful messaging application for people to connect with friends, family, groups, and businesses across platforms and devices." (Terms and Conditions of Service of Meta)

In this regard, the language of judicial communications changed to match better the audience and style on social media:

Managerial: "Everything is filtered with language for social media. In the end, it differs from what we communicate on the website, intranet, or institutional communications. It goes through a filter that converts the language to social media communication styles [...] First of all shortening it and second making it clear to all users, both users of justice, of the justice system and non-user so that in the end, anyone can understand social media communications. " (Communications department)

The activity of the judiciary and the citizens using Facebook is processed and analyzed by Facebook (now Meta), including the messages sent and received, as stated in their Privacy Policy. This privacy issue raises tensions

Digital: "Provide and improve our Meta Products. Providing the Meta Products includes collecting, storing and, if applicable, sharing, reviewing and organizing data, profiling from it and, in some cases**, not only applying automated processing but also manual review processes (with human intervention) [...]**:
The content you create, such as posts, comments, or audio.
Content you provide through our camera feature or gallery settings, or through our voice features.

The messages you send and receive, including their content, in accordance with applicable law.
Metadata about content and messages.
Types of content you see or interact with and how you do it. […]" (Privacy Policy Meta) [29]

The practice of Facebook is against the spirit of the e-Proceedings, which prohibits the massive processing of personal data from the e-Proceedings platform. While this is not exactly the case being regulated by Law 19.665, the principle behind it is to protect the personal data of users of the judicial system:

Legal: " Article 2: […] The massive processing of personal data contained in the electronic processing system of the Judiciary is prohibited without its prior authorization. The infraction committed by public and private entities to the provisions of this paragraph will be sanctioned in accordance with Law No. 19.628." (Law 19.665, 2000)

In Chile, the data privacy regulation Law 19.628 on the protection of privacy dates back to 1999 and did not have digital platforms such as social media in mind.

Legal: "The use of personal data
Article 4°.- The processing of personal data can only be carried out when this law or other legal provisions authorize it or the owner expressly consents to it.
The authorizing person must be duly informed about the purpose of storing their personal data and possible communication with the public.
The authorization must be in writing. [...]" (Law 19.628, 1999)

While the new law on digital data protection sleeps in the Chilean Congress since January 2017, the tensions arising from the use of social media by the judiciary will remain in a grey area of suspended normativity, characteristic of liminal practices.

However, this liminality allowed the judiciary to remain open and look for new materializations of the attention to public online practices. The Administrative Corporation had to fulfil their special duty of providing logistic support to improve attention to users during the pandemic, according to the Agreed Order 53, of April 2020:

Judicial: "Article 29. Logistical support. The Administrative Corporation of the Judicial Power will have the special task of reinforcing the help desk to absolve the consultations and give orientation to the users of the Judicial Power. Likewise, it must collaborate to provide the equipment, enable, improve, strengthen and facilitate all electronic means that allow compliance with this Agreed Order. " (Agreed Order 53, 2020)

Without overcoming those frictions generated by the use of data by social media platforms, the activity of the judiciary in social media created resonance among agencies. The examples of resonances are two projects carried out by the Administrative Corporation of the Judiciary, leveraging the activity of the Communications Directorate. The projects are Conecta.Pjud and the following iteration and extension Punto.Pjud.

Digital: Conecta.Pjud

[29] Excerpts of privacy policy applicable to Facebook, Messenger, and Instagram, referred to under Meta products. These is applicable to Latin America and the original language is Spanish. Own translation. Original available on https://es-la.facebook.com/privacy/policy/

Conecta.Pjud is an example of how innovations can be developed as an open-ended process. Conecta.Pjud is a multi-layered digital channel to support users of the Courts with their inquiries. It is a one-stop digital service which creates a unified interface for the user to access the ensemble of digital technologies put in place during the pandemic. In simple terms, it comes to repurposing the traditional help desk in Courts, finding a middle way between preventing people from going to Court and spreading the virus and overcoming the lack of access to digital means.

While the initial resources of the Communications Directorate were a Facebook page and the intensive use of Facebook Chat Messenger, as shown previously. However, as the pandemic scenario evolved into a longer-term situation, the services offered online to end-users of the judiciary, i.e. users with no legal background, were more diverse and complex. In this regard, with text messages over Facebook Messenger, a WhatsApp account was enabled for more accessible communication and the option to talk to court officers via a videoconferencing platform, i.e., Zoom. In this context of expansion, Conecta.Pjud served as a unified interface to host and connect users with various digital channels. What started as a pilot program during the pandemic has now been extended to more courts across the country and in different competencies (see Figure 32). This innovation eased access to users with low digital literacy who struggle to navigate a service with multiple entry points and channels.

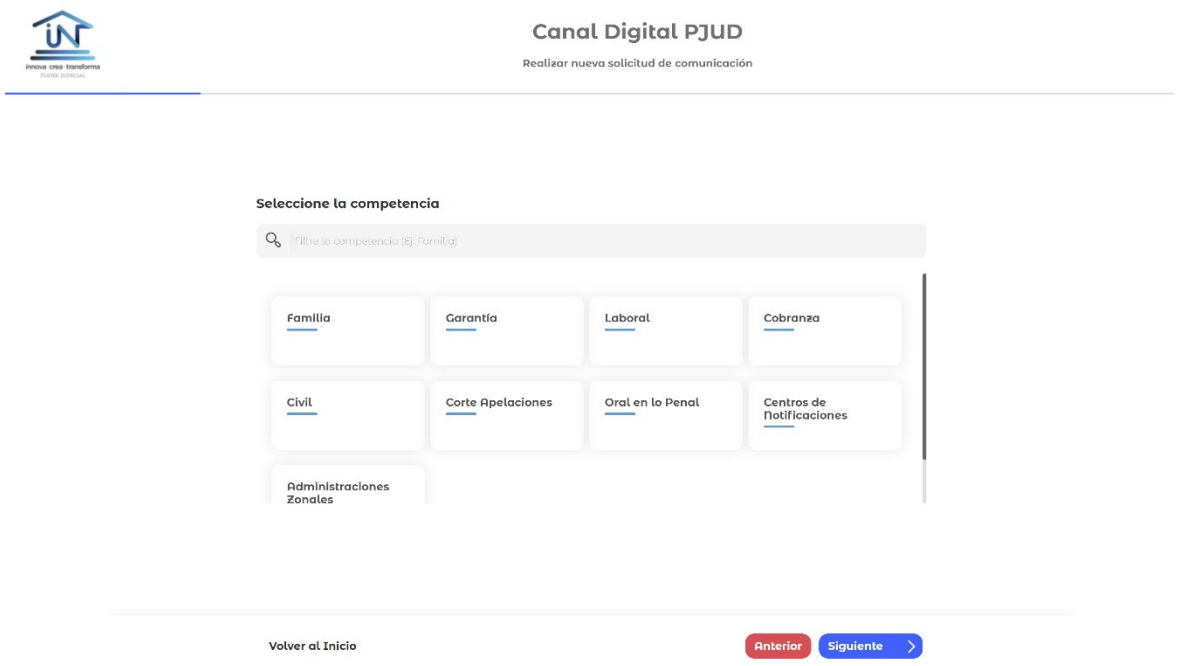


Figure 32. *Screen capture of the unified interface of Conecta.Pjud, which is now extended to more courts.*

Physical: Punto.Conecta.

Despite the improvement provided by digital innovations such as Conecta.Pjud, the intense use of social media created friction by excluding certain groups of users due to their limited access to digital devices or a stable internet connection. This issue affected certain groups of society more heavily, i.e. older people, users from rural areas, or users with low levels of education and low income.

Figure 33. *Screen capture of a video showing a user accessing the Conecta.Pjud digital interface via a physical module in the court later developed into the Punto.Pjud project.*

Once the pandemic situation eased after the first wave of COVID-19 in Chile, the courts enabled a computer on the counter of the empty courthouse to allow users to communicate with staff personnel working from home (see Figure 33). This solution, at first sight, may seem absurd- an empty courthouse with a screen installed where it used to be an officer to answer questions (see Figure 34). The computer and screen were equipped with a webcam, microphone and speakers to recreate the interaction in the court. However, this material configuration allowed overcoming the accessibility issue, while safeguarding the health of users and staff.

Figure 34. *Conecta.Pjud and Punto.Pjud implemented on the court's counter, where a court staff member usually attended inquiries from users, now materialized virtually.*

Furthermore, these experiences and the success in overcoming challenges related to digital accessibility also served as an inspiration to replicate the formula for issues on accessibility to courts not related to the pandemic.

Physical: In particular, the same system was installed in remote rural areas where the judiciary has no physical presence through a project called Punto.Conecta. In this regard, the judiciary as a unitary organ serves a long and diverse country. Usually, courts are located in the region's capital (with a Court of Appeal in every region) and small courts in the province's capital, as dictated by the law. This situation results in many remote areas with no direct access to judicial services, requiring them to travel for hours to reach the closest court. With the remote attention to the public running online, the judiciary installed a computer in the communal hall building to serve as a virtual window to communicate with the courts in the region's capital.

That was the case with the Punto.Conecta station in the locality of Putre, which is located 130 km (81 mi) east of Arica (capital of the region), at an altitude of 3,500 m (11,483 ft) (see Figure 35).

Figure 35. *Screen capture of a recording of the Punto.Conecta station in the locality of Putre, which is located 130 km (81 mi) east of Arica (capital of the region), at an altitude of 3,500 m (11,483 ft).*

9.3.1 Latest state of affairs

Attention to users still relies on digital means. The platform Conecta.Pjud has been further developed and extended to more courts and stations of Punto.Pjud has been made available.

9.4 Summary of Findings "Posting Justice on Social Media": Co-incidences, Resonances, and Frictions

With the impossibility of using the helpdesks in the courthouse and the information counter service, the judiciary, through the Communications Directorate, redirected the public's attention to their social media channels. Leveraging their large base of followers – cultivated during the previous eight years- the courts could effectively communicate changes in their operation and solve questions from users via Facebook and Chat Messenger with significant outreach. Since all proceedings have been digitalized since 2015, the answers to users' inquiries were standardized using simple language and complemented with a link directing the user to the webpage of the e-proceedings platform. With the ease of the

mobility restrictions, self-attention modules in courts were repurposed as a video-call station to directly communicate with court officers, taking care of the health of users and staff while overcoming the access limitation derived from the lack of digital by specific users. Later, the modules were re-purposed to connect remote rural areas with the courts by installing a computer in other public facilities serving as a "virtual window" to the court via video call.

Co-incidences: the existing followers base of the judiciary on social media in charge of the Communications Directorate, and the possibilities offered by different platforms, i.e., Chat Messenger to have private conversations.

Resonances: The move to social media resonated with the more extensive practice of remote work and hosting hearings via videoconferencing. With all activities happening online, the attention to users became a matter of directing people to the right online resource within the judiciary online ecosystem. Another resonance comes with integrating all services in a one-stop virtual window Conecta.Pjud, and the re-use of self-attention modules as physical access to the virtual attention of the public via the Punto.Pjud modules.

Frictions: the lack of legal and judicial regulation of the practice creates tensions which have not been addressed yet. When the online activity of the courts' remote work and hosting hearings online, is combined with social media, the judicial services are exposed to the generativity of digital platforms, in which the services are being performed across platforms, and mixed in terms of media and content. In other words, these practices are increasingly being regulated and coordinated by the Communications Directorate, the Administrative Corporation, and the possibilities offered by social media platforms.

The six agencies in this genealogy were characterized by:

Digital: Facebook, Chat Messenger (both now part of Meta services), and WhatsApp. All channels are integrated into a one-stop interface called Conecta.Pjud.
Physical: anywhere, using a computer or smartphone, innovated into Punto.Pjud modules in courts or outside courts (community building).
Judicial: communication with users should leverage social media channels based on previously approved regulations (2018)
Legal: mobility restrictions made courts inaccessible
Individual: users turned to social media to inquire about their cases
Managerial: the Communications Directorate and the Administrative Corporation were able to innovate via Conecta.Pjud and Punto.Pjud.

CHAPTER X

10 GENEALOGY D: "STREAMING JUDGES ONLINE – LIVE!"

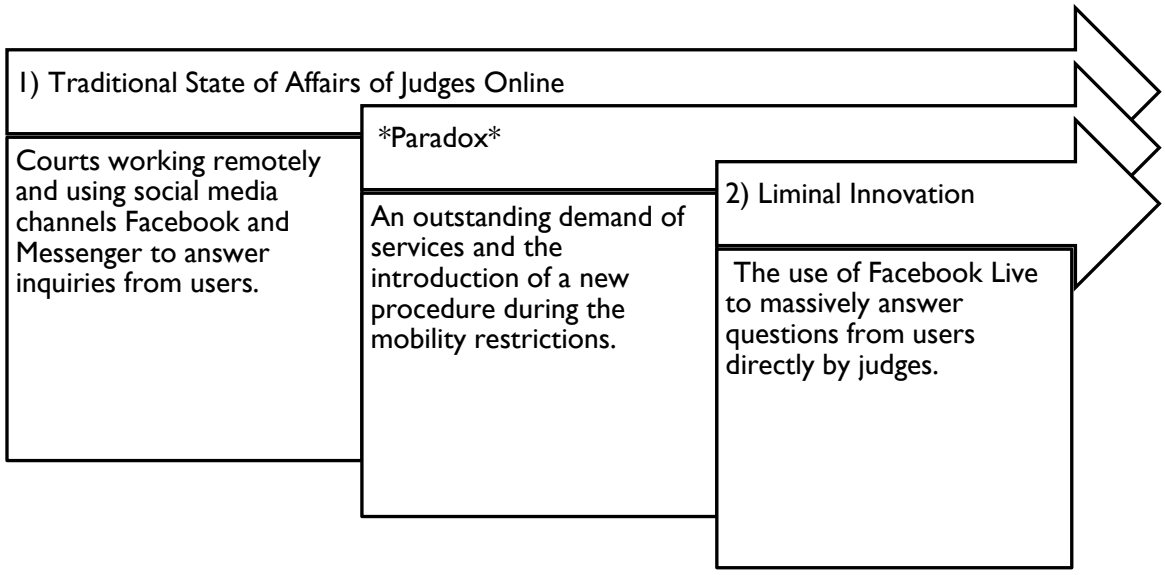


Figure 36. *Overview of the structure of the Genealogy C) Posting justice on social media, divided into 1) traditional state of affairs, *paradox*, and 2) pattern shift and permanence.*

INTRO *The encounter of users with a judge is reserved for the moment of the hearing, at the courthouse, with the solemnity and gravity imposed by the place. The exchanges are precise and concise, strictly following what the procedural states. The judge will be careful not to express opinions or personal inclinations that could blur impeccable independence and impartiality. During the pandemic, the engagement was all virtual. In this context, congress passed a constitutional reform that provided a financial alternative to individuals and families in economic difficulties by withdrawing 10% of the individual pension funds. However, the law had a twist. For those persons with alimony debts, the withdrawal could be suspended by a court order and the money used to pay the alimony debts. This twist came as one short sentence that dramatically changed the situation in courts-- overnight, hundreds of thousands of requirements needed to be processed. With this new procedure, the communication channels and attention to the public collapsed by users inquiring how to proceed. To cope with overwhelming demand, the Communications Directorate streamed a show via FacebookLive. Users could ask questions by posting them in comments, and a judge would answer them one by one. The show was streamed 40 times and was also extended to other subjects. The recordings of the sessions were uploaded to YouTube and are still available* (*Jueces En Linea - YouTube*, 2021).

How did the judiciary get there?

Let us have a look at the entanglement of agencies and their materializations.

10.1 PART 1: THE TRADITIONAL STATE OF AFFAIRS:

This genealogy builds on the previous (see Genealogy C) Posting Justice on Social Media). In this sense, with the pandemic, the Chilean judiciary moved its attention to the public online, predominantly through social media. The genealogy Streaming Judges Online- Live!, shows that now the practices are extended to the engagement of judges with users via social media. The activity of judicial staff members

and judges in social media is also the subject of directives and recommendations given by the Supreme Court. Specifically, in 2018 via the decree AD 1873-2018 the Supreme Court approved that:

Judicial: "Observing the challenges imposed by the emergence of social networks of mass communication, in terms of making the construction of a digital identity compatible with the exercise of jurisdictional work, the Modernization Committee proposes to issue the recommendations indicated below. […]

RECOMMENDATIONS FOR THE USE OF SOCIAL NETWORKS BY MEMBERS OF THE JUDICIARY

[…]

9. Use of social networks

1. Before joining a social network, members of the Judiciary shall endeavour to understand the characteristics and scope of the network and the terms of the agreement with the consenting provider. […]

5. Members of the Judiciary shall endeavour to ensure they know whom they share their network with unless their use does not show signs of familiarity among the connected persons. […]

8. Likewise, they will try to take into account that any action, image or manifestation, can be documented and made public knowledge through social networks without the limit of temporality.

9. Finally, the members of the Judiciary will take care to make use of high-quality computer security measures (passwords, antivirus, antimalware, prevention against identity theft, anti-phishing, among others)."(AD 1873-2018)

While this regulation is referred to the private use of social media by members of the judiciary, some of the principles can help to understand that in contrast to the official use of social by the judiciary, the Supreme Court conceived the engagement of staff members on social media with caution and scepticism.

10.2 Paradox

Adding to the paradoxes and tensions generated by the COVID-19-related mobility restrictions, a new tension arose from a constitutional (legal) change. In the context of the financial difficulties for families and individuals derived from the pandemic, congress pushed the government to allow 10% of the individual pension funds to be used as financial aid for families.

Law 21.248, published on July 30, 2020, allowed the withdrawal of 10% of individual pension saving accounts. In concrete, millions of citizens could claim back the 10% of the money initially saved for pensions to be transferred in a matter of days (10 days). So far, the courts were not affected. However, and without prior coordination, the same law included an article allowing parents and spouses with pending alimony (court-ordered payments to provide for children or spouse) to freeze the 10% withdrawal transaction and to pay the indebted alimony directly from the 10% of the pension fund of the debtor parent or spouse. As stated in law 21.248:

Legal: "Unique Article. [...] The withdrawn funds will be considered intangible for all legal effects, and will not be subject to retention, discount, legal or contractual compensation, seizure or any form of judicial or administrative affectation, nor may it be reduced from the amount already decreed of the economic compensation in the divorce trial, **without prejudice to the debts originated by alimony obligations.** (Law 21.248, 2020)

The introduction of the paragraph's last sentence was neither coordinated nor communicated to the courts. This lack of coordination created friction in court practices, which required them to adjust their practices to attend to an unprecedented number of requests in a fortnight. In the words of the spokesperson of the judiciary:

Managerial: "Unfortunately, the legislators did not consider the effect that the constitutional reform would generate in the Judiciary. That is the explosive increase in requests that had to be processed, for which, in addition, it had to establish expeditious communications with the other institutions involved, in order to give a timely and effective response to all those interested in the process. " (Internal Minutes of the Spokesperson of the Supreme Court)

This massive demand for judicial attention had a tremendous impact on the operation of the family court working remotely. It created a potential crisis of similar magnitude to the pandemic.

Physical: The expectation of long-awaited payments to become a reality drove people to the closed courthouses seeking answers on how, when, and where to make the request. Moreover, the timing and opportunity of the court decision were critical because the retention needed to be ordered before the debtor could withdraw the 10%, and leave the retention without effect. Without foreseeing it, congress created a potential sanitary emergency around the courts.

10.3 Part 2: Pattern shift and permanence (Liminal Innovation)

The Chilean judiciary at its edge leveraged the large social networks followers base (220.000 followers on Facebook) and set up a program called "Jueces en Línea" (Judges Online), in which judges would answer questions from people directly via Facebook Live. People did not need to go to the courthouse to ask questions. Instead, they could go to the judiciary's Facebook page from their smartphones to interact directly with a judge who would answer their questions.

As stated in the Annual Report of the Judiciary 2020, the Judges Online proved a big success.

Managerial: "JUDICIAL POWER PREMIERED PROGRAM BY FACEBOOK LIVE: "JUDGES ONLINE"

31/07/2020 As a way to respond directly to the concerns of citizens, the Judiciary began the online program: "Judges Online", a series that was broadcast daily live on institutional social media networks. The space was born to respond, in a timely and clear manner, to the large number of queries and doubts that the Judicial Branch received from the community in relation to the constitutional reform that allowed the withdrawal of 10% of the individual capitalization accounts of the AFPs, and the retention of part or all of the said amount for maintenance debts."(Annual Report 2020)

In the words of one of the journalists from the Communications Directorate:

Individual: "We broadcasted that program every week. We had a justice or a judge, and we interviewed them live. So, the questions were coming in minute by minute, second by second [via Facebook Live comments] [. . .before] we did not have this interaction that we achieved last year (2020) that was from the person who is at home or on the public transport and just goes online and asks a question, the judge reads it and answers it right away." (Communications Directorate)

The goal of broadcasting this program was twofold, on one side keeping people away from crowds in courts, and on the other, to ease the transition to doing that paperwork online. In this second sense, the now digitalized judicial services were facing unprecedented demand from end users that are not frequently engaged with the judicial practices - citizens. Facing that challenge, many IT solutions were quickly introduced in different courts, especially for those reasons – even though they did not have explicit authorization from the Supreme Court.

Individual: "They were very agile in establishing digital communication channels since not everyone could go in person. For example, IT admins from each court created their own web pages without the authorization of the judiciary. But it was like the urgency, the pandemic, for people to be able to communicate, to communicate, so that they could be attended." (Communications Directorate)

Based on an internal note of the Supreme Court prepared by the Administrative Corporation:

Managerial: "Between July 25 and August 31, 516,777 letters of withholding funds, equivalent to 1,828% of a normal year, were received in the same period of time. For this reason, a total of 326,000 precautionary measures were decreed with respect to 236,800 possible debtors.

Of the 326,000 cases that have a precautionary measure in force, 217,000 (67%) have amounts withheld; 87,000 (27 per cent) have not submitted withdrawal requests; in 13,000 cases (4%), it was not possible to retain, and in 8,800 (3%), the debtors did not have funds in their pension accounts" (Internal Minutes of the Spokesperson of the Supreme Court).

According to the internal numbers of the Supreme Court, the efforts of the judiciary to cope with this unexpected avalanche of requests paid off. They resulted in the successful retention of 67% of the requests, corresponding to 217 thousand families that could get their alimony paid.

The practice of having judges online answering questions directly to users was extended from this specific case to other branches of the judiciary, such as the civil courts (see Genealogy A and B), as shown in Figure 37, explaining the procedures regarding the lease of housing.

Figure 37. *A judge from a civil court (see cases A. Delivering Justice from Home and 2. Videoconferencing Justice) answering questions about house leasing procedures to users via Facebook Live (October 2020), the blur effect was applied to keep anonymity.*

10.3.1 Latest state of affairs

As of September 2022, the Jueces en Línea program appears to be discontinued for over a year. With the last streaming on June 10, 2021, the program was streamed 40 times, and has its own playlist in the official YouTube channel of the judiciary, with a duration of one hour each (*Jueces En Linea - YouTube,* 2021). Besides the original scope was the retention of the 10% of pension funds, the topics addressed in these sessions extended to civil conflicts, conflicts at the workplace, non-accompanied children in migration processes, and the judicial protection of elderly people.

10.4 Summary of Findings "Streaming Justice Online": the co-incidences, resonances, and frictions

The paradox created by a pandemic-generated financial aid mechanism for individuals and families saturated a system already juggling the challenges imposed by the mobility restrictions. With the need to orientate users on a new procedure, the judiciary turned to their social media channels to massively reply to users' inquiries by putting judges on Facebook Live. This format allowed the judiciary to massively answer common questions and enabled users to ask questions via the comment section of the live stream. With Judges on Line, the communications directorate reduced the traffic on attention to the public and opened a new channel for direct interaction between users and judges through social media.

Co-incidences: an active judiciary on social media was an excellent bridge to provide the conditions to reach users of the judiciary massively in a way that also feels closer to them.

Resonances: the streaming functions of Facebook Live allow the direct interaction of users with judges via the comments function. The Communications Directorate coordinated digital resources and individual judges to set up this new form of engagement. With judges working online and used to videoconferencing, the conditions were optimal for easy and rapid adoption by the judges. Likewise, users consuming information from the judiciary's social media activity found in FacebookLive is an extension of their regular use of social media.

Frictions: the lack of regulation judicial and legal regarding the use of social media by judges in the context of their public functions as judges (the only regulation available is for staff members as private individuals) gave place to a practice regulated by the unfolding of the situations. However, the program Judges on Line was discontinued, removing the tension by polarizing the practice to its pre-pandemic materialization. Thus, the friction has not been solved.

The six agencies in this genealogy were characterized by:

Digital: Facebook Live integrated with Zoom
Physical: The judges' private homes and the user from their homes or anywhere else.
Judicial: The judiciary's communication strategy on social media was approved in 2018.
Legal: introduced new procedure for the retention of the 10% of pensions to pay alimony debts
Individual: Judges answering questions online, and users asking questions in the comments of the streaming, moderated by a journalist
Institutional: the Communications Directorate coordinated the program, provided the journalist for the moderation, and selected the judges.

CHAPTER XI

11 GENEALOGY E: "FOLLOWING JUSTICE ON YOUTUBE"

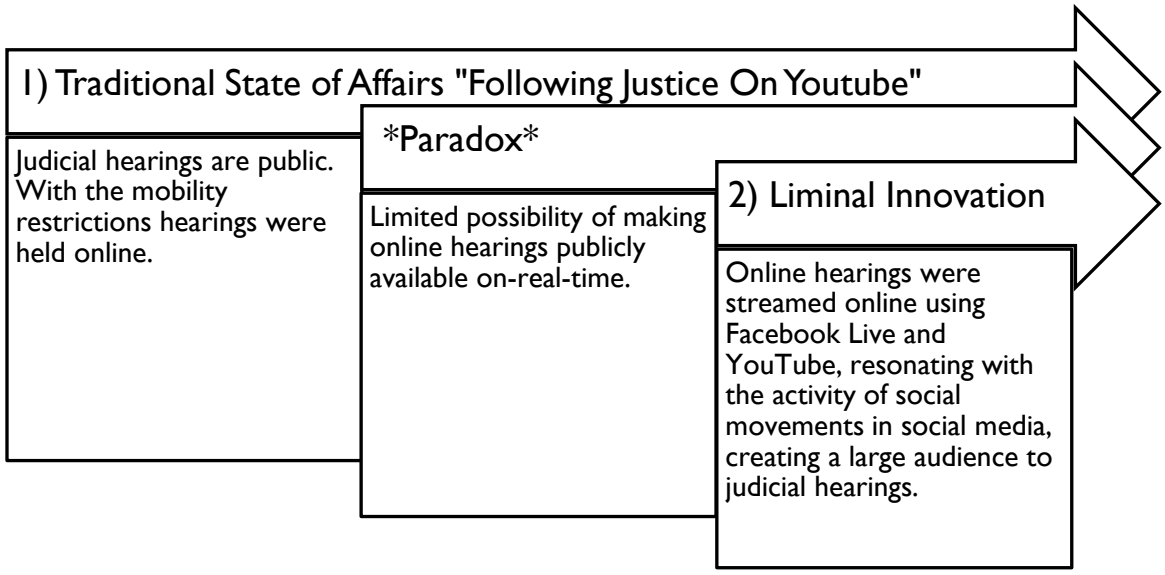


Figure 38. *Overview of the structure of the Genealogy E) Following justice on YouTube, divided into 1) traditional state of affairs, *paradox*, and 2) pattern shift and permanence.*

INTRO: The one million viewers. Leveraging its social media channels on Facebook and YouTube, the Court made public those cases with a high press and social media interest. With the court hosting hearings online via Zoom, the Communications Department could easily livestream any hearing without much technical setup. Together with that, the most viewed hearing peaking at over a million viewers (in a country of 18 million) were tightly connected to movements and campaigns happening outside of the judiciary sphere in social media. These campaigns related to social movements against violence and sexual abuse against women, gender equality activism and feminist groups. All those elements configured a judicial practice that became salient and meaningful to a large audience. The practices with live streaming of Court hearings were entangled with other social media activities, creating a network of content that reached far beyond the traditional Court users and audience. In this sense, the situation was extended, and the affectivity of the practices enacted in the virtual courtroom was distributed across social media networks, posts, webinars, discussions, tags, and profile pictures with a purple bow that identified the social movement (*Justicia Para Antonia*, 2021).

How did the judiciary get there?

Let us have a look at the entanglement of agencies and their materializations.

11.1 PART 1: THE TRADITIONAL STATE OF AFFAIRS

Law 21.226 from 2020 established special regulations for the remote work of courts and online hearings during the pandemic (see cases A. Delivering Justice from Home and 2. Videoconferencing Justice).

Legal: Article 1: [...] hearings may not be held due to the lack of bilaterality, contradictoriness, assessment of evidence, the procedural impulse of the parties, **publicity** and other **basic guarantees**

of due process, contemplated in the Political Constitution of the Republic and the international treaties ratified by Chile and that are in force." (Law 21.226, 2020)

11.2 Paradox

The hearings in criminal proceedings require to be public – meaning the general public can attend the hearings, listen and observe what happens in the court. Hosting the hearings online via videoconferencing platforms created friction with that principle of publicity while providing an alternative possibility to make those hearings public. Like the previous cases, the mobility restrictions due to the COVID-19 pandemic forced the court to materialize that practice differently with the support of the Communications Directorate and leveraging the possibilities offered by social media platforms.

11.3 Part 2: Pattern shift and permanence (Liminal innovation)

The publicity tension arising from the constraints of hosting hearings online was solved by the possibilities offered by the same Zoom platform in combination with another digital platform: YouTube. Zoom allows meeting hosts to record the meetings locally easily and in the cloud.

Digital: Zoom Meetings: "Zoom Meetings feature 49-person video gallery view, virtual backgrounds, **MP4/M4A cloud/local recording with transcripts**, video breakout rooms, screen sharing with annotation, and integrations with other powerful business applications to help teams get more done together."(Zoom Inc Filling to the SEC, 2019)

The hearings' recordings would then be uploaded to the judiciary's official YouTube so citizens and any interested party could watch them. In this regard, YouTube offered the judiciary a platform to publish and give visibility to the hearings (see Figure 39).

Digital: YouTube's Terms of Service define the service as:

"The Service allows you to discover, watch and share videos and other content, provides a forum for people to connect, inform, and inspire others across the globe, and acts as a distribution platform for original content creators and advertisers large and small."(Terms of Service YouTube)

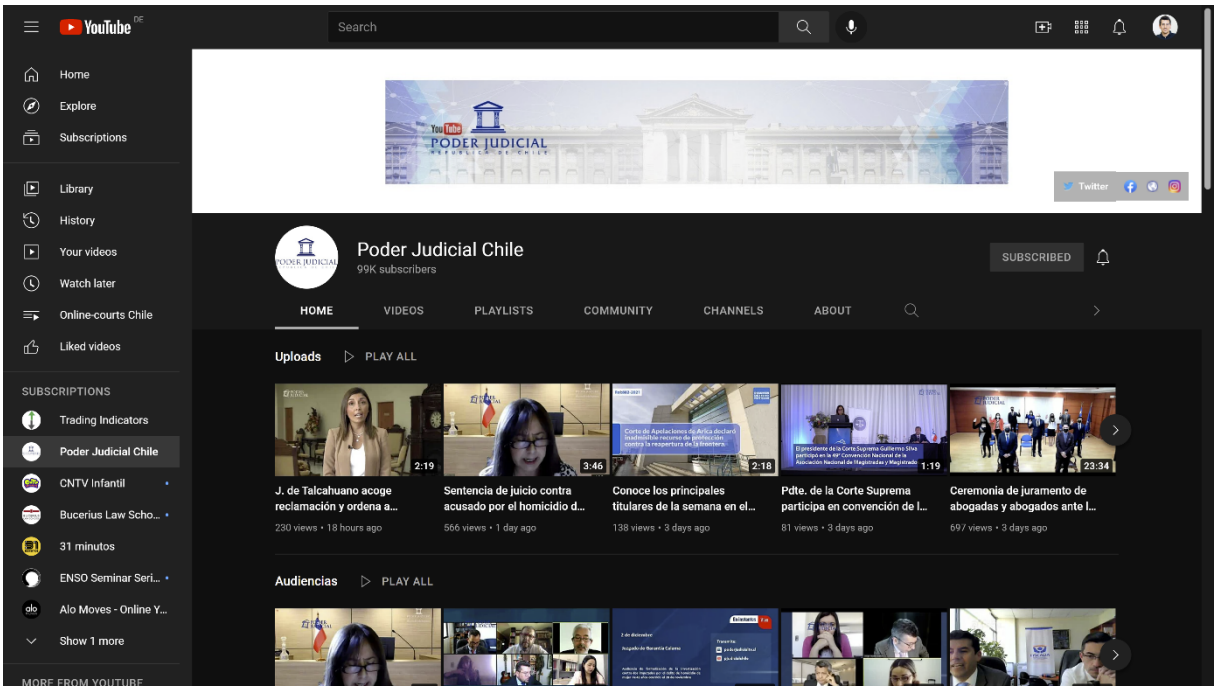


Figure 39. Screen capture of the judiciary's official YouTube page by Dec. 2021.

The practice of uploading video recordings to YouTube was not new, however, since it required a technical setup in the courtroom it was only a few hearings were recorded and uploaded. As of March 2020, only about 200 recordings of hearings were uploaded to the YouTube Channel (*(1) Poder Judicial Chile - YouTube,* 2020). This number is insignificant compared to the total number of videos uploaded in 2017, amounting to four thousand (see Figure 40).

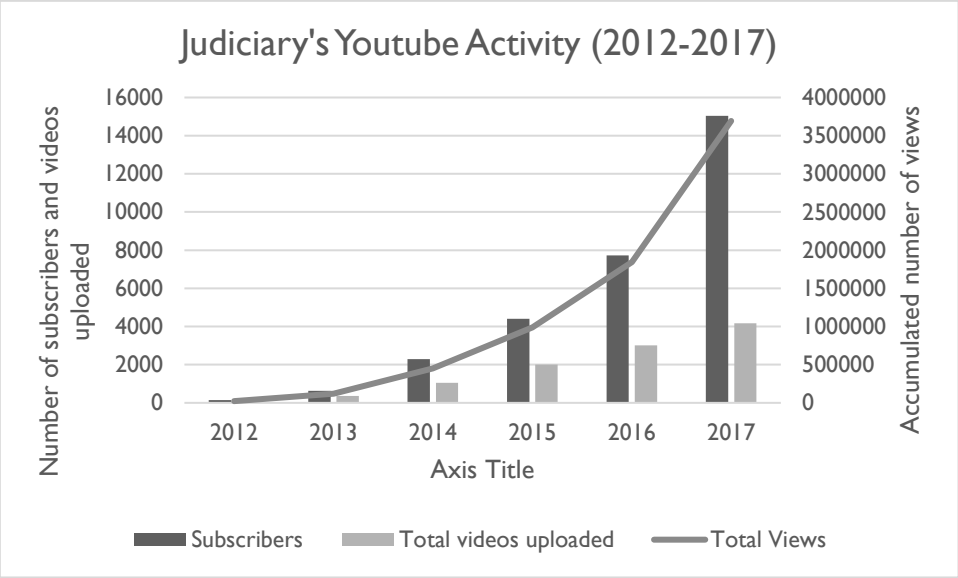


Figure 40. *Chart showing the accumulated number of subscribers, videos uploaded, and the number of views of videos from the official YouTube account of the judiciary between 2012 and 2017.*

The digitally enabled practices of recording online hearings created a resonance by making it possible for every court to get their hearings recorded and uploaded. This digital generativity created an explosion of video recordings of hearings and uploads, counting one thousand between March 2020 and October 2022 (Poder Judicial Chile, 2022a). This number represents ca. 90% of the total uploads in the Playlist Hearings of the judiciary's official YouTube channel. The number and the geographical diversity in the courts which have their hearings recorded and uploaded are significant.

However, not everything can be uploaded to YouTube.

As shown in the previous genealogy, "Posting Justice on Social Media", since 2013, the Judiciary has had a centralized social media and communication strategy, using different digital platforms as they become relevant: Facebook, Twitter, YouTube, and Instagram. This long-term effort helped the judiciary create a strong base of followers, mostly communicating judicial news and as a crisis "intelligence" source. Furthermore, monitoring social media is used in the judiciary to anticipate potential crises or high-profile cases and create a communication strategy around them.

Managerial: "We prepare monthly reports or crisis reports. So those crisis reports, every week, there is a contingency analysis group that is made up of the two superiors of the Communications Directorate that they bring, what they collect from social media, also what they collected for us. They take that information and analyze it in that contingency group". (Communications Directorate)

With that data, the communications directorate decides what content to publish and which trials to stream live. In the identified high-profile cases on social media, the Communications Directorate put together an ensemble of technologies to reach the largest audience live. Similar to the experiences shown in the previous genealogy "Streaming Judges Online- Live!", the Communications Directorate streamed online hearings hosted in Zoom by integrating them into Facebook Live and YouTube.

Digital: "Zoom Video Webinars allow users to conduct large-scale online events, such as town hall meetings, workshops, and marketing presentations. Up to 100 panellists with full video, voice, chat,

and content sharing are able to communicate to over 10,000 view-only attendees. Zoom Video Webinars include features, such as Q&A, reporting, invitations, and CRM and marketing automation software integrations. **It also easily integrates with Facebook Live, YouTube, and other custom streaming services, providing access to large bases of viewers."** (Zoom's annual filing to the SEC, 2019)

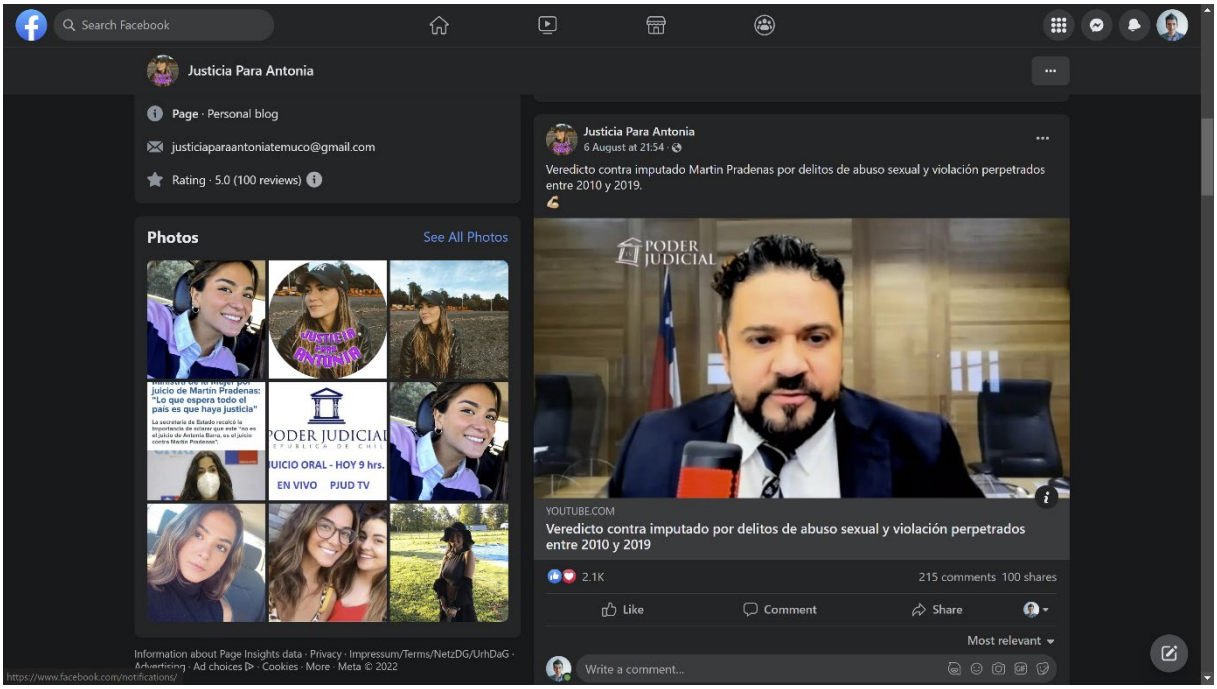


Figure 41. *A Facebook page created to support the movement Justicia para Antonia shares a publication of the judiciary's official YouTube channel, with the recording of the hearing that communicated the decision about the case.*

With these technical integrations across platforms, the judiciary created a digital ensemble that gives great outreach to large audiences. Among the reasons to integrate them into Facebook Live was because this is where "things were happening". In this sense, the activity of the community of users on Facebook resonated with the digitally enabled practices of streaming hearings via social media. For example, a Facebook page created to support the movement Justicia para Antonia, the victim of violence against women that resulted in her death, shared publications of the judiciary's official YouTube channel, linked to the recording of the hearing that communicated the decision about the case (see Figure 41). Sharing the Facebook posts of the judiciary by users and groups is particularly important to explain how streaming an online hearing reached a peak of 1 million viewers across social media platforms. For that, it is crucial to look at the entanglement of the judiciary with communities of users in materialising the possibilities offered by Facebook.

The visibility of this case was aided by two of Facebook's features, which are beyond the well-known possibility of posting information, following other users, and sharing posts. These two specific features are **customized profile picture frames** and **hashtags**. These two technical possibilities add extra layers to the entanglement of digital justice. First, the purple ribbons on Facebook profile pictures are possible thanks to a Facebook feature that allows adding a frame to the profile user. The purple ribbon has been used among other causes and social movements, to raise awareness of violence against women. This is how the feature works.

Digital: "To add a frame to your Page's profile picture:

Go to www.facebook.com/profilepicframes.
Click your profile picture in the bottom left and select your Page.
Search for a frame by entering the frame's name, the creator's name or related words.
Choose the frame you want to use from the results.

Click Use as profile picture."(*How Do I Add a Frame to My Page's Profile Picture on Facebook? | Facebook Help Centre*, 2022)

The second feature is the hashtags, i.e., #JusticiaParaAntonia #LeyJusticiaParaAntonia #AlertaMorada According to Facebook's Help Centre, this is how the hashtags work:

Digital: "Hashtags turn topics and phrases into clickable links in your posts on your personal timeline, Page or groups. This helps people find posts about topics they're interested in. To make a hashtag, write # (the number sign) along with a topic or phrase and add it to your post." (*How Do I Use Hashtags on Facebook? | Facebook Help Centre*, 2022)

Figure 42. *Screencapture of Facebook activity of the page JusticiaParaAntonia.*

With these digitalized communication practices, the judicial practices are entangled with social movements' interests and causes, materialized in the possibilities offered by the social media platform: posting, sharing, liking, commenting, using hashtags, and changing their profile picture frame (see figure 42).

The increased interest in judicial cases on social media is part of a more significant phenomenon beyond the struggle against violence against women. In the words of a member of the Communications Directorate:

Individual: "I think it is like a more social phenomenon and that it comes hand in hand with the social explosion that took place in Chile and that suddenly people began to have as a citizen culture and civic culture. And as everything together and related to the feminist movement, several of the audience that we had enough public were issues related to gender and the conflict here [in Chile] the Mapuche conflict. I would say that the large audiences that have had more audiences have to do with that, with feminism or gender, with the Mapuche and with the social conflict that there was in Chile, which are audiences that I said are ultra polarized. So yes, people are interested in the subject and follow it. So I think that it is like the high public interest that was suddenly generated in these kinds of processes as well. " (Communications Directorate)

The case concerning the movement Justicia para Antonia was decided on August 6, 2022. The accused was declared guilty and sentenced to 20 years in prison (Poder Judicial Chile, 2022b).

Legal: This judicial case pushed a new law project to include a series of amendments to the Criminal Code, the Code of Criminal Procedure and other laws for *dignified treatment and safeguarding the life, physical integrity, and sexual indemnity of the victims*. It also seeks to avoid the situations of revictimization, which arose as a result of the case of Antonia Barra. During its processing, this project also incorporated the type of induction into suicide and femicide suicide (Ley para Antonia). The law project initiated on August 4, 2020, was approved on August 30 by Congress and is only pending its publication to take effect (Senado, 2022).

This digital platform has been crucial to making justice closer to citizens while at the same time raising new tensions which remain in a liminal space. That is the case with all the content and digital material produced and uploaded to YouTube. Once it is uploaded, control over such media is lost. What happens or what could be done with the content uploaded to YouTube are questions that the judiciary or the law still needs to figure out – together with the technology, no doubt. Specifically, YouTube's licensing agreement states:

Digital: "**Licence to YouTube**

By providing Content to the Service, you grant to YouTube and its Affiliates (including YouTube LLC, Google LLC and Google Commerce Limited) a worldwide, non-exclusive, royalty-free licence to use that Content (including to host, to make publicly available, reproduce, distribute, modify, display and perform it, taking into account the moral rights) for the sole purpose of operating, and improving the Service (including through the use of third-party service providers), and only to the extent necessary therefore." (Terms of Service YouTube)

The same license is extended to other YouTube users increasing the potential friction.

11.3.1 Latest state of affairs

As of September 2022, the judiciary's official YouTube channel had more than 10K videos uploaded, 1.1K corresponding to hearings. The practice has continued, and regulation is still pending.

11.4 Summary of Findings "Following Justice on YouTube": co-incidences, resonances, and frictions

In this case, to overcome the tension created by not being able to make online hearings public, the communications directorate turned to its social media channels, especially Facebook and YouTube. This practice reached a peak when an online criminal case hearing had over a million viewers following the hearing live. Tracing the genealogy of this event allowed me to reconstruct the entanglement between the social media activity of the judiciary and the social media activity of social movements interested in the case. This co-incidence created a resonance between the goal for transparency and publicity of criminal trials by the judiciary and the goal of social movements to seek justice in courts to fulfil their cause. Moreover, these resonances are facilitated by specific features of the digital platform, such as posting, sharing, and hashtags. The friction that remains unsolved relates to the ownership of the content uploaded to YouTube and its distribution online.

Co-incidences: the possibility to stream and permanently publish video recordings via YouTube and other social media channels came to fill the need to make judicial hearings public and transparent (especially in criminal courts).

Resonances: This co-incidence was aligned with court practices online, especially hosting hearings via Zoom, which allowed a swift integration with social media platforms to publish the recordings.

Together with that, the publications of the judiciary were amplified by the activity on social media by users with a particular interest in the published cases.

Frictions: the remaining frictions come from the lack of regulation of the activity of the judiciary on social media. Moreover, the influence that certain groups can exercise on the courts over social media also raises tensions regarding the independence and impartiality of judges.

The six agencies in this genealogy were characterized by:

Digital: Facebook Live (to stream) and YouTube (to publish) is integrated with Zoom (to record).
Physical: Anywhere, with a smartphone or digital device with an internet connection
Judicial: Communication strategy approved by the Supreme Court on 2018
Legal: Criminal hearings must be public.
Individual: users and their communities support the diffusion of the judiciary's publications on social media.
Managerial: the Communications Directorate coordinates uploading the video recordings to YouTube.

CHAPTER XII

12 DISCUSSION OF DESIGNING FOR DIGITAL JUSTICE

From the last five genealogies, the entanglement of digital justice and its novel materializations during the pandemic are in line with recent literature on the digitalization of courts. In particular, as shown in Genealogy A) Delivering justice from home, digital technologies enabled remote work in courts while showing the fragility of the working conditions and the use of virtual private networks (Dias et al., 2021; Kettiger & Lienhard, 2021). Also, similar to the experiences traced in Genealogy B) Videoconferencing justice, digitalization efforts made possible videoconferencing judicial hearings (Sanders, 2021; Sorabji, 2021). The Genealogy C) Posting justice on social media relates to how the Court of Justice of the European Union leveraged social networks to communicate changes and engage with users via social media (Popotas, 2021). This practice is also related to the experiences shown in Genealogy D) Streaming judges online- Live! However, in the European Court of Justice, it materializes differently via Twitter (Popotas, 2021).

In contrast, in the Chilean courts, it materialized via FacebookLive. The last Genealogy E) Following Justice on YouTube shows the practice of streaming hearings live to ensure publicity of hearings. This practice was also enacted in a few jurisdictions like the UK and Norway, while others opted to facilitate access to interested parties and press to the videoconferencing meetings (Sanders, 2021). The detailed genealogy of the materialization of the court's practices during the pandemic offers a rich account of the agencies at play in configuring e-justice and digital justice (Contini & Lanzara, 2014; Lanzara, 2014).

The Research Questions guiding Designing for Digital Justice are:

RQ1: What are the conditions of possibility through which court's practices materialize in digital innovations?

RQ2: What characterizes the tensions emerging from digital innovation processes in highly legally regulated judicial procedures and practices?

RQ3: What characterizes new possibilities for designing and intervening in justice systems created by novel configurations of digital justice in courts?

Based on the three Research Questions, the discussion section is separated into three sections: a discussion on digital transformation and organization, a discussion on liminal innovation, and a discussion on design research and practice. Each discussion section is followed by the theoretical contributions related to the section.

12.1 DISCUSSION DIGITAL TRANSFORMATION IN COURTS

In the detailed account of the genealogy of the practices, the digital platform provides novel conditions for their materialization. It was possible to trace how a series of innovations kept the judicial system running, fulfilling the continuous delivery of the service. In the wake of COVID-19, the continuity of the service was a critical issue when access to courts was limited to safeguard the health of cut members and users. Courts faced the tension between not having the proper digital infrastructure to work from home and the push from certain groups to call for a "judicial holiday" until the pandemic was over. This apparent existential tension could have been the end of the story. The suspension of all activities in the form of a "judicial holiday" by the judiciary would have created a social crisis besides the one generated by the virus.

However, the notion of public service prevailed, and the continuity of the service was prioritized. In this sense, many of the innovations introduced to the Oficina Judicial Virtual were born from the bottom and made it to judiciary-wide implementation. This process did not only take place across the different branches of the judiciary but also within courts. A rush to set up the Court to work remotely using digital means followed. Designing for Digital Justice shows several examples of how the Chilean Courts used a decentralized approach to innovate, in most cases without much planning.

The innovations performed by the judiciary as shown in detail in the genealogies, are undoubtedly remarkable. Yet, its effects on the courts go beyond the present pandemic situation, both in the past and future. Designing for Digital Justice further elaborates on its findings in light of the related literature.

12.1.1 The wake of the third wave of digitalization during COVID-19 in courts

Throughout the genealogies, there were always paths to trace the new practices to previous waves of digitalization (Tilson et al., 2010; Yoo et al., 2010), be it in the 2000s or the 2010s with the e-Proceedings platform. However, differently. Previous local and transitory enactments were as a pilot project (remote work), the winner project in an internal innovation contest (using videoconferencing platforms in courts), social media as a communication channel repurposed into attention to users, or recording hearings and uploading them to YouTube. These materializations of the practice and all the innovations in courts are re-enactments of the previous materialization of the practice. During the pandemic, in the wake of the third digitalization wave, these materializations happen at a larger scale creating a generative mash-up of digital technologies.

Because of the previous waves of digitalization, the judiciary found itself at the beginning of the pandemic in an ongoing liminal process (Mertens, 2018; Santuber et al., 2021). With the previous digital transformation efforts, especially the organization-wide introduction of the mandatory e-Proceedings, the courts' practices and social media activity were already materializing in forms not contemplated by the judicial and legal regulation. In line with previous research, during this crisis, the intra-action of agencies enacted configurations that often seemed out of context. In court, they needed to "hack" and creatively solve the lack of material and digital infrastructure, which resulted in practices outside the regulation. However, these configurations are not exclusive to emergencies but are also seen in pre-liminal phases and respond to the performativity of colliding agencies from previous waves. In this sense, in courts during times of stability, "despite accurate planning, the ways in which agency circulates and performative utterances are transmitted often suggest improvisation, path dependency, ad hoc problem-solving and even some randomness" (Contini, 2014, p. 336).

However, it is essential to note those ways agency circulates, and the corresponding materialization of the practice leaves traces. There are no "temporary solutions" in a rigid judiciary system. For example, what the courts did during the civil unrest crisis in 2019 affected and defined the possibilities for materialising the practices during the pandemic. The sociomaterial configurations are built on those developed for the previous crisis. In Barad's words, "matter remembers" (2007). Organizations and institutions, infrastructures and procedures have memory. This memory enfolds them and defines them based on previous enactments. In this sense, "memory is the enfoldings of space-time-matter written into the universe, or better, the enfolded articulations of the universe in its mattering. [...] And remembering is not a replay of a string of moments, but an enlivening and reconfiguring of past and future that is larger than any individual" (2007, p. ix).

Thus, what the courts are doing today, in the wake of the third wave of digitalization in Chilean courts, is paving the path of what they will become. It is the court becoming. Organizations and institutions, infrastructures and procedures have memory. It is the digital materialization of the court's practices becoming. However, the ways agencies are figured out together are by no means deterministic but respond to the performativity of colliding agencies. In this regard, based on our empirical evidence, I theorize that the enactment of configurations, even if it is only to overcome immediate pragmatic or

tactical tensions, it is part of a dynamic relationship between the organization that is ceasing to be and becoming and through this historical process figuring what matters. Even if what matters and not is no longer enacted by the judicial and legal regulation but by the digital agency. In Karen Barad's words, "memory is the enfoldings of space-time-matter written into the universe, or better, the enfolded articulations of the universe in its mattering. [...] And remembering is not a replay of a string of moments, but an enlivening and reconfiguring of past and future that is larger than any individual" (2007, p. ix). With their practices materialized remotely via Zoom, Facebook and YouTube, the judiciary is re-figuring its *core* without the intention or even notice. However, since it is always becoming, it is not a matter of stopping but directing it by creating novel regulations.

Arising from pragmatic and tactical tensions triggered by the pandemic and the mobility restrictions that followed, these novel materializations of the practice put pressure on the legal and judicial regulation to include them.

12.1.2 The materialization of court practices during the pandemic creates friction among digital, judicial, and legal agencies.

While the digital agency fills the gaps of non-existing regulation, it also pressures the judicial and legal to stay relevant. This friction is because the materialization of the practices overfloods the scope of the regulation. In a certain way, the judicial regulation works similar to a spell: "The court may hold the hearings via videoconference". With that spell, a whole set of digital innovations was set in motion. The court practices materialized based on the possibilities of existence provided by Zoom and social media platforms. The dominance of digital conditions is also reflected in how staff members answered how they conduct hearings: "We use Zoom". Like magic words, a simple "we use zoom" satisfies and provides a full array of implicit details on how the hearings were performed. Because Zoom was developed for other purposes than conducting court hearings, the practices materialize at a distance, far from the materialization in the courtroom. This distance, or alterity between practices, forced the judicial and legal to "catch up". In this sense, each digital technology deployed by the judiciary comes with a complete package of relations and forms in which the practice materializes.

The pragmatic and tactical tensions overwhelmed the regulation by materializing the court's practices in ways beyond what the legal and judicial have regulated.

Developing novel legal and judicial regulation: This is the case of the first and second wave of digitalization, especially with the creation of the e-Proceedings platform, the law 20.886 of 2015, the Act-71 of 2016, and the Judicial Virtual Office developed by the Administrative Corporation of the judiciary. The introduction of electronic proceedings in all courts pushed the Supreme Court to regulate the materialization of that new practice. These conditions were provided by the possibilities of digital technologies, specifically the safe electronic exchange of documents and valid e-signature. In the genealogy "Delivering Justice from Home", the judiciary had already created a new regulation for remote work. During the two years before the pandemic, this new materialization of the practice was being studied and discussed, resulting in the regulation being drafted. With imminent limited access to the courts by staff members, the regulation was approved and took effect. Thus, by developing new regulations, the judicial agency exercises its power, and the novel configurations remain under the coordination of the Supreme Court.

That was not the case with the Genealogy b) Videoconferencing Justice, in which there was no regulation prepared, thus legal and judicial were pressured to include novel forms, such as videoconferencing hearings. The adoption of technology during the pandemic differed from how technology is adopted in long-term planned e-justice. From our interviews, video and legal document analysis, the process is inverted following an implementation-followed-by-regulation instead of the traditional regulation approach followed by implementation. This inverted process is possible, partly due to the liminality in times of the pandemic leading to different materializations of the practice. Major changes in the sociomaterial environment over-excite the intra-acting agencies, generating more

configuration possibilities, thus giving space to innovation. Rapid change occurs in expected and unexpected ways, embracing some new technologies and discarding others. I found that this multiplicity of configurations and colliding agencies, each court enacts and defines its own working routines and practices, might create more complexity that affects the systems' usability. However, with the adoption of specific digital technologies across courts, those materializations are somehow uniform, even if different from the judicial regulation. This finding aligns with research on long-term ICT development in courts (Contini & Cordella, 2015).

The most significant difference between the previous digitalization waves in the judiciary (the 2000s and 2010s), was the regulation-implementation logic was inverted. Except for remote work, all other innovations were carried out within the legal and judicial frameworks but without specific regulations.

When introducing new technologies, members of the practice face a dilemma of whether to freely exploit the features of the digital medium and perform new procedures and objects that may benefit the practice or to "maintain the stability of familiar legal objects and procedures as much as possible, that is, transpose them into the new medium and try to make them work" (Lanzara, 2014, p. 23). Our findings show that digital infrastructures and procedures gave court members stability in times of high uncertainty. Thus, and since the goal was above all the continuity of the service, online courts homologue analogue procedures to fit digital possibilities. On the other hand, the digital agency introduced new objects and procedures, without intentional action from the court members. Law and technology, as two regimes encountered competing rivalry (Kallinikos, 2009a), however, the legal and judicial did not put much resistance and let the digital and managerial agencies take over the coordination of the practices. In this regard, Designing for Digital Justice's findings show that in times of crisis, the technology regime aided -even guided- and set a basis for the legal one to act on.

However, it also undermined the authority of legal and judicial agencies. These small innovations with a strong local component – what works for the specific groups, and how can we do with what we have – allowed the courts to learn from experimenting with these possibilities. Moreover, digitalization is not built overnight but as a sedimentation of historic enactments at the institutional, procedural and infrastructural levels.

Expanding legal and judicial regulation: to match new forms of hosting hearings online in the Genealogy b) Videoconferencing Justice the new materializations of online hearings were further regulated by the Supreme Court via Act and the law. Legal and judicial try to include such materializations of the practice by extending the regulation.

In this apparent vacuum, digital agencies take over and displace legal and judicial regulation (increasing the liminality of the situation, see next section discussion on liminality). A different story emerges with genealogies C) Posting justice on social media, D) Streaming judges online- Live!, and D) Following justice on YouTube. For these cases, the regulation was unwritten for years, and when the Supreme Court had the chance to regulate it in 2018, it missed the chance under the self-serving diagnosis based on the numbers of followers and likes that it was a successful and impactful practice that needed no further comments.

Displacing legal and judicial regulation: in the cases of social media use, the materialization of the court's practices and communication went far enough to be excluded by the regulation which originally regulated the Communications Directorate. This is also due to the lack of proper regulation of social media activity, which rendered the legal and judicial agencies irrelevant.

These configurations, guided by digital possibilities, are enacted in friction with the judicial agency. In the case of videoconferencing tools, in the civil courts, because of a text-based procedure (written exchange of arguments), the practice is enacted by transposing traditional objects and procedures to fit the digital agency. Those transposed configurations are often performed by choices taken out of the existing courts' landscape, giving place to stronger individual agency.

The novel materialization of the court practice exceeds the scope of the legal and judicial regulation, leaving it out. In turn, since the materializations do not comply with the regulation, the practices are excluded from the regulation.

However, since digital technologies constitute a competing normative regime, there was never a lack of regulation but a *displacement*. In this regard, digital technologies help the user navigate a highly fragmented system – every court is like a self-organizing unit. The high diversity in practices among courts adds to the complexity of these emergent online courts. However, practices needed to merge by channelling their procedure into the material and digital infrastructures. This intra-acting of agencies (i.e., material agency and digital agency) uniforms the procedural aspects not regulated by the law and judicial body.

Chasing down the novel materialization of the judicial practices on Zoom, remote work, Facebook, and YouTube, the legal and judicial regulations try to patch a system to allow it to keep rolling. Extending the special circumstances for another year, even when the original paradoxes due to the pandemic are no longer in effect. Thus, to prevent s collapse of the system by reverting to the new practices the law gives extra time — one year (end of November 2022). Together with that, the law makes small fixtures here and there, to adapt to the new material conditions supporting the practice. However, in their regulation, the law and judicial agencies fall short and appear weak.

Thus, the pattern shifts and innovations enacted to overcome the pragmatic and tactical tensions create an existential tension over the judicial agency. This is, it creates the conditions for practices to materialize in ways that are not within the scope of the regulation.

12.1.3 As an ensemble, digital technologies pose an existential tension to the courts' judicial and legal agencies.

While each digital materialization of the practice aimed at solving pragmatic and tactical tensions, considered as a whole it challenges the traditional judicial governance. Furthermore, the consideration as an ensemble is not conceptual bit material. Because of the different digital technologies used, Zoom, Facebook, and YouTube are technically integrated —i.e. the Genealogy E Following Justice via YouTube. These technical integrations create an ensemble of technologies which can subjugate other agencies such as the judicial.

The Courts' social media strategy paid off during the pandemic time. However, the increased relevance of social media gives them more power in the judiciary. This has several consequences that undermine democratic processes. The possibility to engage directly with the citizens has been used to bypass the traditional press, which had served as a way of speaking truth to the state's power and the judiciary. In this regard, having direct access to citizens allows them to frame the news in a way that is favourable to the judiciary, taking over a role traditionally played by the press and journalists. This affects the practice of control and scrutiny that the press has over governments and could give the courts a monopoly over the communication of their news.

By increasing their followers base on social media, amounting to thousands of followers, the judiciary maintains a tight grip on the flow of information to citizens from a centralized social media office in Santiago. Furthermore, the authority given to the courts, and their judges to solve disputes is delivered by a communication team. In this sense, Courts being online put social media platforms at their fingertips, exploring and exploiting them according to their goals.

In line with previous research, as an ensemble or assemblage of technologies, the digital materialization of the court's practices seems to take a life on its own. Working remotely, placed the practices in a highly digitalized context. This eased the exploration of platforms generativity, in the sense that judges now became easy to be in front of a computer and record their actions, be it a hearing or a program. Then the file could easily be transferred to the communications directorate to be uploaded to Facebook, and YouTube. Moreover, the possibility of integrating Zoom Webinar with Facebook Live

and YouTube opened up new possibilities related to engaging with end users on social media – in real-time. These assemblages of technologies, create dynamics that reproduce the assemblage drifting from the original regulation (Demetis & Lee, 2018). Paraphrasing Haraway, in the relationship between the digital ensemble and the judiciary, is no longer clear who is making whom (D. J. Haraway, 1997).

Because of the suspended judicial and legal regulation, and the transitory filling in of the digital, the normativity of the system is malleable. In this regard, the following years will be critical to the hope of having s better system that makes better societies.

Within this existential liminality, a unifying element emerges. This configuration is dominated by the purpose of the judiciary, to provide access to justice effectively and promptly. The notion of continuity of service as a fundamental driver enfolds the practice of online courts during pandemics. This is tightly related to the discussions on the legal profession as a public service, which some argue will disappear with the introduction of technologies (Susskind, 2008). However, our findings show that in the judiciary, technology enables the fulfilment of the values of the legal and judicial agency in the short term –continuity of the service to ensure access to justice. Thus, the design, development, and adoption of digital technologies, need to resonate with the fundamental values of the legal profession. In this sense, our findings, fit more recent -and certainly more optimistic- narratives on adaptive legal professionalism and digital technology, described as framing legal work in certain agreed-upon values such as access to justice and the rule of law, driven by a purpose, bridging theory and practice in a holistic sense (Webley et al., 2019).

12.2 Discussion Liminal Innovation in Courts

The experiences and stories from court members in Chile collected in Designing for Digital Justice are liminal hotspots which created instantiations of small-scale innovation. The liminal situation of passing from everyday office work to home office and in-person hearings to online hosting of hearings suspended the normativity of their practices and regulation. The uncertainty generated because of the pandemic made space for micro-innovations that were critical to the continuity of the service. As seen in the Genealogy, practices, norms, and roles are suspended, and boundaries become blurry. This opens spaces for new practices and ways of doing things that were not possible in a pre-pandemic configuration.

12.2.1 Digitalization and Liminality

The e-Proceeding reform (2015) in the Chilean Courts represented significant steps towards digitalising document exchange. Yet, many of the practices remained unaffected by the changes, such as the civil courts. Thus, it was a hybrid system, using digital means with a process dating 108 years back. While this was a big stride towards the electronic government, the public service employees were dealing with incremental infrastructure and process developments needed to enable the transition to online services.

A pre-pandemic liminality feature in the Chilean courts is where the judiciary members installed the Court's platform on their private computers. Another example of liminality before the COVID-19 crisis is the VPN access configuration. Although this work protocol was already in place since 2019, not all court employees were allowed to use it as it contradicted dominant rules dictating work from the office. This led to a polarization among the different sectors depending on the openness and flexibility of the management, hence employees swaying between working from the office and using VPN access only when explicitly instructed to work from another location.

When COVID-19 hit, it intensified the liminality already in place as the courts were neither fully digitally configured nor fully reliant on paper and in-person interactions. Their digitalized practices were in between, so when the crisis caused an unprecedented suspension of normativity, they were forced to either reconfigure their digitalized practices for public services to prevail or fall paralysed under the

weight of the challenge (Greco and Stenner 2017). The Genealogy exhibits a series of shifts in digitalized practices whereby public sector employees quickly adopted new practices and regimes and experimented with new ways of doing (Mertens 2018; Orlikowski and Scott 2021). This aspect of liminal innovation is centred on the courts' employees' ability to simultaneously enact the pattern shift while staying as a liminal practice.

The digital agency materializes practices outside the regulation and coordination scope, creating friction between agencies. The pattern shift or innovation is only possible when legal and judicial agencies resonate with the practice by including novel materializations. Building on the research on waves of digitalization (Tilson et al., 2010; Yoo et al., 2010) and the digital undertow (S. Scott & Orlikowski, 2022), this is achieved by developing new regulations or extending the current regulation to match and include new practices. This is seen in the cases of remote work, in which the court developed extensive regulations that structured the practice's materialisation at home, as shown in Genealogy A) Delivering justice from home. Extending the regulation was done in the case study B) Videoconferencing justice, in which the supreme court allowed to use videoconferencing platform, leaving the details open. Due to the ongoing liminal situation with time, legal changes came to fix certain tensions in practice, like verification of identity in videoconferences.

Alternatively, by the practice materializing in ways closer to the regulation. This is the case with the refurbished Oficina Judicial Virtual or the Conecta.Pjud project.

After a year of many isolated innovations sprouts, the Chilean judiciary integrated its service into one unified platform launched on the go. These integration attempts of the ensemble of technologies are seen in the new platform of the Virtual Judicial Office, launched on April 2021. The same attempt of "tidying up" the multiple digital communications channels operated by the Communications Directorate is seen in the project Conecta. Pjud. It takes an extra step when digital communication channels rematerialize in novel ways by repurposing hardware and physical spaces in courts. This is achieved by creating "physical-virtual windows" on the court's counter.

12.2.2 Risk of liminal permanence and displacement of legal and judicial regulation

Courts leveraged social media tools in two main ways for internal and external communications. The judiciary used its existing base of followers to interact with citizens on the court's operations. This was reflected in the use of social media for internal purposes, replacing the intranet as the communication channel. While implementing this new channel to users, they tried out new formats by having judges on Facebook Live answer directly to questions posted by users.

Based on Horvath (2013), liminality is both a place of potentiality and a place of danger in modern organizations, cultures, and societies. Drawing on the experiences in Chilean Courts, I found that there is potential for liminality to become permanent, generating constant uncertainty (Horvath, 2013; Á. Szakolczai, 2017). Liminal permanence relates to displacing of regulation and coordination as a form of corollary effect of digitalization (Scott & Orlikowski, 2022). In the cases around social media, the practices, thanks to the generativity of digital platforms (Yoo et al., 2010; Zittrain, 2005) went quickly far from the judicial regulation. Moreover, the regulation in this specific matter is extremely concise – and utterly poor. The lack of correspondence between legal and judicial regulation and novel materializations of the practice is carried over.

The bundle of digital technologies (Zoom+ChatMessenger+FacebookLive+YouTube) allowed the judiciary to go overcome another liminal situation brought in by a legal change. Efforts to adapt to remote work show a series of shifts in practice. One example is the 10% of the pension funds, in which a financial aid measurement forced the judiciary to create online novel services. Furthermore, leveraging ready-to-use software like Zoom and their IT department, they were able to adopt the practices without interrupting the service.

12.2.3 Expanding Liminal Innovation Framework

Liminal theory and digital innovation. I have expanded the vocabulary and framework of liminal innovation (Mertens, 2018; Orlikowski & Scott, 2021) by translating from sociology concepts of liminal hotspots and permanence to account for critical and negative aspects of the liminal process in organizations (Greco & Stenner, 2017; Stenner et al., 2017; Szakolczai, 2017) a shown in Table 12.

Table 12. *Overview of contribution to liminal innovation theory.*

	Liminal Hotspots	**Liminal Innovation**	**Liminal Permanence**
Pragmatic Tension	Increase of uncertainty and tensions produced by difficulties in the materialization of the practice	Pattern shift resolving disturbances to the materialization of the practice while remaining open to change	Persistence of uncertainty due to difficulties in enacting novel practices
Tactical Tension	Ambiguity related to the viability of the practice causing the interruption of the practice	Enacting alternative possibilities for feasibility while experimenting with novel configurations of the practice	Ambiguity keeps the practice inviable and remains decoupled from the conditions of possibility
Existential Tension	Suspended the purpose of the practice, rendering it senseless	Repurposing the practice, providing a new "why" while remaining malleable	The core of the practice remains suspended, in constant uncertainty, unable to tune to the new conditions for its existence

Propositions in light of liminal innovation literature and corollary effects of digitalization – the undertow (S. Scott & Orlikowski, 2022):

1. **Pre-pandemic digitalization efforts during the 2000s and 2010s (the first and second wave of digitalization)**: The digitalization of the judiciary presents features of liminality that are increased in the context of uncertain external situations (pandemic). For example, audio recordings of criminal trials (first wave), the e-Proceeding platform and social media (second wave). The corollary effect was developing legal and judicial regulation, which was done during the first and second waves.
2. **PARADOX**
3. **Hotspot:** Materializations of the practice are excluded/fall out from the legal and judicial regulation and coordination. Courts should leverage rapid digital technology adoption in these situations to prevent paralysis. Corollary effects, expanding legal and judicial regulation to include new materializations of the practice. For example, using Zoom to hold hearings and social media monopolises communications with users. However, to achieve long-term solutions, the judiciary needs to enact purposeful regulation (judicial) and necessary technical development (digital) to avoid the risk of the permanence of exceptional solutions.
4. **The pattern shifts:** Materializations of the practice from the hotspot are innovated into new configurations together with the regulation and coordination of legal and judicial agencies. The corollary effect here is re-developing new legal and judicial regulations according to the novel materializations of the practice. For example, the Civil Justice Reform Project (Chile, April 2021) and the unified services in the new Oficina Judicial Virtual. Alternatively, the novel excluded materializations can reconfigure themselves back into the scope of the regulation, such as in the case of Conecta.Pjud and Punto.Pjud, in which the chaotic ensemble of digital communications channels, was restructured in a one-stop virtual window (Conecta.Pjud) and rematerialized into physical modules to better serve users with low or no accessibility to digital technologies (Punto.Pjud).

5. **Permanence:** The materializations of the practice enacted during liminal hotspots are carried over, perpetuating the mismatch between practices and regulation/coordination. This poses an existential tension to the judiciary, as the legal and judicial regulation is at risk of being excluded (or self-excluded) from the materializations of the practice. The corollary effect displaces legal and judicial regulation and coordination due to its incapacity to include novel materializations of the courts' practices. For example, social media engagement with users via Facebook, FacebookLive, ChatMessenger, Instagram, Twitter, and YouTube.

Table 13. *Summary of theoretical contribution and propositions*

Phase	Adaptive Process	Corollary of Digitalization	Example
P1: Pre-pandemic digitalization efforts during the 2000s and 2010s (first and second wave of digitalization)	The digitalization of the judiciary presents features of liminality that are increased in the context of uncertain external situations (pandemic)	Developing legal and judicial regulation	Audio recording of criminal trials (first wave), e-Proceeding platform and communication strategy with social media (second wave)
Paradox			
P2: Hotspot	Materializations of the practice are excluded/fall out from the legal and judicial regulation and coordination	Expanding legal and judicial regulation to include new materializations of the practice	Zoom, social media monopolizing communications
P3: Pattern shifts	Materializations of the practice from the hotspot are innovated into new configurations together with the regulation and coordination of legal and judicial	Re-developing legal and judicial regulation according to the novel materializations of the practice	Civil Justice Reform Project (Chile, April 2021), Unified Judicial Web Platform, Conecta.Pjud
P4: Permanence	The materializations of the practice enacted during liminal hotspots are carried over, perpetuating the mismatch between practices and regulation/coordination	Displacing legal and judicial regulation and coordination due to its incapacity to include novel materializations of the courts' practices.	Social media engagement with users, streaming

12.3 DISCUSSION DESIGNING FOR JUSTICE

The DoE framework resonates with the tensions and paradoxes originating from the digitalization of court practices -pragmatic, tactical, and existential. Each tension can be reworked by introducing changes at the corresponding dimension of engagement. In this regard, pragmatic tensions can be worked through by changes in touchpoints and usability. Tactical tensions can be addressed by reconsiderations of the functions and use-case scenarios. Furthermore, existential tensions can be dealt with by intervening in the core of the practice and in its networks (see Figure 43).

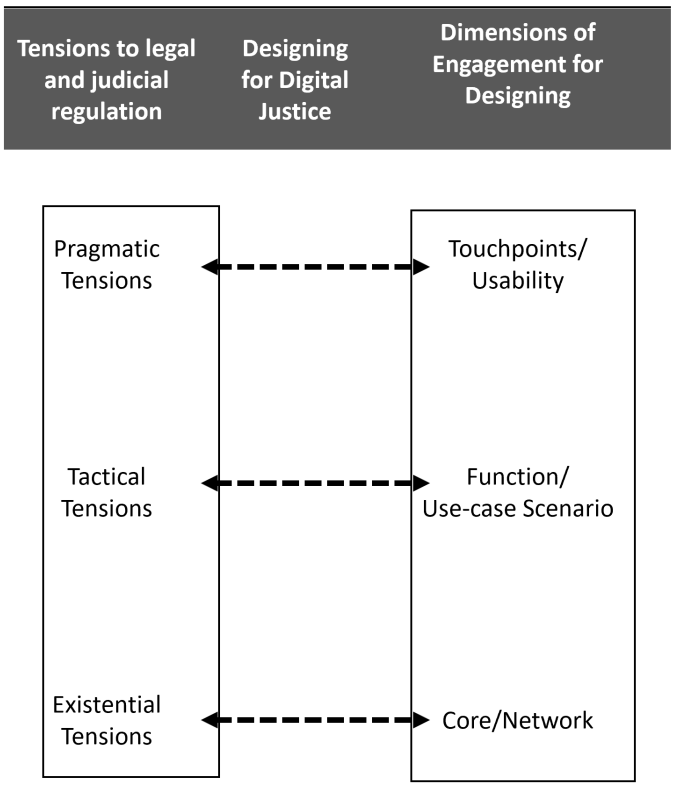


Figure 43. *A diagram showing the correspondence between the three levels of tension and the Dimensions of Engagement framework provides opportunities for designing for justice.*

Each one of the agencies represents a field of possibilities for the designer to intervene in the courts' practice. And each of the dimensions of engagement is shaped by the political qualities of the agency. This is illustrated in Figure 44, as a Process Model of the genealogies and theorizing on the relation between hotspots (Stenner et al., 2017), tensions (Orlikowski & Scott, 2021), dimensions of engagement (J. Edelman, 2011), and agencies.

Building on existing theories, the model can be extended to the macro scale, such as the waves of digitalization (Yoo et al., 2010) and the corollary effects of them -the digital undertow (S. Scott & Orlikowski, 2022).

In times of rapid technology adoption, the courts can rely on material and digital agencies to complete the planning -when there is no time to plan. In this situation, technology is a lever that helps structure a practice in circumstances of uncertainty and lack of time to plan and prepare. In some way, technology "completes the last mile" to enact the practice. In this sense, technology transforms institutional settings, procedural roles, and software codes "guide the actions of judges, lawyers and clerks" (Contini, 2020, p. 11). Digital technologies serve as a generative vehicle for the emergence of intra-acting sociomaterial practices to counter impediments of pandemics. Likewise, individual agency is resourceful -knows in the doing- and finds ways to compensate for the lack of planning and regulation in the wake of exceptional situations. Thus, a weakened judicial and legal agency in a period of uncertainty gives space for individual passion and creativity to flourish. However, it is central to organizations that agency is driven by a shared purpose and values.

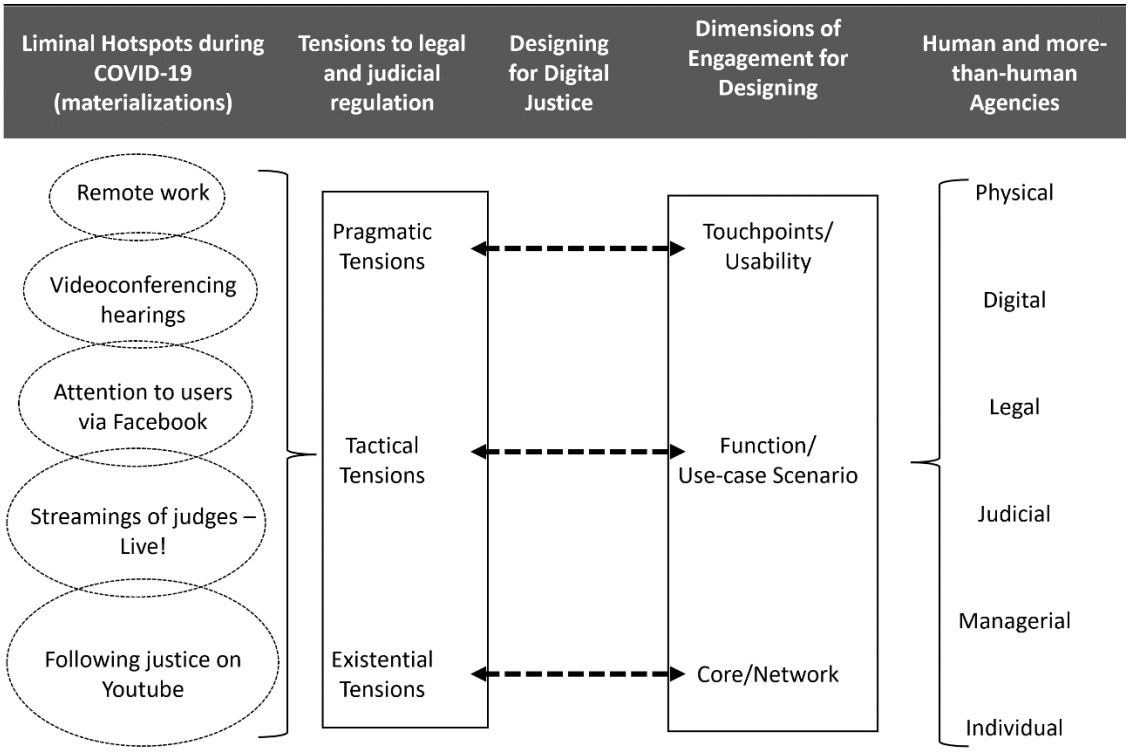


Figure 44. *Process Model of case studies and theorizing on the relation between hotspots, tensions (Orlikowski & Scott, 2021), dimensions of engagement (J. Edelman, 2011) and agencies.*

12.3.1 Designing for Digital Justice Model

In this sense, I conceive design as a *performance*, defined as seeing the world as a field of possibilities and acting on it with skilful action (Edelman et al., 2021). In turn, I understand theories and knowledge as practical. They are not possessed by the designer but are realized in their situated activities, committed to materials and their social worlds (Gherardi, 2020). In this sense, a constant intention of this work is to embrace the theorization of our practices and also practice with theories (Feldman & Orlikowski, 2011). For designers, theories and theorization are a way to create new distinctions in the perceptual field to act on it differently (Jung et al., 2011). Therefore, seeing, imagining and designing alternative futures for justice is only possible if we consider alternative perspectives and theories on digital justice. This is true not only for theories but encompasses ways of creating knowledge and ways of being in the world: epistemologies and ontologies.

In the justice context, policy frameworks, guidelines, directives, goals, and objectives define people-centred justice, people-centred justice, and e-justice. However, they all share an abstraction of what people-centred justice is. Although it has made substantial progress in the study of access to justice, the world of law has not been able to generate the necessary inputs for the practice of design. In this sense, dominant legal discourses take materiality for granted. However, translating the necessary changes to the justice system into people's daily lives is only possible if the materiality sustains it is reworked (Orlikowski, 2007). This makes it possible to understand how justice as other services "materializes in particular times and places through particular practices, and how this ongoing enactment configures specific limits, properties, meanings, and differences, and with what implications" (Orlikowski and Scott, 2015, p. 12).

The Designing for Digital Justice Model put the findings in relation to the literature on the topic of waves of digitalization (Yoo et al., 2010), the digital undertow (S. Scott & Orlikowski, 2022), and the dimension of engagement for designing as performance framework (J. Edelman, 2011). Specifically, it shows how the third wave of digitalization in courts, characterized by digital recombining manifested in the form of hotspots. Each of these hotspots was reconstructed through the genealogies. Following

the previous model, each tension can be addressed by intervening at the corresponding level. Each one of these dimensions of engagement, is a configuration of human and more-than-human agencies. These agencies are in turn coordinated by forms of regulation, via the development, expansion or displacement of regulation (see Figure 45).

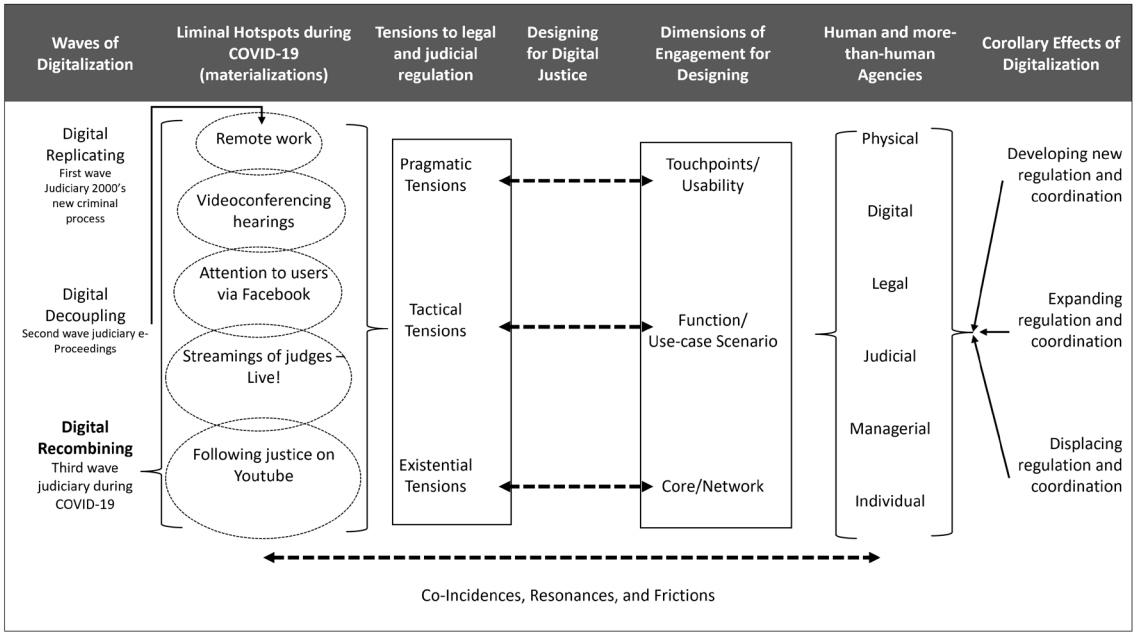


Figure 45. *Designing for Digital Justice Process Model of findings in relation to the literature on the topic of waves of digitalization(Yoo et al., 2010), the digital undertow(S. Scott & Orlikowski, 2022), and the dimension of engagement for designing as performance framework (J. Edelman, 2011).*

12.3.2 Implications for Designing for Justice and Legal Design

Previous literature argues that judicial systems are hard to change because of their thick normative status. However, with the pressure of digitalization, those normative walls are brought down, entering a phase of radical transformation. Radical innovation is related to the core of a business or organization, as our existential tensions are. In this case, with weaker judicial ad legal agencies, the ground is ripe for the transformation of the judiciary. In this liminal context, a design opportunity emerges. The existential tension to the judicial and legal agency posed by the digital and managerial opens a window for change. Yet, it must include all agencies. This is where legal design can help.

Design practice deals with the material culture and is biased towards building and creating artefacts that can be experienced. This is the now commonplace word *prototype.* A prototype is a projection, an early or prefiguration of a solution or design output. A key characteristic of prototypes is to have materiality –not just thoughts or ideas—which is accessible through our bodies. It can be experienced and tested. An important remark related to testing a prototype is that it helps the design team learn something previously impossible without the prototype's existence. The most important contribution of a prototype to a design process is to raise new questions and eventually provide new answers from the design scenario. For example, a prototype in civil Courts about a new notification system using a popular instant messaging service such as WhatsApp would raise many questions that were only thinkable in the experience. Nothing can beat the stubborn reality no matter how good a team of designers is at mapping novel scenarios.

We need to be wary that methodological uniformity brings about the same interventions over and over again. For an early nascent community, diversity and plurality must be embraced at the beginning to be a part of its spirit and not just a force of resistance. This effort demands going beyond connecting

law and design. It demands bridging our practices and research with other fields such as philosophy, sociology, and anthropology and the intersections from those fields — i.e., design philosophy, legal anthropology, and sociolegal studies. Critical approaches to the law (critical legal studies) and design (critical design) offer many concepts and tools to question our habits and propose new ones.

In recent work, I have positioned legal design and designing for justice as a community of post-disciplinary and nomadic practices and studies, emphasizing its epistemological and ontological freedom (Santuber et al., 2019; Santuber & Edelman, 2022a, 2022b; Santuber & Krawietz, 2021a). Imagining what is possible in Legal Design practices and studies is limited and enabled by what is possible within the envelope encompassing the worldview we adopt, including the theories within it. Thus, expanding our field of possibilities for Legal Design requires us to expand the theoretical repertoire we use. In this sense, each theory serves as a lens through which we look, and these lenses, in turn, provide actionable signals and possibilities to act in the field of justice. A solid collection of lenses offers more ways to see the world as a field of possibilities and a rich repertoire for performing in the world with diverse abilities.

Moreover, the way of conducting research in this complex society in which digital transformation occurs, begins with a "respect for the complexity of a linguistic structure that we inhabit but do not control [...] Writing, even and especially academic writing, has to challenge and destabilize, intrigue and empower" (Braidotti, 2014, p. 166).

At the same time, the theories we use, shape our academic output. Therefore, it becomes an ethical imperative to fully disclose and be transparent regarding the theories, knowledge and worldviews that produced the research results and discussions. Only by expanding our repertoire of theories, frameworks and models we can better redesign the justice systems for a more just society to the "extent that writing is committed to exposing the structural injustices and constitutive exclusions of this view of the subject, writing, as an intransitive activity, is inherently political and explicitly ethical." (Braidotti, 2014, p. 166).

This is also an answer to the call by Santos which he calls the "waste of experience"(Santos, 2015). People's experiences are incommensurable and cannot be reduced to one common perspective. There is so much out there, more than we will ever see, read, listen to, or watch. And yet, we still rush into proposing quick solutions that nurture the egos of creative geniuses. The invitation is to design from, with and for the communities as proposed in the design-justice, epistemologies of the south and ontological design approaches.

Designing for Digital Justice and my engagement with heavy theoretical concepts and framework is also a response to the shallowness of some design practices, the disregard of expertise and theoretical knowledge. Designing is generally biased towards action and doing, yet it should not lose the contemplative examination. In turn, legal studies have a historical bias towards theorizing, writing, and abstract sense-making, yet they should embrace the active practices of doing and acting in the world.

The methodological advancement is an invitation to leverage the richness of theories and practices around us —and especially around those we are designing with and for. Accepting this invitation to design with theories opens a space where we can create differently and embraces differences. Only by embracing this plurality can we start imagining alternative futures for justice.

Let us leave the last question for further thought in courts and elsewhere in this digital era:

> "Technology is the answer, but what was the question? (Cedric Price, 1966)

CHAPTER XIII

13 CONCLUSIONS OF DESIGNING FOR DIGITAL JUSTICE

In Designing for Digital Justice, I have presented the remarkable efforts of the Chilean judiciary during COVID-19. As the President of the Supreme Court mentioned, the service's continuity was only possible because of the important steps towards digitalizing the judicial work and proceedings. Without digital technologies available at the beginning of the year 2020, the story told on these pages would have been completely different.

In a large scope, this digitalization process of the judiciary in the early 2020s is characterized as a third wave of digitalization, building on the first wave (2000s) and second wave (2010s). The rapid adoption of digital technologies and the conversion of analogue procedures into digitally mediated procedures happen within a larger ensemble of technologies used by the judiciary, i.e., social media platforms. Building on a large literature base on e-justice, digital transformation and organization studies, and design research, Designing for Digital Justice characterized the conditions of possibility for those digitalized practices to materialize. I have identified six agencies which play a defining role in how those novel practices come to be. Those agencies are physical, digital, legal, judicial, managerial, and individual. Leveraging concepts and frameworks from posthuman research, those agencies form a configuration of human and more-than-human agencies.

Based on the six agencies identified using grounded theory approaches, I moved onto a genealogical approach to characterize how these agencies came together (**co-incidences**), aligned and increased their performativity (**resonance**), and collide, creating mismatches between them (**frictions**). In the form of five genealogies, I detailed how the different agencies provided the material conditions for novel judicial practices enacted during the pandemic.

The contributions of Designing for Digital Justice can be summarized as follows:

Practical: In Designing for Digital Justice, legal design practitioners will find a clear framework to intervene and reconfigure justice systems. The Designing for Digital Justice process model provides a set of entry points to redesign judicial systems.

Methodological: Using a genealogical approach, Designing for Digital Justice advances in bringing the different agencies into the writing, keeping their "voices". By using data excerpts, from various sources, in the genealogies is possible to grasp the languages in which those agencies communicate, i.e., the forms of the law are different for the language used in an update release note of a digital platform.

Theoretical: In line with recent literature, Designing for Digital Justice theorizes that:

1) In the digitalization of courts, pragmatic and tactical tensions, while overcome with digitally enabled pattern shifts, create an existential tension, creating the risk of rendering traditional agencies such as the judicial and the legal irrelevant, more specifically:
   a. The wake of the third wave of digitalization during COVID-19 in Chilean courts
   b. The materialization of court practices during the pandemic put pressure on the judicial and legal agencies to adjust to them.
   c. As an ensemble, digital technologies pose an existential tension to the courts' judicial and legal agencies. With this, legal and judicial regulations are displaced by the regulation of digital technologies.
2) Designing for Digital Justice expands the vocabulary and theoretical framework, contributing to liminal innovation and providing better research tools to fellow researchers. I theorize 4 phases in the relationship between organizations and digitalization:

a. the pre-digitalization phase which gives place to the development of regulation around technology – it may also refer to previous waves of digitalization.
b. the hotspot of digitalization which gives place to extending the existing regulation to include new digitalized practices.
c. liminal innovation which implies the re-development of the regulation (moving to a new pre-liminal phase), capturing the new practices by coordinating them.
d. the permanence of temporal practices with the corollary effect of displacement of regulation by the normative capacity of digital technologies.

3) Designing for Justice: I have theorized that each agency – physical, digital, legal, judicial, individual and managerial, has dimensions of engagement for design (J. Edelman, 2011), which are related to diverse types of tensions:
   a. Touchpoints/Usability <-> Pragmatic Tension
   b. Function/Use-case scenario <-> Tactical Tension
   c. Core/Network <-> Existential Tension

From a long-term perspective, the findings and contributions of Designing for Digital Justice will be precious when designing digital courts in the future. In addition, by outlining how the required adoption of digital technology affected judicial work routines and practices, policymakers and decision-makers can counteract the unintended effects that allow easier access to justice in times of crisis.

13.1 Limitations of Designing for Digital Justice

Multiple case studies within one context by studying in depth. While this approach provided rich and deep accounts of the phenomena, comparing experiences in other jurisdictions and countries is hindered by the availability of research on the topic produced by colleagues. In this regard, the comparison to other experiences remains shallow, limited to the verification that similar practices and technologies were enacted to overcome the challenges imposed by the pandemic. However, an account which allows us to compare how each jurisdiction came to enact the practices in the way they did has not been published. I hope that this doctoral work inspires fellow researchers to inquire about the genealogy of the -before the pandemic unthinkable- practices that courts around the world enacted in a matter of days and weeks.

Moreover, while a pandemic presents unique opportunities to study innovation in real time, it also has limitations. Despite following the developments in Chilean courts for over two years and a half (30 months), it remains unclear how well the materializations of the courts' practices change once the health concerns are over. It is safe to say that in Chile, the restrictions have eased (facemasks are no longer required in public spaces), and the population, in general, has no mobility restrictions, yet the courts in Chile are still working with half of their staff from home. The time will tell if a return to full presence-work in courts is possible or if there will be hybrid situations permanently as suggested by some authorities. At the time of writing these last sentences, in November 2022, the northern hemisphere is preparing for a COVID-19 resurge.

Another limitation comes from the scope of courts' operations and the procedural aspects of justice. Much research is needed to understand the impact of the digitalization process and the quality and fairness of court decisions. While I argue that justice and the courts are performed in sociomaterial practices, quantifying how those new practices affect users' lives with their binding decisions. In terms of speed and quantity, thanks to digitalization, courts have those numbers at their fingertips. Yet, this is just one parameter defining the quality of justice.

The decision to study the Chilean judiciary has bits of opportunity, luck, and personal commitments, as shown in the motivation section. However, this focus comes at a cost. In terms of comparing these experiences with other cases, Chilean courts have their special peculiarities, contexts, and history. This makes the case certainly not a pristine lab setup with control variables. On the other side, my closeness

to phenomena gave me insights hard to find for a newcomer or an "outsider". As exposed in the research methodology, my underlying commitment to this research is to have a positive and transformative impact on courts, specifically on Chilean courts. Formed and trained as a lawyer in Chile, I share with other legal professionals the agreed-upon values of our profession, such as access to justice, the rule of law, and, ultimately, social peace. Thus, my research perspective needs to be understood under that overarching set of values. Research conducted from different disciplines would have focused on different aspects, perhaps with different values belonging to their disciplines, and eventually producing different results and theorizing.

A limitation on the aspects related to the ontologies in which legal, judicial and design narratives operate. In this sense, while building on a post-human approach from organization studies, the basis for access to justice and design research and practice is still rather human-centric (design) or people-centric (new dominant narrative in justice projects), ontologically speaking. In this research, as well as previous publications (Santuber & Edelman, 2022a; Santuber & Krawietz, 2021a), I have started to raise awareness of the need for ontologies that account for more than the human in the ways the pillars of our modern societies lie, such as the justice systems.

13.2 Future Research – New Opportunities After Designing for Digital Justice

With the perspective –and data—that time provides, it is very important to understand the relations between the rapid digitalization of courts and access to justice. Are digital technologies making justice more accessible? Either way, how is that happening? Moreover, it is relevant to further understand the effects that a displacement of judicial and legal regulation has on making justice more accessible to people. It is unknown if digital and managerial logic will improve our justice systems or will erode them, damaging democratic processes and society as we know it.

Moreover, more research needs to address the quality of the court decisions and the eventual changes caused by the digital materialization of practices in hearings, as in certain procedures like criminal trials, oral hearings are the situations in which evidence is conveyed by the parties and appreciated by the judges.

A comparative study with other forms of conflict resolution outside the judiciary, such as Alternative Dispute Resolution (ADR), such as private mediation and arbitration and Online Dispute Resolutions (ODR), such as those out in place by large digital corporations such as e-Bay (Katsh & Rabinovich-Einy, 2017). These cases are particularly interesting because, in both, the judicial regulation and coordination have been displaced by design. Meaning that those systems were conceived to operate outside the judicial (to a high degree) and legal regulation (to a lower extent). Thus, the existential tensions posed by the digitalization of court practices in the judiciary may find co-incidences with the ADR and ODR mechanisms of dispute resolution. Moreover, while it is hard to conceive the judicial agencies removed from courts, other forms of coordination and regulation have proven successful in business and family matters via ADR and ODR.

Moreover, another focal point of interest is the international courts because they do not have national constitutional ties in judicial governance. However, they still have judicial regulations that coordinate and articulate the practices. This could be a potential area of research.

In the field of organization and information systems, much research is needed to understand the effects of legal and judicial regulation on the processes of digital innovation. These effects can be studied at a national level or supranational level, i.e., the EU. Continuing with the research on standards, a deeper account of the structuring capacity of legal and judicial agencies in the digital transformation of organizations is due. I hope this research, and especially the detailed account of how such type of regulation is entangled with digital innovation processes, can inspire fellow researchers to tap into the transformative power of law and courts of justice.

In terms of design research and practice, to truly open the strategic potential of justice systems to serve societies, more nuanced approaches and methodologies are needed to account for the non-human part of the world/worlds we live in. In this regard, designing for other-than-human ontologies can help to overcome the challenges and crises brought about by the Anthropocene (Tironi et al., 2022). Thus, legal design, as an evolving corpus of studies and practices, should leverage existing post-human design approaches (Tironi et al., 2020; Tironi & Hermansen, 2018a). Embracing such approaches requires their translation into justice and legal contexts to fit the particularities of the field.

13.3 Final Remarks

This crisis presents a unique challenge for our society today while, at the same time, an opportunity to look at the future of work in the legal field, specifically in courts. Courts play a central role in society. Therefore the adoption of new technology in their work affects not only a technical-material dimension but an individual, social, legal and judicial dimension. In this regard, I have taken a sociomaterial perspective on the phenomena of online courts during pandemics. Hence, my focus was on the work practices and routines in the courthouse, a place where a social value such as justice is entangled with infrastructural, procedural, and institutional complexity. Understanding how these entangled agencies affect and are affected by each other is key to designing an e-justice that serves the citizens and society.

The experiences of the Chilean judiciary are remarkable. What strikes me the most about Chilean courts, and their practices is that despite the high level of uncertainty they continue to enact small innovations in their practices. This is reflected in a very telling quote from the Supreme Court justice, director of the innovation committee of the judiciary. He referred to the innovation efforts in the Chilean courts as in a classic Western movie similar to the Wild West: "with no money and no law!".

The grand challenges of our times, framed in the UN Sustainable Goals demand from us researchers and practitioners to expand our repertoire of tools and theories. Accounting for more than human agencies goes in that direction. Grasping the entanglement between people, law, and technologies in the courts contributes to placing back the relation between us humans and all-non-human things. Through la *maraña* we can descend to these depths, and overcome the swift cut of the Gordian knot. By doing that, we can acknowledge the thick network of relations that makes us who we are as individuals, society, and the planet.

Justice is a performance, and so is design. As such, the practice of Designing for Digital Justice is a way of figuring out together with more-than-human how this entanglement or *maraña,* ought to be. By doing so, we can begin to imagine alternative futures and work towards fair, just, and timely justice.

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15.3 BOOK CHAPTERS

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16 APPENDIXES

16.1 APPENDIX A: INTERVIEW QUESTIONS

Intro:

Which position do you currently hold?

How long have you been working in this position and what are the main responsibilities?

Pre COVID-19:

1. Could you describe a typical day on the job of being in your role (judge/defendant/prosecutor)?
2. Could you tell me about some experiences you've had working in the judicial system?
3. Could you give me an example of that?

During COVID-19:

1. Could you describe a remote court session you have been part of?
2. Could you tell me about a personal experience you have had working in remote courts?
3. Could you give me an example of that?

[Shift to online courts]

1. Could you describe how information about going digital in the justice system was delivered to you?
2. Which steps did you have to take to take part in digital court settings?

Questions about the social

1. Please explain how online work is implemented in the organizational structure of the court.
2. Why remote work using online tools was put in place in the judicial system?
3. How have remote courts changed your work routines and practices and why?
4. What were the pre-existing factors that supported establishing online hearings in the courts?
5. Which governance mechanisms helped set up remote court work?
6. What is the role of the IT department (if there is any) in the successful use of online systems?

learning questions

1. Which capabilities are critical to the successful functioning of remote courts?
2. Are there any traditional capabilities that are modified because of online court work? Or do certain capabilities gain in importance?
3. Does your organization have an online/tech-friendly culture?
4. Has such a tech-friendly culture been implemented/promoted in the past or is it recognizable? Which characteristics are recognizable?
5. What are the challenges that you face because of this new work mode?
6. Are the remote courts' work welcome among other lawyers in your group, or are there any resistant forces recognizable in the office?

Questions about the technical aspects

1. What technologies are used in this context and why was this technology chosen?
2. What are the most valuable functions and features and why?
3. To what extent does the use of virtual work technologies affect your work routines (efficiency, distribution of work)?

4. How is technological access to virtual collaboration platforms and resources provided?
5. How are the new practices communicated to other members of the team or other collaborators?
6. Are there specific technical challenges? technical potential?

Wrap-up questions:

To finish the interview, is there something you would like to add? technical challenges? technical potential?

In a nutshell, how does technology-enabled remote work change your work practice and routines?

16.2 APPENDIX B: INTERVIEW QUESTIONS SOCIAL MEDIA

Bringing Justice Closer to Citizens: Use of Social Media During COVID-19 in the Judiciary

Interview Questions:

Introduction:

1. What position do you currently hold in the Judicial Power?
2. How long have you been working in this position and what are the main responsibilities?

Pre COVID-19:

1. Could you describe a typical day at work in your role before COVID-19?
2. Could you tell me about any experience that catches your attention, that you had working in the court system before COVID related to the use of social media?
3. Could you give me an example of this? (if you don't give an example on your own in the previous question)

During COVID-19:

1. Could you describe a typical day working in remote courts during COVID?
2. Could you tell me about a personal experience you've had working with social media during the Pandemic?
3. Could you give me an example of this? (if you don't give an example on your own in the previous question)

Implementation and use of social networks

1. Could you describe how you were given the information about the justice system's use of social media?
2. What steps did you have to take to participate in the court's use of social media?

Questions about social/organizational aspects during COVID

1. Please explain how the use of social media has been implemented in the organizational structure of the court.
2. Why are social media used in the court system?
3. How have the courts changed their work routines and practices from the use of social media? Why?
4. What were the pre-existing factors that supported the use of social media in the courts?
5. What mechanisms of internal administration were useful for the development of social networks in the Judiciary?
6. What is the role of the IT department (if any) in the successful use of social media?

Questions about learning aspects

1. What skills are critical to the successful functioning of remote courts?
2. Are there traditional skills and abilities that are modified due to the work of online courts? Or do certain skills gain in importance?
3. Does your organization have a "pro-social media" culture?
4. Has a digital culture and social media been implemented or promoted in the past or is it recognizable? What features are recognizable?
5. What are the challenges facing the use of social media in the PJUD?
6. Is the use of social media welcome among officials and lawyers of the Judiciary, or is there any recognizable resistance force?

Questions about the technical aspects (more specific)

1. What technologies/networks/platforms are used in this context and why was this technology/network/platform chosen?
2. What are the most valuable functions and features of that technology/network and why?
3. To what extent does the use of teleworking technologies affect your work routines (efficiency, work distribution)?
4. How is technological access to networks/platforms and resources provided/provided? And to the users?
5. Are there specific technical challenges?

Closing and summary questions:

1. To end the interview, is there anything you would like to add? Technical challenges? Technical potential?
2. In short, how does the use of social networks change the work, mission and position of the Judiciary in society?

APPENDIX C

16.3 APPENDIX C: CODING TABLE

	digital agency	individual agency	judicial agency	legal agency	managerial agency	physical agency	Totals
Digitalization	0	129	115	107	909	0	1260
Emotions	0	27	0	0	0	0	27
Innovation	0	0	0	0	109	0	109
Liminality	0	133	0	0	0	0	133
Principles of Digital Justice	0	66	13	10	175	0	264
Social media	0	0	0	0	33	0	33
Sociomateriality	0	148	0	0	8	0	156
Time	0	90	0	0	0	0	90
Totals	0	593	128	117	1234	0	2072

APPENDIX D

16.4 APPENDIX D: CODING TABLE OPEN FIRST ROUND

	digital agency Gr=481 ; GS=5	individual agency Gr=918; GS=55	judicial agency Gr=232; GS=19	legal agency Gr=136; GS=8	managerial agency Gr=2409; GS=26	physical agency Gr=0; GS=1	Totals
○ **access Gr=494**	0	65	38	20	357	0	480
● **access to documents Gr=4**	0	4	0	0	0	0	4
● **access to users' contact data Gr=1**	0	1	0	0	0	0	1
● **accessible justice Gr=223**	0	21	13	10	175	0	219
○ **adapatations learning Gr=3**	0	3	0	0	0	0	3
○ **adapting old practices to new available digital infrastructure Gr=2**	0	2	0	0	0	0	2
○ **adapting procedures to videoconferencing configurations Gr=3**	0	3	0	0	0	0	3
○ **adoption resistance Gr=3**	0	3	0	0	0	0	3
○ **affective network configuration Gr=12**	0	12	0	0	0	0	12
○ **affective reconfiguration Gr=3**	0	3	0	0	0	0	3
○ **age gap challenge Gr=5**	0	5	0	0	0	0	5
○ **also email introduced as a daily report Gr=1**	0	1	0	0	0	0	1
○ **alternative to traditional development Gr=3**	0	3	0	0	0	0	3
○ **alternatives of communication and control Gr=2**	0	2	0	0	0	0	2
● **ambiguity of judicial agency Gr=1**	0	1	0	0	0	0	1
● **ambiguity of legal agency Gr=1**	0	1	0	0	0	0	1
○ **analogue practices Gr=1**	0	1	0	0	0	0	1
● **archive Gr=1**	0	1	0	0	0	0	1
○ **asynchronous work Gr=1**	0	1	0	0	0	0	1
● **at the office easier to solve problems Gr=1**	0	1	0	0	0	0	1
● **backlog eating Gr=1**	0	1	0	0	0	0	1
● **capabilities Gr=1**	0	1	0	0	0	0	1
● **centralized decision of changes Gr=1**	0	1	0	0	0	0	1
● **centralized external requirements Gr=1**	0	1	0	0	0	0	1
● **challenging Gr=6**	0	6	0	0	0	0	6
● **change in norms Gr=2**	0	2	0	0	0	0	2
○ **change in roles and work distribution Gr=2**	0	2	0	0	0	0	2
○ **change postponed because of crisis Gr=1**	0	1	0	0	0	0	1
● **changes on the fly Gr=4**	0	4	0	0	0	0	4

○ **chat WhatsApp is preferred over email because faster and more flexible Gr=2**	0	2	0	0	0	0	2
• **citizens agency Gr=7**	0	7	0	0	0	0	7
○ **clothes Gr=2**	0	2	0	0	0	0	2
• **collaboration Gr=4**	0	4	0	0	0	0	4
○ **communication is done using a metallic tray that is brought into the judge chamber Gr=1**	0	1	0	0	0	0	1
○ **communication via social media Gr=2**	0	0	1	0	0	0	1
○ **complex modular system Gr=1**	0	1	0	0	0	0	1
• **computer Gr=148**	0	0	0	0	148	0	148
○ **configuration repertoire Gr=3**	0	3	0	0	0	0	3
• **connection problems Gr=1**	0	1	0	0	0	0	1
• **constantly under pressure Gr=1**	0	1	0	0	0	0	1
• **continuity of service Gr=79**	0	12	21	4	42	0	79
○ **crisis as a catalyzer of intra actions Gr=1**	0	1	0	0	0	0	1
○ **crisis skills Gr=1**	0	1	0	0	0	0	1
• **culture Gr=3**	0	3	0	0	0	0	3
• **decision making Gr=4**	0	4	0	0	0	0	4
• **delay affect the quality and success of the investigation Gr=1**	0	1	0	0	0	0	1
○ **design Gr=245**	0	0	0	0	245	0	245
○ **different physical places for hearings Gr=1**	0	1	0	0	0	0	1
• **digital Gr=155**	0	0	0	0	155	0	155
• **digital agency Gr=121**	0	107	0	0	8	0	115
• **digital folder Gr=2**	0	2	0	0	0	0	2
○ **digital setup support Gr=4**	0	4	0	0	0	0	4
• **digitization Gr=1**	0	1	0	0	0	0	1
○ **direct benefit of remote work Gr=1**	0	1	0	0	0	0	1
○ **distributed but centralized in the courtroom, now distributed across space and time Gr=1**	0	1	0	0	0	0	1
○ **distributed hearings Gr=1**	0	1	0	0	0	0	1
• **DIY set-up Gr=7**	0	7	0	0	0	0	7
○ **domestic roles Gr=3**	0	3	0	0	0	0	3
○ **due process Gr=2**	0	2	0	0	0	0	2
• **during-COVID19 Gr=32**	0	32	0	0	0	0	32
• **easy to get documents Gr=1**	0	1	0	0	0	0	1

○ **effects on people´s life Gr=1**	0	1	0	0	0	0	1
○ **efficiency Gr=249**	0	0	0	0	249	0	249
● **efficiency and speed Gr=2**	0	2	0	0	0	0	2
● **electronic Gr=473**	0	121	115	107	122	0	465
● **email Gr=3**	0	3	0	0	0	0	3
○ **emergent collision of agencies Gr=4**	0	4	0	0	0	0	4
● **emotional distance over videoconference Gr=4**	0	4	0	0	0	0	4
● **emotional embodiment Gr=4**	0	4	0	0	0	0	4
● **emotional self-care, limits Gr=3**	0	3	0	0	0	0	3
● **emotional training Gr=1**	0	1	0	0	0	0	1
● **emotional transfer Gr=1**	0	1	0	0	0	0	1
● **emotional workload Gr=4**	0	4	0	0	0	0	4
○ **empathy between leadership and teams Gr=1**	0	1	0	0	0	0	1
○ **enfolding Gr=9**	0	9	0	0	0	0	9
○ **enfolding crisis Gr=4**	0	4	0	0	0	0	4
○ **e-proceedings platform 2016 Gr=3**	0	3	0	0	0	0	3
● **even without having the folder, still we have to work Gr=1**	0	1	0	0	0	0	1
● **evidence Gr=14**	0	14	0	0	0	0	14
○ **example of adaptation Gr=1**	0	1	0	0	0	0	1
○ **experimentation Gr=3**	0	3	0	0	0	0	3
● **external communication Gr=19**	0	19	0	0	0	0	19
○ **external constraints Gr=1**	0	1	0	0	0	0	1
● **external liminality Gr=2**	0	2	0	0	0	0	2
● **facebook Gr=8**	0	0	0	0	8	0	8
● **fair procedural justice Gr=19**	0	19	0	0	0	0	19
● **fair substantive justice Gr=9**	0	9	0	0	0	0	9
● **family law Gr=1**	0	1	0	0	0	0	1
○ **financial resources Gr=2**	0	2	0	0	0	0	2
● **flexibility Gr=3**	0	3	0	0	0	0	3
● **folder Gr=1**	0	1	0	0	0	0	1
● **folder as an archive Gr=1**	0	1	0	0	0	0	1
● **formalities Gr=1**	0	1	0	0	0	0	1
○ **from decisions to interpretations in execution Gr=1**	0	1	0	0	0	0	1
○ **fundamental rights Gr=1**	0	1	0	0	0	0	1
○ **future Gr=3**	0	3	0	0	0	0	3

• gradual changes Gr=1	0	1	0	0	0	0	1
○ hard to communicate that the court is closed, the building but not the justice Gr=1	0	1	0	0	0	0	1
○ hierarchies Gr=1	0	1	0	0	0	0	1
○ home as a safe place Gr=1	0	1	0	0	0	0	1
• home as liminal space Gr=1	0	1	0	0	0	0	1
○ home lacks privacy Gr=1	0	1	0	0	0	0	1
• home-office Gr=9	0	9	0	0	0	0	9
○ human rights Gr=1	0	1	0	0	0	0	1
○ humanizing the role Gr=1	0	1	0	0	0	0	1
○ humour Gr=1	0	1	0	0	0	0	1
○ hybrid system office-remote Gr=3	0	3	0	0	0	0	3
• immediate changes Gr=2	0	2	0	0	0	0	2
○ increased future workload Gr=4	0	4	0	0	0	0	4
• individual Gr=3	0	3	0	0	0	0	3
• individual agency Gr=5	0	5	0	0	0	0	5
• individual agency private account zoom Gr=1	0	1	0	0	0	0	1
• individual agency, help from others to solve problems Gr=2	0	2	0	0	0	0	2
• informatics Gr=206	0	0	0	0	206	0	206
• innovation Gr=109	0	0	0	0	109	0	109
• instagram Gr=4	0	0	0	0	4	0	4
• internal communication Gr=8	0	8	0	0	0	0	8
• internal liminality Gr=2	0	2	0	0	0	0	2
• internal system Gr=2	0	2	0	0	0	0	2
• internet Gr=58	0	0	0	0	58	0	58
• investigation Gr=1	0	1	0	0	0	0	1
• judicial agency Gr=8	0	8	0	0	0	0	8
• judicial agency in shifting proceeding to videoconference Gr=3	0	3	0	0	0	0	3
• judicial agency independence in courts Gr=3	0	3	0	0	0	0	3
• judicial agency references from other practices Gr=3	0	3	0	0	0	0	3
○ jurisdiction vs administration Gr=1	0	1	0	0	0	0	1
○ Justice is also about good user experience Gr=2	0	2	0	0	0	0	2
○ key to success is the collaboration of all stakeholders Gr=1	0	1	0	0	0	0	1

○ **knowledge base Gr=1**	0	1	0	0	0	0	1
• **lack of digital infrastructure Gr=3**	0	3	0	0	0	0	3
• **lack of hardware Gr=1**	0	1	0	0	0	0	1
• **lack of legal agency replaced by judicial agency Gr=2**	0	2	0	0	0	0	2
• **lack of preparation to face emergencies Gr=1**	0	1	0	0	0	0	1
• **lack of remote work capabilities Gr=2**	0	2	0	0	0	0	2
○ **lack of resources, computers were taken from the office to the home office Gr=1**	0	1	0	0	0	0	1
• **lack of support on setup Gr=1**	0	1	0	0	0	0	1
• **lack of time to focus on cases Gr=1**	0	1	0	0	0	0	1
• **lawyer-client communication Gr=1**	0	1	0	0	0	0	1
• **layers of judicial agency Gr=1**	0	1	0	0	0	0	1
• **legal agency Gr=4**	0	4	0	0	0	0	4
• **legal agency falls short and there are other procedures not consider Gr=2**	0	2	0	0	0	0	2
• **legitimacy Gr=1**	0	1	0	0	0	0	1
• **liminal emotional labour Gr=10**	0	10	0	0	0	0	10
○ **liminal emotions Gr=1**	0	0	0	0	0	0	0
• **liminal goals Gr=18**	0	18	0	0	0	0	18
• **liminal hotspot Gr=22**	0	21	0	0	0	0	21
• **liminal innovation Gr=25**	0	23	0	0	0	0	23
• **liminal materiality Gr=4**	0	4	0	0	0	0	4
• **liminal permanence Gr=10**	0	10	0	0	0	0	10
• **liminal polarization Gr=15**	0	15	0	0	0	0	15
• **liminal practices Gr=4**	0	3	0	0	0	0	3
• **liminal roles Gr=1**	0	1	0	0	0	0	1
• **liminal strategies Gr=14**	0	14	0	0	0	0	14
• **liminal tension Gr=15**	0	15	0	0	0	0	15
• **liminal victims Gr=4**	0	4	0	0	0	0	4
• **liminality Gr=11**	0	11	0	0	0	0	11
○ **limited access to digital resources Gr=1**	0	1	0	0	0	0	1
• **limited emotional meaning-making Gr=7**	0	7	0	0	0	0	7
• **long documents Gr=1**	0	1	0	0	0	0	1
○ **look for alternatives to Zoom, and evaluate its performance Gr=1**	0	1	0	0	0	0	1

○ **material entanglement with physical materiality Gr=1**	0	1	0	0	0	0	1
• **materiality Gr=58**	0	58	0	0	0	0	58
• **measurements Gr=1**	0	1	0	0	0	0	1
• **more dynamic Gr=2**	0	2	0	0	0	0	2
○ **multilayers coordination Gr=3**	0	3	0	0	0	0	3
○ **multiple communication channels and lack of infrastructure Gr=1**	0	1	0	0	0	0	1
• **need to pass a detained person to courts Gr=1**	0	1	0	0	0	0	1
○ **negative emotion Gr=3**	0	3	0	0	0	0	3
• **new role and responsibility Gr=2**	0	2	0	0	0	0	2
○ **new role of the coordinator is more relevant now Gr=2**	0	2	0	0	0	0	2
○ **new role of the coordinator Gr=2**	0	2	0	0	0	0	2
• **not fulfilling formalities Gr=2**	0	2	0	0	0	0	2
• **official resolution Gr=3**	0	3	0	0	0	0	3
○ **old practices Gr=2**	0	2	0	0	0	0	2
• **online hearing Gr=4**	0	4	0	0	0	0	4
• **open & transparent justice Gr=10**	0	10	0	0	0	0	10
○ **oppor Gr=1**	0	1	0	0	0	0	1
• **opportune Gr=3**	0	3	0	0	0	0	3
• **opportunity to design new ways of communicating with victims Gr=1**	0	1	0	0	0	0	1
○ **opportunity to learn Gr=3**	0	3	0	0	0	0	3
• **opportunity to push digitalization Gr=5**	0	5	0	0	0	0	5
• **organization Gr=10**	0	10	0	0	0	0	10
• **over 200 pages of reports Gr=1**	0	1	0	0	0	0	1
• **overload of work Gr=1**	0	1	0	0	0	0	1
• **own computers Gr=2**	0	2	0	0	0	0	2
• **pandemia Gr=1**	0	1	0	0	0	0	1
• **paper-based folders Gr=9**	0	9	0	0	0	0	9
○ **pending reform of the civil system Gr=5**	0	5	0	0	0	0	5
• **perceived precariousness of the public office Gr=1**	0	1	0	0	0	0	1
○ **performativity of decisions Gr=1**	0	1	0	0	0	0	1
• **phone Gr=3**	0	3	0	0	0	0	3

• physical folder golden rule changed Gr=3	0	3	0	0	0	0	3
○ physical infrastructure chairs from the court Gr=1	0	1	0	0	0	0	1
• picking up evidence Gr=3	0	3	0	0	0	0	3
○ pilot program Gr=1	0	1	0	0	0	0	1
• platform Gr=96	0	0	0	0	96	0	96
• platform to request digital copies Gr=2	0	2	0	0	0	0	2
• police Gr=5	0	5	0	0	0	0	5
• portal Gr=88	0	0	0	0	88	0	88
○ positive emotions Gr=4	0	4	0	0	0	0	4
• practice & work routine Gr=18	0	18	0	0	0	0	18
• pre-COVID19 Gr=24	0	24	0	0	0	0	24
• pre-existing digital resources Gr=11	0	11	0	0	0	0	11
○ previous experiences Gr=4	0	4	0	0	0	0	4
• principles Gr=1	0	1	0	0	0	0	1
• priority cases Gr=3	0	3	0	0	0	0	3
• pro technology Gr=1	0	1	0	0	0	0	1
• proportionate justice Gr=11	0	11	0	0	0	0	11
○ Punctuated Gr=3	0	3	0	0	0	0	3
○ quality Gr=403	0	0	0	0	403	0	403
○ quantity vs quality Gr=1	0	1	0	0	0	0	1
• quick retrieval of information Gr=3	0	3	0	0	0	0	3
• radio Gr=12	0	0	0	0	12	0	12
○ randomness Gr=1	0	1	0	0	0	0	1
○ rationality over emotions Gr=1	0	1	0	0	0	0	1
• reason to shift to remote work Gr=7	0	7	0	0	0	0	7
• recording Gr=3	0	3	0	0	0	0	3
○ redefinition of the role of the judge Gr=2	0	2	0	0	0	0	2
• reduce the use of paper Gr=1	0	1	0	0	0	0	1
• reduced commuting time Gr=2	0	2	0	0	0	0	2
○ reduced workload Gr=1	0	1	0	0	0	0	1
○ reliability of digital resources Gr=2	0	2	0	0	0	0	2
• remote connection Gr=5	0	5	0	0	0	0	5
• remote teamwork Gr=3	0	3	0	0	0	0	3
○ remote work Gr=306	0	181	56	0	73	0	310

● re-victimization Gr=3	0	3	0	0	0	0	3
○ role Gr=2	0	2	0	0	0	0	2
● role liminality Gr=1	0	1	0	0	0	0	1
○ rumours about remote work Gr=1	0	1	0	0	0	0	1
○ screen sharing Gr=1	1	0	0	0	0	0	1
○ security concerns Gr=2	0	2	0	0	0	0	2
○ shared challenges Gr=1	0	1	0	0	0	0	1
● sharing files and photos virtually Gr=1	0	1	0	0	0	0	1
● shift to cover critical cases as an alternative to keeping service Gr=1	0	1	0	0	0	0	1
● shift-COVID19 Gr=34	0	34	0	0	0	0	34
● social Gr=12	0	12	0	0	0	0	12
● social agency Gr=2	0	2	0	0	0	0	2
● spotify Gr=2	0	0	0	0	2	0	2
● stakeholders can access the platform remotely Gr=1	0	1	0	0	0	0	1
● storage Gr=1	0	1	0	0	0	0	1
○ story Gr=2	0	2	0	0	0	0	2
● streaming Gr=7	0	0	0	0	7	0	7
○ suitcase Gr=1	0	1	0	0	0	0	1
● sustainable justice Gr=4	0	4	0	0	0	0	4
○ sustainability Gr=68	0	0	0	0	68	0	68
○ teaching how to take the online course to use the platform Gr=1	0	1	0	0	0	0	1
● teamwork Gr=4	0	4	0	0	0	0	4
○ technical department work overload Gr=1	0	1	0	0	0	0	1
● technology Gr=5	0	5	0	0	0	0	5
● technology (2) Gr=204	0	0	0	0	204	0	204
● tempo of legal agency Gr=1	0	1	0	0	0	0	1
○ tension Gr=0	0	0	0	0	0	0	0
○ the zoom link is now part of the judicial Gr=1	0	1	0	0	0	0	1
● tracking evidence handling like DHL Gr=1	0	1	0	0	0	0	1
○ transparency Gr=254	0	0	0	0	254	0	254
● transportation Gr=1	0	1	0	0	0	0	1
● tv Gr=5	0	0	0	0	5	0	5

● Twitter Gr=6	0	0	0	0	6	0	6
○ uncertainties Gr=2	0	2	0	0	0	0	2
● urgency Gr=1	0	1	0	0	0	0	1
○ user Gr=368	0	28	6	0	304	0	338
● user friendly Gr=1	0	1	0	0	0	0	1
● using zoom individual agency Gr=1	0	1	0	0	0	0	1
○ values Gr=2	0	2	0	0	0	0	2
○ values (2) Gr=11	0	0	0	0	11	0	11
○ values and purpose Gr=3	0	3	0	0	0	0	3
● victim protection Gr=2	0	2	0	0	0	0	2
● victims testimony in place Gr=3	0	3	0	0	0	0	3
● videoconference Gr=34	0	0	0	0	34	0	34
○ videoconferencing Gr=2	0	2	0	0	0	0	2
○ vision Gr=5	0	0	0	0	5	0	5
● web Gr=148	0	8	0	0	127	0	135
● wellbeing Gr=2	0	2	0	0	0	0	2
● WhatsApp Gr=105	0	91	0	0	8	0	99
○ WhatsApp as the prefered communication channel Gr=1	0	1	0	0	0	0	1
● working with paper-based folders for more than 20 years Gr=1	0	1	0	0	0	0	1
○ workload management Gr=2	0	2	0	0	0	0	2
● youtube Gr=5	0	0	0	0	5	0	5
Totals	1	1547	250	141	3598	0	5337