



Double normalization: When procedural law is made digital

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Abstract

The comparison of three e-justice platforms (EJP) leads to the identification of a common dynamic – called double normalization – which makes EJP development an institutional and constitutional issue, not just a functional one. The case study analysis of Trial on Line in Italy, e-Curia (Court of Justice of the European Union) and Kwaliteit en Innovatie rechtspraak in the Netherlands shows how EJPs, establishing the working environment for judges, lawyers, and clerks, create more powerful constraints than those provided by the law. The normalization carried out by legal standards to make judicial procedures predictable and homogeneous and grant equal treatment is supplemented by the digital working environment. Hence technology provides an

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additional layer of normalization, steering the behaviour of judges in predetermined directions and inhibiting other action pathways. The process challenges the right of the judge to interpret procedural law and require appropriate judicial governance mechanisms to safeguard fair trial.

Key words

e-justice; law and technology; fair trial; judicial reform

Resumen

La comparación de tres plataformas de justicia electrónica (PJE) conduce a la identificación de una dinámica común –llamada doble normalización– que hace del desarrollo de las PJE una cuestión institucional y constitucional, no sólo funcional. El análisis de los estudios de caso de Trial on Line, en Italia, e-Curia (Tribunal de Justicia de la Unión Europea), y Kwaliteit in Innovatie rechtspraak, en los Países Bajos, muestra cómo las PJE, al establecer el entorno de trabajo de los jueces, abogados y secretarios, crean limitaciones más poderosas que las previstas por la ley. La normalización llevada a cabo por las normas jurídicas para hacer predecibles y homogéneos los procedimientos judiciales y conceder un trato igualitario se complementa con el entorno de trabajo digital. Por lo tanto, la tecnología proporciona una capa adicional de normalización, dirigiendo el comportamiento de los jueces en direcciones predeterminadas e inhibiendo otras vías de actuación. El proceso pone en tela de juicio el derecho del juez a interpretar el derecho procesal y exige mecanismos adecuados de gobernanza judicial para salvaguardar un juicio justo.

Palabras clave

e-justicia; derecho y tecnología; juicio justo; reforma judicial

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1. Introduction

For the last 20 years, European justice systems have been making efforts to implement large-scale e-justice platforms (EJP) (CEPEJ 2016, 2021).¹ The platforms provide the full set of functionalities required to establish digital workflows within the court, facilitate cooperation with relevant stakeholders (such as court users, citizens, and lawyers), and enable the transition of judicial processes from paper to digital. Their functions include case and workflow management, e-filing, drafting, signature exchange and archiving of procedural documents, e-summons, and e-payment of court fees, just to mention their basic components (Borsari *et al.* 2021). In a nutshell, they are the digital environment in which judges, clerks and lawyers work (Lanzara 2014).

While literature has mainly focused on the reasons for the mixed results achieved by these systems (Reiling 2009, Lupo and Bailey 2014, Wallace 2019), the implications of their development on fair trial and judicial independence require further investigation. So far, the analysis of the impact of dispute resolution digitisation on fair trial and due process has focused mainly on AI, due to the issue of bias and accountability (DeBrusk 2018, Pégny *et al.* 2019), or on advanced online dispute resolution systems (ODR) (Katsh and Rabinovich-Einy 2017, Amsler *et al.* 2020, Schmitz 2021).

The original contribution of this work is to focus on standard court-based dispute resolution and discuss the effects of e-justice platforms on fair trial. The concept of double normalization is introduced to grasp the specific features of a system in which the constraints and guidance provided by procedural rules are moulded into a digital working environment. The normalization provided by legal standards, i.e. the traditional institutional arrangement designed to make judicial procedures predictable and homogeneous and grant equal treatment, is supplemented by technology. In its turn, technology provides a second layer of normalization, forcing the behaviour in given directions and inhibiting other action pathways. Establishing the working environment for judges, lawyers, and clerks, EJPs create more powerful constraints than those provided by the law. As observed in other domains, once digital working environments are in place, organisational actors are entrapped in an “iron cage” that strictly governs what can and cannot be done (Gosain 2004). These dynamics challenge the right of the judge to interpret procedural law since, with EJPs, software developers (or those who control the software) become the ultimate interpreters of procedural law. This digital transformation may put judicial discretion, independence and, ultimately, fair trial at risk and become an institutional and constitutional issue. Transforming software coding in law-making should not be allowed (Susskind 2019, 164).

The paper examines double normalization as an intrinsic effect of EJP deployment. It maps out its relations with the fair trial principle, focusing on judicial discretion and independence, hence as a judicial governance issue. Therefore, it considers EJP developed in three European jurisdictions with different judicial governance models. Technology development is assigned to the Ministry of Justice (Italy), the Judicial Council (the Netherlands) and the Court itself (Court of Justice of the European Union). In addition, having judiciaries with different governance models but in which similar values, particularly judicial independence, are promoted and protected also helps to

¹ Even if the phenomenon is global, the paper focuses on European judiciaries.

identify ways through which equality in the application of procedural law can be promoted while protecting judicial independence. The work has an analytical perspective and does not discuss whether double normalization has positive or negative effects on the administration of justice in general or the specific case studies.

The concept of double normalization, introduced in section 2, is discussed in section 3, considering how EJP guides and constraints the handling of proceedings. Section 4 analyses the three case studies. Section 5 maps out the implications of double normalization, focusing mainly on judicial discretion and fair trial.

2. The double normalization of court procedures

The legal framework is the first, ubiquitous technology of normalization employed in the judicial domain: it guides court operations and promises the predictability of procedure and equal treatment of parties to a case. The framework implies that when the same law is applied by an independent judge, uniform results are yielded, and this leads to all those involved in the proceedings being treated equally (Guarnieri and Pederzoli 2020). At the same time, the legal framework, consisting of procedural laws and regulations establishing work process,² is intended to provide an exhaustive set of information for clerks and lawyers to perform their duties during judicial proceedings. Hence, in the original model of courts and judicial procedures, formal rules are the quintessential institutional arrangement that guarantees the orderly, predictable, and just unfolding of court procedures (Shapiro 1981, 126). The administration of justice involves a pure application of procedural law coupled with the necessary interpretation of what law means in terms of actions and working practices.

Even a cursory examination of court operations reveals the limits of the institutional design. The capacity of the existing regulative frameworks to achieve orderly and consistent administration of justice is not absolute and is often considered unsatisfactory (Shapiro 1981, 156–6). The same rule, applied by different judges or by different courts, can lead to different procedures and thus result in inconsistent treatment of court users—*quot homines tot sententiae*³—or, as written by Voltaire, “il y a autant de jurisprudences que de villes; et dans le même parlement la maxime d’une chambre n’est pas celle de la chambre voisine”⁴ (Voltaire 1766/2019, Section XXIII). After more than 250 years, this picture has not changed.

Considering procedural law, the focus of this paper, the formal rules applied by independent judges on their own are not able to generate the desired uniformity of treatment that is understood as the equal application of the law. The same procedural law can result in filing procedures that vary from court to court (or even among the chambers of the same court), court fees being calculated using different criteria or

² Procedural rules and related regulations establish how lawyers, clerks and judges, must handle judicial procedures; hence they design work processes.

³ “There are as many opinions as there are people”, Latin proverb quoted by Terentius and Cicero, translation of the authors.

⁴ “There are as many jurisprudential orientations as there are towns; and in the same parliament the maxim of one chamber is not that of the neighboring one”, translation of the authors.

differences in the legal aid granted despite the single national legal framework (Verzelloni 2009).⁵

The lack of uniformity, and the gap between the situation observed—as empirically experienced or statistically measured—and the desirable one, summarised by the equal application of the law to all parties regardless of the judge or the court involved, is entangled with external and internal judicial independence (Seibert-Fohr 2012, Guarnieri and Pederzoli 2020, 97).

If judges are not independent from external pressures, undue influences can steer the procedure in favor of one party and undermine the impartiality and equal application of the law. If judges are independent, different interpretations of the law may still occur because the law is unclear, not specific enough,⁶ or the judges have different orientations (Shapiro 1981, 146–7). In this respect, internal judicial independence protecting the individual judges in the “exercise of adjudicating functions” from interferences originated within the judiciary limits the use of hierarchy (Cappelletti 1988), the traditional arrangement adopted by bureaucracies to enforce the uniform application of the law, (March and Simon 1958, Thompson 1967). A court president or senior judge cannot give directions to a junior judge on how to handle a case. Hierarchy is limited to the courts’ structure and hence to appeal processes. Appeal courts provide on-demand ex-post checks on a limited number of cases and matters. In practice, it may take a long time before a consolidated jurisprudential orientation certified by a decision of the court of last resort that effectively results in reducing the differences in interpretation of the law. In other words, in the field of procedural law, the normativity of the law (Hildebrandt 2008) is too weak to ensure its uniform interpretation and application. To sum up, the bounded normativity of formal rules (the legal framework that pre-establishes judicial procedures) and the limited room for appeals and hierarchy leads to a lack of uniformity in the application of procedural law.

In this context, information technology (IT) offers an additional way of guaranteeing the uniform application of procedural law. *Technology provides a second means of normalization making judicial procedures more uniform.* Hence it completes the phenomenon this article defines as *double normalization*. IT brings in a distinct form of agency, with a specific normativity that is more compelling and (apparently) objective than the one displayed by formal rules (Lanzara 2009, 2014).

Various authors have discussed the normativity embedded in ICTs (Kallinikos 2006, 2009, Lessig 2007, Hildebrandt 2015, Pagallo *et al.* 2019). Digital technologies, with their background operations and simplified interfaces, guide human agency along pre-established paths of action that can lead to standard procedures that result in a more uniform application of the law (Ontanu 2019). This phenomenon is even more visible when a procedure is automated. The more IT guides and automates human agency and executes the commands of the law, the more it empowers the processes of normalization required to ensure the equal application of the law.

⁵ This lack of uniform application of procedural rules emerges more clearly in civil law judiciaries in which the uniform legal framework aims to lead to uniform procedures.

⁶ Norms have to be general to remain relevant and effective over time and adapt to societal development.

This powerful feature of digital technologies conflicts with the poor normalization (or standardisation) of procedures described above. Particularly at the design and development stage, e-justice faces the tension between the variety of procedures developed by judges and court clerks and the higher standardisation imposed by the digitisation (Fabri 2008). The issue is not just functional, but double normalization also leads to concerns about institutional implications because it interacts with judicial independence and discretion, as discussed below (Konina 2020, Schmitz 2021).

3. E-justice platforms as carriers of double normalization

As noted in the introduction, EJPs provide the complete set of functionalities required to establish digital workflows within the court and with court users in digital format. Internal operations are executed through digital workflows, while organisations interact digitally with external users. In a fully digital primary process, IT is no longer a tool but a *digital working environment*. Since it provides the entire set of workflows, functions, and applications required to perform organisational tasks, users are required to only work within this environment. Workflows are managed digitally, and tasks are performed using the functionalities offered by the platform. This form of IT requires that work processes be predetermined and standardised. The work process only exists within the system (McAfee 2006).

Here, the rules, organisational regulations or formal laws, and the process merge. The rules are coded into the digital work process while *regulations and codes are merged into one*. Organisations need to take measures in advance, including decisions about who establishes digital workflows and working practices and who is authorised to make changes to the system. Hence, procedural law, as well as practice rules and internal work processes executed by judges, lawyers, and clerks, will be encoded in the digital process. To make the encoding possible, the various procedures and practices adopted by courts and individuals have to be simplified and standardised. The allocation of rights to make decisions about each of them —i.e., procedural law, practice rules, and internal work processes—need to be established beforehand. At the end of the project, the thick normative framework regulating the administration of justice will be encoded into the technological system. This process can be analysed in terms of functional simplification and closure (Luhmann 1993), or as inscription and delegation of formal rules into digital artefact (Bijker and Law 1992). In both cases, when such techno-legal assemblages (Lanzara 2009) are deployed across courts the double normalization resulting from the interaction of law and technology can be observed.

EJP enables standardised workflow within the courts, thus providing pre-established paths of action that are identified at the design and development stages. From filing to disposition, users (such as lawyers, clerks, and judges) work with the system interfaces, while background operations automate tasks and trigger and guide human actions. EJPs entail interoperability with lawyers, case parties, and various agencies involved in the administration of justice, such as tax departments, or bailiffs. The three case studies considered are examples of EJPs: e-Curia, which is the e-justice platform of the European Court of Justice; Civil Trial Online (TOL), which is the e-justice platform used by Italian courts; and *Kwaliteit en Innovatie rechtspraak* (KEI), which was developed for Dutch civil procedures. In each of the three platforms, lawyers can file cases by just using the

platforms, clerks can administer legal services using the tools and options available on the interface, and judges can use the platforms to fulfill their duties.

In a nutshell, when EJP is in place, procedural law is made digital. The digital platform becomes a pre-packed interpretation of procedural law. Therefore, a certain amount of judicial discretion goes from the individual judge to software developers. Court digitisation becomes not just a technical or functional endeavor, but a matter of judicial governance: who controls the software (its development and its daily functioning) exercises a new form of influence on proceedings. Having selected three EJPs developed in the ministerial, judicial council (Castillo-Ortiz 2019), and fully autonomous governance models (Bunjevac 2020, 28), allows us to explore how different governance functions affect the interplay between procedural digitisation and fair trial principles.

4. Case studies

4.1. Method and case studies selection

The three EJPs considered in the study present the complete set of functionalities that lawyers, clerks, and judges use to handle digital proceedings. They all provide a digital working environment within which the different actors in the proceeding can work. Furthermore, as noted, the three judiciaries also have different governance models; hence, the data set makes it possible to compare cases from this perspective and highlight how governance models affect double normalization.

The Italian Civil Trial online (TOL) was introduced in 2001 and e-Curia, the e-justice platform of the European Court of Justice, was introduced in 2003. Over time, the two systems have been improved with updates, new functionalities, and application to different procedural areas. The KEI for Dutch civil procedures has been in use for just five years. Each EJP has undergone changes that are relevant to the legal framework under which it operates. Law, organization, and technologies had to be rearranged multiple times. Each case study has its distinctive story to tell. However, this work aims to better understand how double normalization unfolds and how it affects judicial values by gathering knowledge from the three cases. The assumption is that a comparative approach is more effective in identifying and explaining emerging trends in justice administration than a single case study (Shapiro 1981, Cappelletti 1989).

The starting points require a method that makes it possible to analyse the current phenomenon (double normalization and its effects) and consider it as a consequence of technological and institutional changes that have occurred over many years. Therefore, the data collection carried out for this study used multiple sources following the tenets of cross-case analysis (Stake 2006, 40–1); updated project reports and literature were integrated with data collected in previous works. Also, data collection was guided by the theoretical framework (Yin 2003, 14) based on the consolidated findings of e-justice development (Reiling 2009, Cordella and Contini 2020), and similar systems developed in the private sector as enterprise systems (McAfee 2006). In this respect, procedural standardisation (Momoh *et al.* 2010), users' involvement (Ciborra *et al.* 2000, Nandhakumar *et al.* 2005), and the role of process re-engineering (Bing *et al.* 1999) are essential to identify and analyse the implications of double normalization.

In addition to the new data collected for this study, TOL was analysed using data gathered in four different studies (Augusto 2003, Carnevali 2006, Contini and Cordella 2010, Carnevali and Resca 2014). The new data collected for e-Curia were integrated with data collected in two previous studies (Contini 2013, 2014) and in a workshop organised to discuss the forthcoming e-Curia development with project leaders.⁷ The studies include interviews with project leaders and innovators, observation of the systems' use, analysis of projects' documents, and validation of the data collected. Validation occurred through checks with key informants and workshops (public and closed doors).

Even though KEI had a shorter life than TOL and e-Curia, the project has been evaluated by an independent review that provides the first relevant data set (TRConsult 2018). Furthermore, KEI was analysed by other authors (Di Natale 2020, Van den Borne *et al.* 2021) who provided different analytical perspectives on its development.

Since one of the authors was directly involved in the project, to avoid a potential lack of objectivity, her role in the case study was limited to providing information and documentation without disclosing any confidential or privacy-protected information. The researcher who conducted the case study analysis was not personally involved in project development. The bulk of data has been collated from publicly available sources. Interviews, workshops and personal experience provided general insights, and participants' identities or individual views are neither revealed nor relevant.

4.2. Civil Trial Online

Civil Trial Online (TOL), or the *Processo Civile Telematico*, is the EJP for civil cases in the Italian judiciary.

4.2.1. Governance and project background

In Italy, the Ministry of Justice (MoJ) manages court services, including IT, and the Judicial Council manages the status of judges and prosecutors (i.e., their selection, appointment, careers, discipline, etc.). The 245,000 (Biancofiore 2021) lawyers are organised in local bar associations supervised by the National Bar Council. In the MoJ, the chief of the IT directorate and the project development team leaders are almost always judges or prosecutors.⁸ Hence, magistrates are involved from the start, bringing their judicial expertise to working groups (Carnevali 2011). The Judicial Council, not formally involved or interested in TOL development, got involved when the system became compulsory in 2014 (Consiglio Superiore della Magistratura 2015). Its position is limited to monitoring the EJP functioning and its impact on judges' work and courts' organisation.

4.2.2. Functionality

TOL allows users to file and exchange documents in civil cases. To do this, lawyers need different IT systems: a registered email address (REM), a digital identity (requiring a digital certificate in the form of a smart card), a digital signature (a second digital

⁷ Workshop e-Curia, e-Codex and the Italian e-Justice platform Exploring interoperability opportunities held in 2017.

⁸ The Directorate establishes the requirements in a dialogue with the legislative office of the Ministry. The national bar is involved when needed. The Minister, with a decree, approves the high-level requirements.

certificate), and a standard email and Internet connection. Access to TOL is granted by certified applications working as dedicated access points made available by authorised service providers. Through REM and access points, data (XML) and documents (pdf) are uploaded into the courts' case management system (CMS) and document management systems (DMS) (Ministero della Giustizia 2016).

Clerks and staff check all the data and documents uploaded in the court's systems and trigger the relevant workflow. The clerks have an interface for checking and accepting procedural documents and monitoring communication flows. The judges' interface (digital work desk) supports calendaring, case management, reading and annotating procedural documents, drafting and digitally signing decisions and other documents. Case data from the CMS are automatically inserted into the required draft documents. Documents are saved in digital case files. When specific events occur, the system sends automatic messages to keep the parties updated about the progress of their cases (Borsari 2014).

4.2.3. Development and deployment

The project to develop Civil Trial Online (TOL)—exclusively dealing with civil cases—started in 2000 (Jacchia 2000). The IT department of the Ministry conducted a feasibility study to establish the requirements. Next, the Ministry approved the technical regulations establishing requirements similar to the paper procedures and contracted a software developer (Zan 2004). Differently from the other two cases, formal rules have established the system's features since the beginning of the project.

Most of the legal changes established technical specifications and made use of the system legal. The code of procedure was not amended to make it better aligned with IT (Fabri 2009). Even when existing rules were designed around the physical features of paper documents, the Ministry left the code of procedure unchanged. The original idea of exchanging petitions in XML format was abandoned because the use of such format would have made it impossible to count the number of pages of data required to calculate copy fees (Carnevali and Resca 2014, 167–8). Therefore, petitions are exchanged in PDF format.

The original architecture was decentralised—i.e., each one of the 165 local bars was supposed to develop its own access point to TOL. Since the architecture proved to be too complex and expensive, in 2011, the Ministry switched from a decentralised architecture to a more centralised architecture, entrusting the National Bar Council with the responsibility of developing interfaces between lawyers and courts (Carnevali and Resca 2014, 170). The shift to the centralised architecture and the involvement of the National Bar Association made possible by legal changes (the adoption of a new national e-government law) eased the adoption of the system such that, in 2014, it became mandatory for lawyers (Castelli 2014).

The project also experienced challenges in the involvement of internal users. The MoJ can mandate clerks as civil servants, but not judges, to use the systems. Consequently, the usage of the interface remained low for many years.

The first procedural document was uploaded via the platform in 2007, but after many year the use of the system is mandatory for lawyers and clerks, and regularly used by almost all judges (Ministero della Giustizia 2016). In 2019, lawyers filed 12 million

procedural documents and judges issued almost 7 million decisions using the system's interface (Ministero della Giustizia 2020). However, print outs of procedural documents are still used to support the work of judges.

4.2.4. Law, technology, and standardisation

The project was developed to make a one-on-one translation of the code of civil procedure into a digital procedure, thus transforming the media from paper into digital without making any attempt to adapt the code of procedure to the features of IT. A new set of rules regulating specific features of the digital procedure was put on top of the pre-existing paper-based procedure. Rules envisaged, in advance and in detail, the technical and architectural solution to be implemented (Faro 2007, 260).

The need to reduce the multitude of law-based working practices developed by Italian courts (Verzelloni 2009) into a single system contributed to slowing down the adoption of the platform. It took seven years, from the first e-filing to the mandatory use of the system at the national level. During this period, each court adapted its different procedures to the constraints of the system, starting from simple injunctive orders, and moving towards more complex procedures such as civil execution, bankruptcy, guardianships (Aprile 2011).

From this angle, the challenges experienced when law and technology work together and achieve double normalization are clear. The procedural variety developed at the court or individual level has to be simplified to become compatible with the requirement and constraints of the e-justice platform (Contini and Cordella 2015).

This general dynamic and the related interplay between the code of procedure and the technical rules resulted in several techno-legal issues. The first one deals with the format of the petitions filed and exchanged. The technical rules establish that petitions must be only in digitally native pdf,⁹ while other formats (scanned pdf, jpg, tiff etc.), even if delivering the same content and information, are void from a legal perspective. The rule also makes it difficult to file evidence in other formats, such as audio and video. Another issue deals with the size of the electronic messages accepted by the system (maximum 30MB). This technical limitation turned out to be an obstacle when larger files must be e-filed.

The constraints established by the EJP triggered the search for practical techno-legal solutions and a doctrinal debate discussing whether the technical constraints are compatible with the principles of access to justice and the related requirement of having sensible conditions to introduce evidence in the procedure (Marinai 2014). One of the issues is that the constraints to judicial action do not stem from the law, as established by the Italian Constitution (art. 117), but from a low-rank technical regulation issued by the executive branch (Ministry of Justice) and its technological implementations made by a private company. The Court of Cassation has made many rulings on these matters (Fedele 2019, 2020), but the issue is still debated at the professional and academic levels.

The implementation of TOL led to increased uniformity of court operations: data, documents and procedures are now more uniform. Lawyers can e-file cases with the

⁹ As established by art. 11 DM n. 44/2011 and art. 12 Technical Rules 16/04/2014. As noted above, this occurred after the original idea of using XML was abandoned.

same system in all the Italian courts and receive notifications through the same platforms. Judges work with the same system and, even if slowly, have adopted the dedicated interface. However, critiques about the system's functioning and legal implications are still going on, as the examples of the type and size of the file demonstrate.

4.3. *e-Curia*

e-Curia is the EJP of the Court of Justice of the European Union. It was launched in 2011, and it provides court users with an e-filing facility to enable digital communication with the Court. Since its launch, e-Curia has been adopted by a growing number of users, and in 2018, its use at the General Court was made mandatory (Court of Justice of the European Union 2020, 9). The advantages of e-Curia are lower postal costs, more efficiency with digital files, and easier and safer access to the court and digital case files.

4.3.1. Governance and project background

The Court of Justice of the European Union reviews the legality of the acts of EU institutions, ensures that member states comply with the Treaties, and interprets European Union law at the request of national courts. It consists of the Court of Justice, dealing *inter alia* with requests for preliminary rulings from national courts, and the General Court, which has jurisdiction over a broad set of cases, including actions for annulment brought by individuals, companies, and, occasionally, EU governments (Von Papp 2018). Its governance is fully autonomous similar to that of Australian or US federal courts (Bunjevac 2020, 27–30). The Court has its own budget, which includes IT development and the authority to establish its own rules of procedure. The Court's budget is provided by the European Parliament, to which the Court is accountable for the spending of the budget (Krenn 2008). The organisation and functioning of the Court, the protocol on its status, and the rules of procedure are the subject of a dialogue (exchange of information and views) with the Working Party on the Court of Justice, a “preparatory body” established at the level of the Council of the EU.¹⁰

As in any other court, procedures are based on filing and exchanging procedural documents. The identity of each actor, as well as the authenticity of procedural documents and letters exchanged, must be verified. The procedures must be secure and, upon request, confidential (Court of Justice of the European Union 2020, 9) as in any other judicial proceeding. e-Curia was developed with the aim of building a digital workflow connecting the Court with other court users, easing access to justice, and facilitating efficient handling of case files that are particularly complex since most procedural documents must be translated into several languages (Groupes de travail du greffe de la Cour 2008).

¹⁰ The working party is a “preparatory body” established by the Council of the European Union and that “handles work concerning the organization and functioning of (...) the Court of Justice (...). It deals with the protocol on the statute of the Court of Justice and its rules of procedure. The activities carried out by the Working Party are presented at General Secretariat of the European Council 2017.

4.3.2. Functionality

The digital workflow is as follows. Case parties, or their representatives, enrol in e-Curia by sending a request to the Court. The Court checks the qualifications, sets up the account, and sends a username and password to access to the system.¹¹ The party or their representative (“the user”) can log in with their username and password and lodge procedural documents and annexes in an electronic format (pdf). The user drafts the documents using a standard word processor or a tailored law firm platform. The user’s interface displays the list of documents uploaded and their status: awaiting acceptance, accepted, and acceptance presumed. All documents are time-stamped, tagged with a hash code to guarantee their authenticity and non-repudiability, and uploaded into an electronic case file (shared repository). Parties to a case can access the repository via e-Curia and, when needed, download the documents (Court of Justice of the European Union 2011).

In the Court’s back office, an assistant can open the document management system to draft a document (letter) using digital forms and data from the CMS. The system automatically generates documents in all the languages required by any specific procedural step. The assistant can work and control the workflow in her preferred language. With the workflow management system (internal e-Curia), both an assistant and an administrator (supervisor) can finalise the preparation of the “package” of documents and serve the package to parties to a case. Users receive a simple email message informing them that there are new documents and they can log in to e-Curia and download the documents. The digital files are made available to the judges’ chamber (i.e., the judge and her legal and administrative assistants). However, judges are not required to use the system; they mainly work with the printout of the electronic file, but when needed, they can access the electronic file and search across the documents via keywords (Contini 2013, 228–36).

4.3.3. Development and deployment

The IT department of the Court is in charge of software development. Accordingly, e-Curia and other systems were developed by an in-house IT team, and the development process followed the classical waterfall model (i.e., requirements, development, testing, and deployment), with one phase starting only after the previous one is completed.

The front office system (e-Curia) had to be made interoperable with the Court’s back-office applications and with the systems used by the parties. Translating paper-based practices into digital ones was probably the most demanding part of the project. Multifaceted procedures and thousands of document forms written in 23 languages had to be made digital. The court staff experienced with the intricacies of the procedures collaborated with the IT department to ensure the project was successful. Training, practice, and some minor adaptations eased the adoption. The development process focused on digitizing pre-existing procedures, without attempting to redesign procedures (Contini 2014, 237–8). e-Curia development mainly involved both the court staff and the external users, not the judges. The registry of the Court started the project and supported its deployment across the organisation. To ensure that e-Curia was

¹¹ Due to the peculiar jurisdiction of the court, party representatives can be lawyers, but also agents of member states, law professors and other professionals as established by the Court.

accessible to users operating in different legal systems, with different e-identity and e-signature technologies, the Court developed a self-contained system with basic components (such as email, Internet access, and any system to generate a pdf file) that are easily accessible to potential users.

By June 2012, seven months after its launch, a majority of member states as well as various European institutions and agencies (i.e., the subjects variously involved in the majority of procedures) were already using e-Curia, with a significant impact being witnessed in the functioning of the registries (Contini 2014, 228). The Court regularly informed the stakeholders in the “Working Party of the Court of Justice” about the development. This form of accountability was enough to give a green light for the implementation of the project.

4.3.4. Law, technology, and standardisation

In 2005, an amendment to the Court’s rules of proceedings introduced a new paragraph (number 7) stating that “the Court may, by decision, determine the criteria for a procedural document sent to the registry by electronic means to be deemed to be the original of that document.” The rule provided a broad framework in which various technological options could be explored rather than pre-established technological solutions to be implemented, as in the case of TOL. Therefore, system developers worked without the constraints of implementing pre-established technical solutions as in TOL (Contini and Mohr 2014). This approach eased the identification of solutions coherent with the general legal framework and that were relatively easy to implement. The fact that the Court has both the power of regulating procedures and was responsible for software development avoided the rise of legal questions about the system’s functioning as in the other two cases. These governance features also eased the proper phase-in of techno-legal developments. For instance, in 2015, the systematic use of the system facilitated the abolishment of court practices that the growing use of e-Curia had rendered obsolete, such as fax and email (General Court of the European Union 2015). At the time, legal changes facilitated the redesigning of workflows. Finally, in 2018, the use of e-Curia became mandatory at the General Court (General Court of the European Union 2018).

The Court of Justice is a single structure rather than a network of local courts; hence, there were no diverse regional or local workflows that needed standardisation at the national level. This feature kept the system’s deployment simpler than those involving different courts, each with local practices. However, the procedures handled by the Court are complex in terms of numbers of actors and languages involved. In addition, the legal issues and procedural steps and outcomes are, more often than not, unpredictable. It took six years to transform the pre-existing paper-based procedures into digital ones (Contini 2014).

Unlike the other two cases, in which judges were among the primal users of the system, the judges were not directly involved in the new digital workflow. Indeed, the judges’ work is supported by a cabinet that takes care of the EJP, so they do not need to work personally with e-Curia or digital files. After several years, however, an increasing

number of judges are now working with digital files and platforms, particularly at the General Court. Judges at the Court of Justice are also starting to use the system.¹²

External users, mainly repeat players such as the European and National Institutions, were targeted first before the use of the system was promoted among lawyers who appear before the Court more often (Contini 2017, 335–6).

In this case, double normalization mainly affects the procedures managed by the court's registry and the exchange of procedural documents. The level of standardisation reached by court procedures and documents are improved, as well as the reliability of the data exchanged (Court of Justice of the European Union 2021, 18).

4.4. KEI

KEI is the Quality and Innovation Program of the Netherlands judiciary that was operated from 2013 to 2018. This program was intended to digitalise¹³ the entire court system, including administrative, but not criminal cases. This description focuses on the development of the digital commercial claims procedure for effective comparison, because the other two projects only serve civil justice.

4.4.1. Governance and project background

Since 2002, the Dutch Judicial Council has been managing the courts, including the IT used by the courts. IT development and system management are done by the judiciary's own IT team.

In 2013, the Council set up the quality and innovation program, *Kwaliteit en Innovatie (KEI)*. The KEI program's goal was to ensure that all court procedures were digitalised within a period of three years to facilitate faster litigation, better access, and less administrative workload. To achieve this, amendments to the Code of Civil Procedure and the General Administrative Law Act were needed. Digital litigation also had to be made possible and compulsory for professional legal representatives. Consequently, the legislative process ran in parallel with the IT development. The program had three components: supervision, administrative proceedings, and civil justice (Minister van Veiligheid en Justitie 2013).

The KEI program was governed by a program board which included two members of the Judicial Council. The development teams were all headed by judges. Lawyers were mainly part of the testing teams from the start of the project. Managing relations with all stakeholders (i.e., courts, lawyers, bailiffs, MoJ staff, the Supreme Court, and the Council of State) was done on different levels of the KEI program. The Bar Association also actively supported the project (Minister van Veiligheid en Justitie 2013, § 4.4). Despite this favorable context, the Council ended the KEI program in 2018 due to a lack of support by Court presidents and the decision of the MoJ to stop financing the program. The KEI civil claims procedure was implemented in two pilot courts. It is still in use there, processing nearly 4,000 cases that were filed using the system.

¹² Interview with an administrator of the Court of Justice (2020). See Annex.

¹³ The terms "digitalise" and "digitalisation" are introduced here to highlight the Dutch project, differently from the other two, is not plain digitisation, i.e. conversion of analogic data processes into digital ones, but envisage the transformation and redesign of procedures (Ritter and Pedersen 2020).

4.4.2. Functionality

Lawyers e-file cases either through the web portal or the systems interface. They can file their cases or defence using a smart submission form that will feed into the court CMS. Case substance can go into text fields in the form or in a document attached to the submission. As the filings come in, the system assigns two tasks to the administrator: checking the filing and the court fee.

Digital case management, which is the backbone of the process, balances strict process control with flexibility in case management. The system assigns tasks that are required, either by law or by the rules of practice to participants in the procedure, lawyers, clerks and judges. The system also has options for exceptional situations such as when the workflows provide pre-established actions. In addition, there is a “open option” that offers the user the possibility to undertake a different action that is not directly offered by the workflow.

The system ensures that lawyers, judges, clerks, hearing planners, and administrators are able to perform the tasks that they role must be able to perform. Since not all courts have the same team structure, each court can designate roles determining who can perform which tasks and activities. Message traffic and notifications support communication between lawyers, judges, and other parties involved in a case.

The two pilot courts for the digital commercial claims processed about 4,000 cases. Their experience shows that the digital procedure brought considerable improvements. Compliance with the right to fair procedure, as provided for under Art. 6.1 of the ECHR, increased with easier court access, equal access and increased transparency for parties, more public information in a search engine with public procedural information, and less delay and increased transparency with instant messaging. Simplified civil procedure and increased information security were also added benefits (Di Natale 2020, 20).¹⁴

4.4.3. Development and deployment

Judiciary teams within the KEI program’s components developed new practice rules and designed new work processes and technical practice rules. The design teams were headed by judges with experience in project management and IT (Wallace 2019). Users were involved during the development, implementation, and final use phases. Increasingly rigorous testing by all user categories was done from the very beginning, and lawyers also tested the functionality from the start (Gludemans-Voogd 2015). The digital procedure was piloted in two first instance courts; it was not implemented in the other nine first instance courts, because the KEI program was terminated (Rechtspraak 2018).

¹⁴ The “public” nature of courts is a difficult issue. It conflicts, by nature, with the right to privacy. The policy now is to anonymise court decisions if they are published (not all of them are), and procedural information was traditionally only available to lawyers. So, this search engine is an improvement. However, the Council of State (the top-level administrative court) has ruled that the simple information in the search engine that the decision was given is not enough for the decision itself to be public. This is clearly an issue in court policy that needs to be re-examined.

4.4.4. Law, technology, and standardisation

Legal changes and software development went hand in hand. This does not mean everything was simple, straightforward, and reached without compromises. The commercial claims procedure is considered the most complex procedure in Dutch courts. A study conducted in the early 2000s recommended abolishing the distinction between summons and request proceedings, but this was rejected by the legal profession (Asser *et al.* 2006). The new procedural law did reduce the number of document exchanges and set a simpler way of notifying the defending party. During the development process, various stakeholders pressured to reverse some of those simplifications. In the end, with some compromises, the new system ended up somewhere between a new system and a replacement of the old one (Reiling 2021).

The new procedural rules and new work processes brought about the question of what the law actually means in terms of system functionality. In the absence of precedents or case law, some of the issues raised were clarified by the work process design group and others were discussed in consultations with the Supreme Court (Reiling 2020). However, the final decisions about the shape of those processes in a digital form were made by the IT team. After the implementation of the commercial claims procedure in the two pilot courts, some challenges were determined by the Supreme Court as priority.¹⁵ However, these decisions did not necessarily trigger changes in the software code. Also, KEI was providing workflows to support active judicial case management (a best practice in the field), but the choice created some tension with the judges who preferred to have their court staff deal with procedural matters. The issues faced clearly capture the additional layer of complexity encountered when EJPs are not only replicating pre-existing procedures (as in e-Curia and TOL) but are also joined up with procedural re-engineering.

Furthermore, during the project, procedural legislation was amended to reverse the reduced role of bailiffs in the procedure, triggering a redesign of the access procedure.¹⁶ The redesign consumed extra time and money and revealed the tight coupling between law and technology.

For Dutch civil courts, standardizing case handling is not uncommon. However, there is no official national standard for case handling. The KEI system dealt with this disparity by offering general functionalities, such as message traffic and activities that can deal with exceptional situations, and by allowing each court to assign roles to staff according to its team structure. In the case of digitalisation, procedural standardisation requires an official national standard for case handling. This is a clear example of double normalization that requires a governance instrument to decide what the national standard will be.

5. Double normalization and the fair trial principles

The paper introduces the concept of double normalization to capture a significant phenomenon occurring when a rule-based working environment is made digital. When this happens, formal rules are transformed into software codes, digital interfaces and

¹⁵ ECLI:NL:HR:2017:2629, ECLI:NL:HR:2019:1283, ECLI:NL:HR:2018:366.

¹⁶ Law proposal, Second Chamber of Parliament, 2014-2015, 01-06-2015, doc. Nr. 34212 nr. 2.

back-end operations that automate and guide human action. The first normalization provided by procedural laws to ensure fair, equal, uniform procedures is enforced by the regulative properties of digital technologies – EJP in particular – which cause the second normalization. The new technological constraints force behaviours in the pre-established courses of action made available by the system inhibiting, at the same time, other procedural options. Procedural uniformity is then enforced not just by formal rules but also by software codes. EJP has become a pre-packed interpretation of procedural law, and the role of the judge as ultimate interpreter of the law – a pre-requisite of judicial independence – is challenged.

This dynamic is the key to understanding some of the problems encountered in EJP development and exploring the implications for the fair trial principle. The following sections discuss these two issues. The third identifies viable approaches to reconcile procedural digitisation with the fair trial.

5.1. *Double normalization: procedural standardisation and redesign*

The case studies analysis reveals some of the entanglements between EJP and the institutional features of justice systems.

Turning to the cases, the development of homogeneous internal and external digital workflows was complex and lengthy in all three instances. In e-Curia and TOL, it took 13 years from the project's inception to mandatory use of the system by all lawyers. In KEI, the system was mandatory in pilot courts but never deployed in the other first instance courts. *Procedural standardisation* was the core reason for the slow pace of innovation. This was less of an issue in e-Curia, which has no territorial branches, but was more acute in KEI and TOL. At the organisational level, KEI and TOL must be deployed in a plurality of courts, each one wedded to its local approach to case handling. At the individual level, the work practices adopted by a clerk or a judge may not fit with the workflow facilitated by the system. The sheer variety of established practices clashes with the standardisation required by the software (Cordella and Tempini 2011).

A mismatch between technology and organisation is also visible with the workflow re-engineering. It is often said that procedures must be re-engineered to take full advantage of digitisation, as stated in a recent communication of the European Commission (European Commission: DG Justice 2020, 23). What works in a paper-based environment may be redundant in the digital one and can be excised or completely repurposed. As observed, the number of pages is a meaningful counting unit for calculating copy fees in the paper environment but becomes meaningless in the digital one (see section 4.2.3). However, re-engineering injects complexity into the system and creates more mismatches between technology, law, and the organisation. Also, at the beginning of a project, it is difficult to foresee all aspects of the development process and the features of the new digital proceedings (Susskind 2019, 163). e-Curia and TOL took a conservative approach, developing EJPs that were, in the main, digital replicas of the pre-existing paper-based working environment. Only when the two EJPs were deployed was some minor re-engineering implemented. In this regard, KEI was more innovative, introducing active case management—a justice sector best practice (Steelman *et al.* 2004, Fabri 2005)—into its workflow from inception. As noted above, judges preferred the existing routines and did not appreciate the change. Bailiffs who served procedural

documents were also antagonistic. KEI legislation introduced a more informal way to summon a counter party that did not require the mandatory service by a bailiff. When this was challenged by the bailiffs, the law was changed to re-introduce the option of the traditional summons.¹⁷

When judicial procedures are made digital, the issues of standardisation and redesign are not just a functional question that can be handled through forward-thinking leadership and effective managerial strategies (Ke and Wei 2008). Such issues must be framed and discussed in relation to the institutional particularities of the different judiciaries, taking into account the pervasive legal framework and the institutional position of the judge and the special interests of the different stakeholders (as lawyers and bailiffs). The tensions between pre-existing paper-based procedures and the more standardised approach required by the EJP relate to the legal framework's role and the judge, who remains an independent and autonomous professional (Langbroek 2010), at least in the jurisdictions considered. Before EJP implementation, the working practices resulted from judges' interpretations of the existing procedural rules in each of the three jurisdictions. As the ultimate independent arbiters of the law, judges are the ones who transform legal interpretation into procedures and procedural decisions.¹⁸ These institutional and constitutional assumptions make judiciaries prone to develop a plurality of procedures (Fabri 2006, 144). With EJPs, the interpretation of procedural law is primarily done during the design stage, which takes away direct control and discretion from the individual judge (Contini 2020). When invited to work with the EJP, the judges often discover that it does not fit their working procedures and interpretation of the law. Their interpretation of procedural law, and the working practices developed at individual or court level, may not fit the system. The three projects faced the issue in different ways. e-Curia is mainly designed to work with case parties' representatives and the registry, so judges are not pushed to use the system. Due to a prolonged intake, however, the judges of the General Court have begun working with the digital file. In TOL and KEI, ensuring that the judges became system users was highly desirable (even required) since this resulted in increased process efficiency, transparency, and timeliness. In TOL, the data showed a slow but steady increase in the number of judges using their digital work desk to handle their workload (Ministero della Giustizia 2020). The case of KEI is different because the MoJ stopped funding at the piloting stage and, a few months later, the Council decided not to implement the system in the other nine courts.

Thus far, this analysis has discussed the main kinds of mismatches between technology, law, and organisation—the higher procedural standardisation required by the EJP, the tensions between the features and constraints of the digital workflows and the pre-existing organisational and institutional features (re-engineering), the involvement of

¹⁷ The decision, technically and economically rational, was understood as a threat by bailiffs who, being private professionals, earn money also serving documents. Differently, the Bailiffs did not take a critical position in Italy because they are civil servants, understaffed, and overwhelmed by the workload.

¹⁸ Each court—as an organisational unit—can make efforts to make the interpretation of procedural law made by the individual judges more uniform and build organisational standards. However, statewide EJP remains a one-fits-all solution and cannot support the different standards developed by individual courts. From an IT perspective, it would further increase complexity and costs, while from a legal perspective, if the procedural law is one, it is hard to accept that EJP can support different interpretations.

prospective users—and introduced the role of judges and their discretion in the interpretation of the legal frameworks.

Overall, the very difficulties faced in the development and deployment process prove that digital technologies, and EJPs in particular, bring into judicial procedures a peculiar agency that acts as a new, powerful source of normalization.

5.2. Double normalization, judicial discretion, and fair trial

The second feature of digital innovation emerges once EJPs are in place. The promise of double normalization is met. In the three case studies, the increased normalization is demonstrated in the electronic exchange of procedural documents, case-related communications between the court and case parties, in summons, and in court fee payments. Digital case files are now coherent structures of procedural documents associated with metadata rather than bundles of paper. Procedural documents are exchanged through structured workflows, with data collection now more consistent and reliable. The different components of an EJP normalize data, documents, and their exchange. E-filing changes the features of procedural documents, requiring increased standardisation of their formats. Case management systems create more reliable, coherent, accessible, and reusable data, leading to improved monitoring of cases. Workflow systems provide pre-established sets of tasks and actions for clerks, lawyers and, to some extent, judges. The increased procedural standardisation may result in more equal treatment for court users.¹⁹ The effect is systematic, but not necessarily univocal: the rigid procedure resulting from double normalization can jeopardise the flexibility required to guarantee a fair trial when unexpected circumstances, such as a brief not filed due to a lawyer's sickness, arise. This will be dealt with in the concluding section.

In the three cases, double normalization occurs with a similar process. First, the use of EJP is legal and effective in judicial procedures and then, once adopted, technology shows its normalizing properties on procedures.

Software developers encode the procedural laws and bylaws that implement the technical and procedural legal framework. Once the EJP is deployed and adopted (through the dynamics discussed above), its normalizing effects pervade courts' operations, not only through automation but also by providing instructions, constraints, and affordances to the users.

Consequently, the discretion of clerks, lawyers and, in some cases, judges is diminished. At present, this is already visible with streamlined and straightforward procedures—e.g., some administrative cases in KEI, case assignment, injunctive orders, and simplified procedures in TOL. In such instances, the system provides a pre-established path of action together with all the components (letters, forms, pre-formatted decisions, etc.) required to finalise the procedure (Reiling 2009). Such procedures are determined by the system developers rather than individual judges. This is a radical change from the pre-existing organisational and institutional settings.

¹⁹ Since the paper looks primarily at the impact of EJP upon fair trial principles, we do not discuss the impact in terms of efficiency here.

The trend is clearly toward increased normalization affecting human discretion in general, and judicial discretion in particular. It will soon be the case that each procedural action, each document, and each decision must be selected from the particular options presented by the platform. Here, the normativity of technology—and the enhancements it can provide to a fair trial—must be harmonised with the institutional and constitutional setting of the courts. The more the e-justice platform impacts judicial discretion, whether explicitly or implicitly, the more its design, deployment, and assessment becomes a judicial responsibility. This makes digital innovation, governance, and development no longer a technical, functional, or managerial issue. It has become an institutional and constitutional issue.

5.3. *Judicial and project governance to reconcile digitisation and fair trial*

Assuming digital procedures are, or will become, the standard approach for proceedings, understanding how the double normalization affects fundamental judicial values becomes a matter of urgency, especially in relation to a fair trial as stated in Art. 6(1) of the ECHR. According to the Convention, a fair trial requires, *inter alia*, an independent tribunal—i.e., no external pressures on the court (or the judiciary as an institution), as well as no external or internal pressures on the individual judge. The question, then, is how to reconcile judicial independence – in its external and internal dimensions (see Section 2) – with the reduction of individual discretionality.

To start with, it should be noted that double normalization and the corresponding reduction of discretion can have a positive impact on fundamental judicial values. It increases predictability of court procedures, hence enhancing equality of treatment, and it can protect judges from undue influence. For instance, Opinion 21 on “preventing corruption among judges” of the Consultative Council of European Judges (2018) notes that automatic case assignment, implemented by computer systems, is an acceptable method for reducing the discretion of a court president in the allocation of cases (§ 41), hence protect internal independence (CCJE 2018). The challenge lies in developing and maintaining such systems without hampering other fundamental values.

The three case studies, with their different judicial governance models and project management approaches, can help explore this last issue.

The Italian Ministerial model seems to be more vulnerable to an undesired or improper reduction of judicial discretion via IT than the other two, with a possible compression of external independence of the judiciary. The MoJ, which has oversight over the project, could try to exploit the system to reduce judicial discretion in favour of its own political or bureaucratic objectives. A private company recruited by the MoJ developed the platform, and the interest of the Judicial Council in the innovation process was negligible for a long period (Liccardo 2004). From a governance perspective, this is a case where external agents can influence judicial discretion. However, there were safeguards embedded in judicial governance and project management. First, the Ministry owns the software code that can be checked by experts in or outside the system.²⁰ Second, a project team staffed by various judges established the application’s parameters. Although the

²⁰ This does not occur when courts or judiciaries buy licenses of commercial case management system or e-justice platforms developed within the global court technology market.

final decision was made by the MoJ, the judges on the team exercised considerable influence. Third, the project was rolled out slowly and gradually. Courts and judges had a lengthy period in which they were free to adopt the system or stay in the comfort zone of the old paper-based procedures. Fourth, judges can always criticise the actual functioning of the system or resist its use without facing any consequences.²¹ Fifth, even if the Judicial Council has remained silent, it is always ready to oppose initiatives that may hinder judicial independence. For any reform initiative, the Council's green light and support are necessary conditions. On the one hand, this is a consequence of the institutional culture but, on the other, the balance of power gives the Council a wide array of means to halt reforms imposed by the government (Di Federico 2002). Overall, these institutional, political, and cultural factors have effectively protected the Italian judges from external pressures, including potential challenges derived from the digitisation of procedures.

In the Netherlands, KEI was developed by a Program Unit within the Judicial Council. The Council appointed a judge to head the design unit. Other judges helped identify functional requirements in system development. Software coding was done internally by specialists hired by the Program. The vulnerabilities of the Italian governance model are not evident here. If the e-justice platform reduced judicial discretion in some areas, this was because of decisions taken by the judiciary. However, KEI had a different vulnerability through its dependence on the MoJ. As the Ministry made changes to the new legislation, the technology needed to be redesigned, and sometimes even rebuilt. The Ministry also mandated that the system be used from the day it was launched, which required a nationwide "big bang" rollout to facilitate the introduction of the new legislation. Such requirements have grave consequences for development and implementation, which may not have been considered. On the other, the budget provided by the MoJ partly financed the Program. For reasons that are not relevant here, the Ministry later decided to stop the financing, development and implementation. In the Dutch case, even if the institutional arrangement is well designed to grant external independence to the judiciary, a vulnerability emerges from the financial dependence of the project to the Ministry of Justice. The vulnerability does not affect judicial independence but the overall capacity of the Council to control project development.

A different story applies to e-Curia. As with KEI, the platform was developed within the Court, with the involvement of registry staff and internal IT specialists. The budget was secured by the multi-annual financial planning established at the European Union level, and the institutional setting granted complete self-governance to the court. In this context, external independence is not an issue with EJP development.

Interestingly, judges were not directly involved, because the project mainly dealt with the exchange of procedural documents rather than, as with the other two platforms, internal workflow and case management. The e-Curia software brings the case file from the lawyers to the registry and from the registry to the judges' chambers. The judges and their discretionary powers are not affected by the direct use of the system because its functions end at delivery of the procedural documents to the judges. This double

²¹ This is different in several other judiciaries, including EU member states, as demonstrated by the attempt to exercise control on judiciaries in Poland and Hungary.

normalization affected the registry and the case parties' representatives, but not the judges.

Thus, e-Curia is the model in which governance of the judiciary (the autonomous governance model) and project governance are better tailored to support digital innovation, taking advantage of the increased uniformity brought in by double normalization while protecting the judiciary's discretion (and the project) from external pressures.

As noted, the different governance models provide the basic institutional setting in which double normalization occurs. The three cases show that a governance model in which the judiciary has firm control of system development and deployment reduces the risk of improper use of the system. This state of affairs is patent with the Court of Justice and the Dutch Judiciary. However, even when the executive is in charge of system development, as in Italy, measures can be taken to limit the reduction of discretion that could affect judicial independence. In any case, even when EJP development is under the control of the judiciary and external independence is not affected, its adoption reduces judicial discretion and may affect internal independence. It is technically inconceivable to design EJPs tailored to the expectations (and judicial interpretations) of each judge. Furthermore, compression of discretion is, in some cases, desirable, as it increases the equal treatment of court users and can protect judges from undue influence. If technology has to be a constitutive component of the administration of justice and if the fair trial principle of equality in judicial independence and discretion are to remain essential elements of judicial proceedings, then tensions between the two must be resolved, and internal judicial independence considered. Reconciling both allows taking advantage of double normalization to improve equal treatment—another essential value.

Examining the issue in more detail, the cases suggest a way forward for easing reconciliation in the three governance models. Essentially, any reduction of judicial discretion should be done through proper judicial means, i.e., by judges or with judicial supervision. As observed, the phenomenon occurs in the three cases, even if different arrangements are in place. The principle of fair trial already acknowledges different degrees of discretion for judges. A single judge may have more discretion than a judge working in a panel of judges. Panels and chambers are institutions designed to facilitate discussion between different members and points of view (interpretation of facts and law) to reach an accord on decisions. When decisions are particularly relevant, potentially controversial, and a common jurisprudential perspective must be identified, grand chambers (or the plenum)²² are the proper forums (Bobek 2021, 2–4). Their working methods entail a reduction of individual judicial discretion that is entirely compatible with the principle of internal judicial independence. Encoding judicial procedure into software, along with the normalizing effects discussed above, mimics the type of cases and decisions taken by grand chambers—a body authoritatively deciding how the law should be interpreted. The idea of a Grand Chamber, once applied to EJP

²² In many courts of last resort, grand chambers and plenum are panels composed by the most senior judges or the full court that decide the most relevant and controversial issues.

development, allows judicial supervision on critical decisions affecting judicial discretion.²³

The concept of a grand chamber should be considered for its evocative power, its metaphorical resonance, and as a working method. It embodies how a collective discussion should occur among a plurality of subjects. Such persons could include judges (not necessarily members of the highest court) contributing professional experience and legal expertise; lawyers providing their view on procedures; *amici curiae*, such as IT experts demonstrating and discussing the technological implications of different interpretations of the law; and experts in court administration who can outline the entanglement between technology and the functioning of the court. The emphasis would not just be setting functional requirements, but also ensuring that the functioning and the features of the EJP are a reasonable and agreed interpretation of the text of the law. This will help avoid the risk that the new state of facts created by digitisation— i.e. the pre-packed interpretation of the law enacted by the EJP—leads to a technical disruption of the rule of law (Stiegler 2019, 126–8).

As noted by McAfee (2006), various questions should be dealt with before EJP development starts. The four key issues are as follows: (1) which authority should appoint the members of the body or bodies, (2) who should be appointed, (3) what its tasks are, and (4) how the chamber should work. Uzelac (2019) suggests a central role for the highest court of appeal, as supervisors of the work of the lower courts, in ensuring that they work according to the law.

These are significant questions of judicial governance that cannot be answered in this paper but will be explored in a forthcoming publication. At this phase, the important point is that EJP development, and more generally the transformative effects of digital technologies, require a systematic reassessment of judicial governance and the identification of new institutional arrangements to safeguard the fair trial criteria laid down in Art. 6(1) of the ECHR.²⁴

Another essential component is accountability. Since the judicial agency is enabled, guided, and automated by the EJP, the software codes must also be accountable. This issue, commonly emphasised with privacy and AI (CEPEJ 2018, European Group on Ethics in Science and New Technologies 2018, Council of Europe Commissioner for Human Rights 2019), is also relevant to EJP and, more generally, every time a system (of whatever nature) affects the due process of law and judicial behaviour. If technology guides, constrains, or automates judicial behaviour, it must be made accountable against the law and fair trial principles, as well as to the public (ENCJ 2018). In the three case studies, the software ownership remains totally under the control of the relevant public authority, which is a necessary but not sufficient condition to assure that external and internal actors can check the functioning of the system against relevant standards.

²³ In India, the e-court committee of the Supreme Court supervises and direct e-justice developments. The Israeli Supreme Court already performs this kind of checks, since decisions about the functioning of the technology that may affect the jurisdiction must be taken by the management board of the same Court. Interview with a member of the Supreme Court Case Management System project team

²⁴ This was also one of the recommendations of a report reviewing the Dutch KEI program in 2018: set clear, delineated tasks, roles and responsibilities at all levels (TRConsult 2018).

The cases also reveal other means for facilitating reconciliation, such as adequate time and voluntary (non-mandatory) use of the system. ERP and EJP realise their full potential only when all subjects involved, inside and outside the court, use them. A procedure wherein some documents are on the digital media and others are in paper format or wherein only some judges (or lawyers) use the EJP creates confusion about the validity of the information. This is what happened with both e-Curia and TOL. At the same time, the two cases show how the use of double media helped soften the issues associated with the loss of judicial discretion. In both cases, the judges unsatisfied with the digital system (for legal or functional reasons) should have the option to work with the paper-based one. In both cases, this allowed a smooth, albeit slow, debugging of functional issues. Additionally, in Italy, it also helped clarify the interpretation of procedural and technical law embedded in TOL (Fedele 2020). This option is the ultimate guarantee to protect judicial discretion from digital procedures' constraints, which should be used cautiously and in justified circumstances to avoid hampering digital innovation.

The resulting slow pace in project deployment, however, defies another requirement: any project involving relevant financing must deliver results in a reasonably short timeframe. The financing agency, investing relevant resources in the project, needs to get results before the end of its mandate. Thus, political and financial constraints force project leaders to work with schedules that may be unrealistic for effective, careful deployment. This was the case with KEI, which was axed because of the pressure of delivering results too fast. The cases of TOL and e-Curia show that more than 10 years might be required from inception to full deployment. This timeframe does not meet the standard mandate of the financing agency, which is a good reason to regard such projects as long-term judicial reforms.

The robust institutional setting of the three case studies allowed the identification of different solutions to the challenges posed by the double normalization. The starting conditions, however, cannot be taken for granted. The challenges posed by EJP assume a different perspective when extended to judiciaries in which judges are struggling to protect fair trial standards and their individual and institutional independence. EJP can become another means to threaten judicial discretion and independence, forcing judges to adhere to the pre-packaged interpretation of the law provided by the system. EJP development needs to be approached as a long-term, large-scale judicial reform, with the judiciary in charge, to gain the advantages of EJP in terms of equal treatment, while simultaneously mitigating the risks of undermining other fundamental components of the fair trial.

References

- Amsler, L.B., Martinez, J.K., and Smith, S.E., 2020. *Dispute Systems Design: Preventing, Managing, and Resolving Conflict*. Stanford University Press.
- Aprile, S., 2011. *Rapporto ICT Giustizia: Gestione dall'aprile 2009 al novembre 2011* [online]. Rome: Ministero della Giustizia. Available from: http://www.distretto.torino.giustizia.it/allegato_riservata.aspx?File=5691 [Accessed 30 March 2022].
-

-
- Asser, W.D.H., et al., 2006. *Uitgebalanceerd. Eindrapport fundamentele herbezinning Nederlands burgerlijk procesrecht* [online]. Boom Juridische. Available from: <http://hdl.handle.net/20.500.12832/1335> [Accessed 30 March 2022].
- Augusto, A., 2003. Judicial Electronic Data Interchange in Italy. In: M. Fabri and F. Contini, eds., *Judicial Electronic Data Interchange in European Civil Proceedings and Criminal Matters*. Bologna: Lo Scarabeo, 281–303.
- Biancofiore, G., 2021. I numeri dell'avvocatura al 2020. *Cassa forense* [online], January-April. Available from: <https://www.cassaforense.it/riviste-cassa/la-previdenza-forense/previdenza/i-numeri-dell-avvocatura-al-2020/> [Accessed 8 April 2022].
- Bijker, W.E., and Law, J., eds., 1992. *Shaping technology, building society: Studies in sociotechnical change*. Cambridge, MA: MIT Press.
- Bing, P., Sharma, M.K., and Godla, J.K., 1999. Critical Issues Affecting an ERP Implementation. *Information Systems Management*, 16(3), 7–14.
- Bobek, M., 2021. What Are Grand Chambers for? *Yearbook of European Legal Studies* [online], vol. 23, 1–19. Available from: <https://doi.org/10.1017/cel.2021.5> [Accessed 30 March 2022].
- Borsari, G., 2014. *Processo civile telematico "online civil trial"* [online]. Conferenza internazionale - e-Justice and e-Law conference. Rome. Available from: <https://www.cortedicassazione.it/cassazione-resources/resources/cms/documents/Borsari.pdf> [Accessed 30 March 2022].
- Borsari, G., Tsevetkova, A., and Epineuse, H., 2021. *Analytical Overview of the State of Play in Electronic Court Filing (e-filing) in selected member States of the Council of Europe*. Strasbourg: Council of Europe.
- Bunjevac, T., 2020. *Judicial Self-Governance in the New Millennium: An Institutional and Policy Framework*. Singapore: Springer.
- Cappelletti, M., 1988. *Giudici irresponsabili? Studio comparativo sulla responsabilità dei giudici*. Milan: Giuffré.
- Cappelletti, M., 1989. *The Judicial Process in Comparative Perspective*. Oxford: Clarendon Press.
- Carnevali, D., 2006. L'Italia nel tunnel dell'e-justice. In: D. Carnevali, F. Contini and M. Fabri, eds., *Tecnologie per la giustizia, I successi e le false promesse dell'e-justice*. Milan: Giuffré, 83–132.
- Carnevali, D., 2011. Tecnologie dell'informazione e della comunicazione. In: A. Gaito, ed., *Digesto delle Discipline Penalistiche*. Turin: UTET Giuridica/Wolters Kluwer Italia, 684–708.
- Carnevali, D., and Resca, A., 2014. Pushing at the Edge of Maximum Manageable Complexity: The Case of Trial Online in Italy. In: F. Contini and G.F. Lanzara, eds., *The Circulation of Agency in E-Justice: Interoperability and Infrastructures for European Transborder Judicial Proceedings*. Dordrecht: Springer Netherlands, 161–183.
-

- Castelli, C., 2014. Il PCT è già una realtà. *Questione Giustizia* [online], 13 March. Available from: <https://www.questionegiustizia.it/articolo/il-pct-e-gia-una-realta-13-03-2014.php> [Accessed 30 March 2022].
- Castillo-Ortiz, P., 2019. The politics of implementation of the judicial council model in Europe. *European Political Science Review* [online], 11(4), 503–520. Available from: <https://doi.org/10.1017/S1755773919000298> [Accessed 30 March 2022].
- CEPEJ, 2016. *Thematic report: Use of information technology in European courts* [online]. Strasbourg: Council of Europe. Available from: <https://rm.coe.int/european-judicial-systems-efficiency-and-quality-of-justice-cepej-stud/1680788229> [Accessed 30 March 2022].
- CEPEJ, 2018. *European Ethical Charter on the Use of Artificial Intelligence in Judicial Systems and their environment* [online]. Adopted at the 31st plenary meeting of the CEPEJ. 3-4 December. Strasbourg: Council of Europe. Available from: <https://rm.coe.int/ethical-charter-en-for-publication-4-december-2018/16808f699c> [Accessed 30 March 2022].
- CEPEJ, 2021. *Guidelines on electronic court filing (e-filing) and digitalisation of Courts* [online]. Document adopted at the 37th plenary meeting of the CEPEJ, Strasbourg and online, 8 and 9 December 2021. Strasbourg: Council of Europe. Available from: <https://rm.coe.int/cepej-2021-15-en-e-filing-guidelines-digitalisation-courts/1680a4cf87> [Accessed 30 March 2022].
- Ciborra, C., et al., 2000. *From control to drift: The dynamics of corporate information infrastructures*. Oxford University Press.
- Consiglio Superiore Della Magistratura, 2015. *Monitoraggio e studio delle problematiche attuative del Processo Civile Telematico (Delibera di Plenum)* [online]. Rome. Available from: <https://www.csm.it/documents/21768/139453/monitoraggio+PCT+delibera+13+maggio+2015/e06908d7-7cc5-f044-8461-038625441c15> [Accessed 30 March 2022].
- Consultative Council of European Judges, 2018. *Opinion No. 21 (2018) Preventing Corruption Among Judges* [online]. Zagreb, 9 November. Available from: <https://rm.coe.int/ccje-2018-3e-avis-21-ccje-2018-prevent-corruption-amongst-judges/native/16808fd8dd> [Accessed 14 January 2021].
- Contini, F., 2013. The case of e-Curia at the Court of Justice of the European Union. In: F. Contini and G.F. Lanzara, eds., *Building Interoperability for European Civil Proceedings Online*. Bologna: CLUEB, 317–332.
- Contini, F., 2014. Searching for Maximum Feasible Simplicity: The Case of e-Curia at the Court of Justice of the European Union. In: F. Contini and G.F. Lanzara, eds., *The Circulation of Agency in E-Justice: Interoperability and Infrastructures for European Transborder Judicial Proceedings* [online]. Dordrecht: Springer Netherlands, 217–242. Available from: https://doi.org/10.1007/978-94-007-7525-1_9 [Accessed 30 March 2022].
- Contini, F., 2017. e-Curia or How Technology Changed the Court of Justice of the European Union. In: E. Guinchard and M.P. Granger, eds., *The New EU Judiciary*.

An Analysis of Current Judicial Reforms. Alphen aan den Rijn: Kluwer Law International, 325–340.

- Contini, F., 2020. Artificial Intelligence and the Transformation of Humans, Law and Technology Interactions in Judicial Proceedings. *Law, Technology and Humans* [online], 2(1), 4–18. Available from: <https://doi.org/10.5204/lthj.v2i1.1478> [Accessed 30 March 2022].
- Contini, F., and Cordella, A., 2010. ICT e Giustizia: successi e fallimenti tra legami deboli e governance duale. In: D. Carnevali, ed., *Soggetti smarriti: Perché innovazione e giustizia non si incontrano (quasi) mai*. Milan: Franco Angeli, 52–76.
- Contini, F., and Cordella, A., 2015. Assembling Law and Technology in the public sector: the case of e-justice reforms. *Proceedings of the 16th Annual International Conference on Digital Government Research* [online]. Phoenix: ACM, 124–132. Available from: <https://doi.org/10.1145/2757401.2757418> [Accessed 30 March 2022].
- Contini, F., and Mohr, R., 2014. How the Law Can Make It Simple: Easing the Circulation of Agency in e-Justice. In: F. Contini and G.F. Lanzara, eds., *The Circulation of Agency in E-Justice: Interoperability and Infrastructures for European Transborder Judicial Proceedings*. Dordrecht: Springer Netherlands, 53–79.
- Cordella, A., and Contini, F., 2020. *Digital technologies for better justice: A toolkit for action*. Discussion paper n° IDB-DP-761 [online]. Washington, DC: Inter-American Development Bank. Available from: <https://doi.org/10.18235/0002297> [Accessed 30 March 2022].
- Cordella, A., and Tempini, N., 2011. *E-government and Bureaucracy: The role of Functional Simplification in the case of the Venice Municipality* [online]. tGov Workshop '11. 17–18 March, Brunel University, West London. Available from: https://www.researchgate.net/publication/258698803_E-Government_and_Bureaucracy_The_Role_of_Functional_Simplification_in_the_Case_of_the_Venice_Municipality [Accessed 30 March 2022].
- Council of Europe Commissioner for Human Rights, 2019. *Unboxing Artificial Intelligence: 10 steps to protect Human Rights* [online]. May. Strasbourg: Council of Europe. Available from: <https://rm.coe.int/unboxing-artificial-intelligence-10-steps-to-protect-human-rights-reco/1680946e64> [Accessed 30 March 2022].
- Court of Justice of the European Union, 2011. *e-Curia – User Manual*. Luxembourg: Court of Justice of the European Union.
- Court of Justice of the European Union, 2020. *Annual management report 2019* [online]. Luxembourg: Court of Justice of the European Union. Available from: https://curia.europa.eu/jcms/upload/docs/application/pdf/2020-05/rapport_gestion_2019_en_final.pdf [Accessed 30 March 2022].
- Court of Justice of the European Union, 2021. *Annual Report 2020, Management Report* [online]. Luxembourg: Court of Justice of the European Union. Available from: https://curia.europa.eu/jcms/upload/docs/application/pdf/2021-04/ra_gestion_2020_en.pdf [Accessed 30 March 2022].
-

- DeBrusk, C., 2018. The Risk of Machine-Learning Bias (and How to Prevent It). *MIT Sloan Management Review* [online], 26 March. Available from: <https://sloanreview.mit.edu/article/the-risk-of-machine-learning-bias-and-how-to-prevent-it/> [Accessed 30 March 2022].
- Di Federico, G., 2002. L'indipendenza della magistratura in Italia: una valutazione in chiave comparata. *Rivista trimestrale di diritto e procedura civile* [online], 56(1), 100–128 Available from: http://www.difederico-giustizia.it/wp-content/uploads/2010/09/ss_0603104821_001indipmagistrat.pdf [Accessed 30 March 2022].
- Di Natale, L.J., 2020. *Digitising the Judicial Sector: A Case Study Analysis of the Dutch KEI Programme*. LSE.
- European Commission: DG Justice, 2020. *Digitalisation of justice in the European Union: A toolbox of opportunities* (COM (2020) 710) [online]. Brussels: European Commission. Available from: <https://www.europeansources.info/record/digitalisation-of-justice-in-the-european-union-a-toolbox-of-opportunities/> [Accessed 30 March 2022].
- European Group on Ethics in Science and New Technologies, 2018. *Statement on Artificial Intelligence, Robotics and 'Autonomous' Systems* [online]. Luxembourg: European Commission, Directorate-General for Research and Innovation Unit RTD.01 – Scientific Advice Mechanism. Available from: <https://op.europa.eu/en/publication-detail/-/publication/dfebe62e-4ce9-11e8-be1d-01aa75ed71a1> [Accessed 30 March 2022].
- European Network of Councils for the Judiciary (ENCJ), 2018. *Independence, Accountability and Quality of the Judiciary: Validation of methodology, exploring quality of justice and promoting judicial change*. ENCJ Report 2017-2018 [online]. Adopted General Assembly Lisbon, 1 June. European Network of Councils for the Judiciary. Available from: <http://www.csm1909.ro/ViewFile.ashx?guid=7cf8e898-cff6-4f12-9715-0b1cde3c0043-InfoCSM> [Accessed 30 March 2022].
- Fabri, M., 2005. Policies to enhance the quality of justice in Europe. In: M. Fabri, H. Pauliat and P. Langbroek, eds., *L'administration de la justice en Europe et l'évaluation de sa qualité*. Paris: Montchrestien, 69–83.
- Fabri, M., 2006. *Amministrare la giustizia: Governance, organizzazione, sistemi informativi*. Bologna: CLUEB.
- Fabri, M., 2009. E-justice in Finland and in Italy: Enabling versus Constraining Models. In: F. Contini and G.F. Lanzara, eds., *ICT and innovation in the public sector: European studies in the making of e-government*. Basingstoke: Palgrave, 115–145.
- Fabri, M., ed., 2008. *ICT for the Public Prosecutor's Offices*. Bologna: CLUEB.
- Faro, S., 2007. Il processo civile telematico: nota bibliografica. *Informatica e diritto* [online], 16(1-2), 259–267. Available from: http://www.ittig.cnr.it/EditoriaServizi/AttivitaEditoriale/InformaticaEDiritto/IeD2007_1-2_Faro.pdf [Accessed 30 March 2022].
-

- Fedele, I., 2020. *Processo Civile Telematico. Rassegna tematica della giurisprudenza di legittimità aggiornata con le decisioni pubblicate al 31 dicembre 2019* [online]. Rome: Corte di Cassazione. Available from: https://www.cortedicassazione.it/cassazione-resources/resources/cms/documents/Processo_civile telematico_-_Rassegna_sul_PCT_aggiornata_al_31_dicembre_2019.pdf [Accessed 30 March 2022].
- Fedele, I., ed., 2019. *Processo Civile Telematico. Rassegna tematica della giurisprudenza di legittimità aggiornata con le decisioni pubblicate al 31 dicembre 2018* [online]. Rome: Corte di Cassazione. Available from: [https://www.cortedicassazione.it/cassazione-resources/resources/cms/documents/_Rassegna_Tematica_sul_processo_civile tel ematico.pdf](https://www.cortedicassazione.it/cassazione-resources/resources/cms/documents/_Rassegna_Tematica_sul_processo_civile_tel ematico.pdf) [Accessed 30 March 2022].
- General Court of the European Union, 2015. *Press Release No 73/15. New procedural rules adopted by the General Court* [online]. 19 June. Luxembourg: CURIA. Available from: <https://curia.europa.eu/jcms/upload/docs/application/pdf/2015-06/cp150073en.pdf> [Accessed 30 March 2022].
- General Court of the European Union, 2018. Decision of the Court of Justice of 16 October 2018 on the lodging and service of procedural documents by means of e-Curia. *Official Journal of the European Union* [online], 20 November. Available from: [https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32018D1120\(01\)&from=FR](https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32018D1120(01)&from=FR) [Accessed 30 March 2022].
- General Secretariat of the European Council, 2017. *Working Party on the Court of Justice* [online]. Council of the EU/European Council, 9 November. Available from: <https://www.consilium.europa.eu/en/council-eu/preparatory-bodies/working-party-court-justice/> [Accessed 30 March 2022].
- Gloudemans-Voogd, N., 2015. Keuzes bij KEI: mijn zaak of het aansluitpunt. *Advocatenblad* [online], 7 July. Available from: <https://www.advocatenblad.nl/2015/07/07/keuzes-bij-kei-mijn-zaak-of-het-aansluitpunt-2/> [Accessed 30 March 2022].
- Gosain, S., 2004. Enterprise Information Systems as Objects and Carriers of Institutional Forces: The New Iron Cage? *Journal of the Association for Information Systems* [online], 5(4), 151–182. Available from: <https://doi.org/10.17705/1jais.00049> [Accessed 30 March 2022].
- Groupes de travail du greffe de la Cour, 2008. *e-Curia 0.3 – Spécifications fonctionnelles* Luxembourg: CURIA.
- Guarnieri, C., and Pederzoli, P., 2020. *The Judicial System: The Administration and Politics of Justice*. Cheltenham: Edward Elgar.
- Hildebrandt, M., 2008. Legal and Technological Normativity: more (and less) than twin Sisters. *Techne: Research in Philosophy and Technology* [online], 12(3), 169–183. Available from: <https://doi.org/10.5840/techne20081232> [Accessed 30 March 2022].

- Hildebrandt, M., 2015. *Smart Technologies and the End(s) of Law: Novel Entanglements of Law and Technology*. Cheltenham: Edward Elgar.
- Jacchia, M., ed., 2000. *Il processo telematico: Nuovi ruoli e nuove tecnologie per un moderno processo civile*, Bologna: Il Mulino.
- Kallinikos, J., 2006. *The Consequences of Information: Institutional Implications of Technological Change*. Cheltenham: Edward Elgar.
- Kallinikos, J., 2009. The regulative regime of technology. In: F. Contini and G.F. Lanzara, eds., *ICT and innovation in the public sector: European studies in the making of e-government* [online]. Basingstoke: Palgrave Macmillan, 66–87. Available from: https://doi.org/10.1057/9780230227293_4 [Accessed 30 March 2022].
- Katsh, E., and Rabinovich-Einy, O., 2017. *Digital Justice Technology and the Internet of Disputes*. Oxford University Press.
- Ke, W., and Wei, K.K., 2008. Organizational culture and leadership in ERP implementation. *Decision Support Systems* [online], 45(2), 208–218. Available from: <https://doi.org/10.1016/j.dss.2007.02.002> [Accessed 30 March 2022].
- Konina, A., 2020. Technology-Driven Changes in an Organizational Structure: The Case of Canada's Courts Administration Service. *International Journal for Court Administration* [online], 11(2), Art. 6, page 1–13. Available from: <https://doi.org/10.36745/ijca.326> [Accessed 30 March 2022].
- Krenn, C., 2008. Self-Government at the Court of Justice of the European Union: A Bedrock for Institutional Success. *German Law Journal* [online], 19(7), 2007–30. Available from: <https://doi.org/10.1017/S2071832200023312> [Accessed 30 March 2022].
- Langbroek, P.M., 2010. Organisational Development of the Dutch Judiciary, between Accountability and Judicial Independence. *International Journal For Court Administration* [online], 2(2), 21–30. Available from: <https://doi.org/10.18352/ijca.39> [Accessed 30 March 2022].
- Lanzara, G.F., 2009. Building digital institutions: ICT and the rise of assemblages in government. In: F. Contini and G.F. Lanzara, eds., *ICT and innovation in the public sector: European studies in the making of e-government*. Basingstoke: Palgrave Macmillan, 9–49.
- Lanzara, G.F., 2014. The Circulation of Agency in Judicial Proceedings: Designing for Interoperability and Complexity. In: F. Contini, and G.F. Lanzara, eds., *The Circulation of Agency in E-Justice: Interoperability and Infrastructures for European Transborder Judicial Proceedings*. Dordrecht: Springer Netherlands, 3–32.
- Lessig, L., 2007. *Code and other laws of cyberspace. Version 2.0*. New York: Basic Books.
- Liccardo, P., 2004. Identità e contingenza del Processo Civile Telematico. In: S. Zan, ed., *Tecnologia, organizzazione e giustizia: L'evoluzione del processo civile telematico*. Bologna: Il Mulino, 31–58.
- Luhmann, N., 1993. *The sociology of risk*. Berlin: Walter de Gruyter.

- Lupo, G., and Bailey, J., 2014. Designing and Implementing e-Justice Systems: Some Lessons Learned from EU and Canadian Examples. *Laws* [online], 3(2), 353–387. Available from: <https://doi.org/10.3390/laws3020353> [Accessed 30 March 2022].
- March, J.G., and Simon, H.H., 1958. *Organizations*. New York: John Wiley and Sons.
- Marinai, G., 2014. PCT, prime pronunce sulla validità degli atti in formato pdf-immagine e dei depositi telematici in assenza di decreto ministeriale autorizzativo. *Questione Giustizia* [online], 5 September. Available from: https://www.questionegiustizia.it/articolo/pct_prime-pronunce-sulla-validita-degli-atti-in-fo_05-09-2014.php [Accessed 30 March 2022].
- McAfee, A., 2006. Mastering the Three Worlds of Information Technology. *Harvard Business Review* [online], November, 141–149. Available from: <https://hbr.org/archive-toc/BR0611> [Accessed 30 March 2022].
- Minister van Veiligheid en Justitie, 2013. *Programma Kwaliteit en Innovatie rechtspraak Brief van de Minister van Veiligheid en Justitie* [online]. The Hague: Minister van Veiligheid en Justitie, Nr. 164. Available from: <https://www.parlementairemonitor.nl/9353000/1/j9vvij5epmj1ey0/vjarfx21u8xn> [Accessed 30 March 2022].
- Ministero della Giustizia, 2016. *e-Justice in Italy: the "Online Civil Trial"*. Rome: Ministero della Giustizia.
- Ministero della Giustizia, 2020. *Processo Telematico. Stato dell'arte al 31/12/2019*. Rome: Ministero della Giustizia.
- Momoh, A., Roy, R., and Shehab, E., 2010. Challenges in enterprise resource planning implementation: state-of-the-art. *Business Process Management Journal* [online], 16(4), 537–565. Available from: <https://doi.org/10.1108/14637151011065919> [Accessed 30 March 2022].
- Nandhakumar, J., Rossi, M., and Talvinen, J., 2005. The dynamics of contextual forces of ERP implementation. *Journal of Strategic Information Systems* [online], 14(2), 221–242. Available from: <https://doi.org/10.1016/j.jsis.2005.04.002> [Accessed 30 March 2022].
- Ontanu, A.E., 2019. Adapting Justice to Technology and Technology to Justice. A Coevolution Process to e-Justice in Cross-border Litigation. *European Quarterly of Political Attitudes and Mentalities* [online], 8(2), 1–18. Available from: https://repub.eur.nl/pub/120004/Repub_120004_O-A.pdf [Accessed 30 March 2022].
- Pagallo, U., Casanovas, P., and Madelin, R., 2019. The middle-out approach: assessing models of legal governance in data protection, artificial intelligence, and the Web of Data. *The Theory and Practice of Legislation* [online], 7(1), 1–25. Available from: <https://doi.org/10.1080/20508840.2019.1664543> [Accessed 30 March 2022].
- Pégny, M., Thelisson, E., and Ibnouhsein, I., 2019. The Right to an Explanation. An Interpretation and Defence. *Delphi* [online], 2(4), 161–166. Available from: <https://doi.org/10.21552/delphi/2019/4/5> [Accessed 30 March 2022].
- Rechtspraak, 2018. *Reset digitalisering van de Rechtspraak*. The Hague.

- Reiling, D., 2009. *Technology for Justice: How Information Technology Can Support Judicial Reform*. Leiden University Press.
- Reiling, D., 2020. De rechtspraak, toepassing van AI in de Rechtspraak. *Computerrecht* [online], 1(6). Available from: <https://home.hccnet.nl/a.d.reiling/html/Reiling%20Courts%20and%20AI%20v%201.0.pdf> [Accessed 30 March 2022].
- Reiling, D., 2021. Digital Justice, nice to have but hard to achieve. In: S.P. de Souza and M. Spohr, eds., *Technology, Innovation and access to justice*. Edinburgh University Press, 131–143.
- Ritter, T., and Pedersen, C.L., 2020. Digitization capability and the digitalization of business models in business-to-business firms: Past, present, and future. *Industrial Marketing Management* [online], 86, 180–190. Available from: <https://doi.org/10.1016/j.indmarman.2019.11.019> [Accessed 30 March 2022].
- Schmitz, A.J., 2021. Dangers of digitizing due process. In: K. Benyekhlef, ed., *AI and Law: A Critical Overview*. Montreal: Thémis, 99–137.
- Seibert-Fohr, A., ed., 2012. *Judicial independence in transition*. Heidelberg: Springer.
- Shapiro, M., 1981. *Courts: A comparative and political analysis*. University of Chicago Press.
- Stake, R.E., 2006. *Multiple Case Study Analysis*. New York: The Guilford Press.
- Steelman, D.C., Goerdts, J., and McMillan, J.E., 2004. *Caseflow management: The heart of court management in the new millennium*. 3rd printing, with revisions. Williamsburg: National Center for State Courts (NCSC).
- Stiegler, B., 2019. *The Age of Disruption: Technology and Madness in Computational Capitalism* Cambridge: Polity Press.
- Susskind, R., 2019. *Online courts and the future of justice*. Oxford University Press.
- Thompson, J.D., 1967. *Organizations in action: Social science bases of administrative theory*. New York: McGraw-Hill.
- TRConsult, 2018. *Quick scan Review KEI. Review op risicobeheersing en basis succescondities voor grote ICT-trajecten* [online]. 5 April. The Hague. Available from: <https://www.rechtspraak.nl/SiteCollectionDocuments/2018-rapport-review-commissie.pdf> [Accessed 30 March 2022].
- Uzelac, A., 2019. Supreme Courts in the 21st Century: should organisation follow the function? *Studia Iuridica* [online], 81, 125–138. Available from: <https://doi.org/10.5604/01.3001.0013.5464> [Accessed 30 March 2022].
- Van den Borne, F., et al., 2021. *Het stopzetten van KEI-civiel nader bezien: Een gordiaanse knoop?* Maastricht: Boom juridisch.
- Verzelloni, L., 2009. *Dietro alla cattedra del giudice: Pratiche, prassi e occasioni di apprendimento*. Bologna: Pendragon.
- Voltaire, 2019. *Commentaire sur le Livre des Délits et des Peines*. Paris: Hachette. (Originally published in 1766).

- Von Papp, K., 2018. The Role and Powers of the Court of Justice of the European Union. In: E. Guinchard and M.P. Granger, eds., *The New EU Judiciary: An Analysis of Current Judicial Reforms*. Alphen aan den Rijn: Wolters Kluwer, 101–122.
- Wallace, A., 2019. Ten Questions for Dory Reiling: Developing IT for Courts. *International Journal for Court Administration* [online], 10(1), 1–3. Available from: <https://doi.org/10.18352/ijca.293> [Accessed 30 March 2022].
- Yin, R.K., 2003. *Case Study Research: Design and Methods*. Thousand Oaks: Sage.
- Zan, S., ed., 2004. *Tecnologia, organizzazione e giustizia: L'evoluzione del processo civile telematico*. Bologna: Il Mulino.

Case law

- ECLI:NL:HR:2017:2629 - Hoge Raad, 13-10-2017 / 17/02977 [online]. Available from: <http://deeplink.rechtspraak.nl/uitspraak?id=ECLI:NL:HR:2017:2629> [Accessed 30 March 2022].
- ECLI:NL:HR:2018:366 - Hoge Raad, 16-03-2018 / 18/00143 [online]. Available from: <http://deeplink.rechtspraak.nl/uitspraak?id=ECLI:NL:HR:2018:366> [Accessed 30 March 2022].
- ECLI:NL:HR:2019:1283 - Hoge Raad, 19-07-2019 / 19/02017 [online]. Available from: <http://deeplink.rechtspraak.nl/uitspraak?id=ECLI:NL:HR:2019:1283> [Accessed 30 March 2022].

Annex.- e-Curia Interviews list

Principal Administrator B, Court of Justice of the European Union.

Topics: Case assignment and use of e-Curia by the Judges of the Court.

Date: December 9, 2020.

Principal Administrator B, Court of Justice of the European Union.

Topics: e-Curia improvements and use of the system the Judges of the Court.

Date: November 12, 2020.

Principal Administrator A, Court of Justice of the European Union.

Topics: Functioning of the system, results reached, problems faced, planned update, e-Curia interoperability via e-Codex.

Date: February 3, 2017.

Principal Administrator B, Court of Justice of the European Union.

Topics: Functioning of the systems, results reached, problems faced, planned update, e-Curia interoperability via e-Codex.

Date: February 3, 2017.

Principal Administrator A, Court of Justice of the European Union.

Topics: Functioning of the systems, results reached, problems faced, solutions found.

Date: November 15, 2016.