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E-Justice: Information and Communication Technologies in the Court System

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Section I E-Justice and Change in the Administration of Justice

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The Italian Style of E-Justice in a Comparative Perspective	1
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Marco Fabri, Research Institute on Judicial Systems, National Research Council, Italy

Chapter I discusses the European Union (EU), particularly in the justice sector. The diversity of environments within Europe provides contrasting examples of the use of technology to support the administration of justice. This chapter presents some of the findings of ongoing research on e-government in judicial administration, which has been carried on by the Research Institute on Judicial Systems of the National Research Council in Bologna, Italy. Finally, it detects some critical issues and trends in Italy in comparison with the challenges addressed by other countries.

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In spite of the technological, economic, and normative efforts, all democratic countries are developing electronic filing (e-filing) in the justice sector, but only a few of them have operational systems. Chapter II tries to give a solution to this situation in light of risk management theories in the development of the judicial electronic data interchange (JEDI). In the concluding remarks and future trends sections, the author will provide indications to support the development of ICT strategies in this area.

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Pompeu Casanovas, UAB Institute of Law and Technology, Spain

In Chapter III we present a research project whose main object is to identify, organize, model, and use practical knowledge produced by judges in judicial settings. To do so, we describe the steps followed to develop Iuriservice, a Web-based system intended to provide the Spanish judiciary with a tool to facilitate knowledge management in daily judicial practice. Iuriservice is a Web-based application that retrieves answers to questions raised by incoming judges in the Spanish judicial domain. This system provides these newly recruited judges with access to frequently asked questions (FAQ) through a natural language interface. The impact and limits of the implementation of Iuriservice in the larger context of the court system will also be considered. Finally, we will conclude by situating the Iuriservice example in the context of recent trends in judicial reform.

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Administration of justice is adding information and communication technologies in its internal operations and its relations both with judicial operators and citizens in Spain. Chapter VII describes the Spanish institutional framework characterized by the plurality of actors with competences in the administration of justice and the lack of mechanisms of coordination among them. Then, it sets out the different applications of ICTs within administration of justice, classified into four categories: treatment of information, management of judicial files, relations between judicial operators, and decision making. The analysis of such applications focuses on Spanish administration of justice. The chapter finally shows the impact of Spanish institutional framework of justice in the development of e-justice.

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Chapter VIII deals with the Italian judiciary which is characterised by a weak system of governance, consequence of institution and cultural factors. In this framework, the deployment of ICT policies has been mainly conceived as tools to improve the management, the operational efficiency, and the consistent application of rules so to strength the governance of the system. This approach to the ICT can easily be conceived as an attempt that aims to tightly couple the elements of a system that is by nature (constitutionally defined) loose coupled. In this framework, technology has been considered as, if not the instrument to govern, strengthening the liaisons in the organisation, judicial offices,

where other “traditional” tools have failed due to institutional and constitutional constraints. Matching and mismatching between institutional and technological constraints are analysed, providing a framework to discuss how these policies have been deployed and the consequence that the nature of the organisational liaisons is playing while the deployment of information systems is concerned.

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Roberto Fragale Filho, Universidade Federal Fluminense, Brazil
Alexandre Veronese, Universidade Federal Fluminense, Brazil

It has become commonplace to talk about a silent revolution in the Brazilian Judiciary for which the widespread use of ICT has been of great impact. In Chapter IX we examine how ICT made its way through and is shaping the future of the Brazilian Judiciary. The first part is dedicated to a brief description of the Brazilian judicial system. The second part is divided in three different moments, always related to the use of ICT in the courts. Initially, we exam the earlier experiences, mostly related to electoral matters. Then, we investigate the debate over the national PKI system and electronic process statutes. Finally, we take a look at different ICT initiatives, focusing especially on labor courts. In the final part, we draw some conclusions, trying to sketch a future agenda of research and listing some references for those willing to go further on the matter.

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J. William Holland, Georgia Bureau of Investigation, USA

Chapter X outlines the history of digital government in criminal justice, starting with the Johnson Administration’s findings concerning automation in its report, “The Challenge of Crime in a Free Society,” the development of the national criminal justice network, and the creation of SEARCH Group, a consortium of states that led the effort to create computerized criminal histories of individual offenders. A brief discussion of the issues these efforts attempted to solve will be developed. The narrative will describe how these initial activities created the basic parameters for all subsequent developments in the area of criminal justice automation. Several major problems and controversies of criminal justice automation will be described and placed in their historical context. Examples of criminal justice initiatives will be provided and their success in solving some of the problems discussed will be described. The chapter concludes that it is time to rethink the older criminal justice digital government paradigm from the 1960s and create a new model more in tune with today’s developments in a highly mobile, digital and integrated society. Questions about the impact of this new model on traditional constitutional safeguards, including individual liberty and privacy will be raised.

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Sandra Potter, Potter Farrelly & Associates Pty Ltd, Australia
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Chapter XI tracks the response of Australian courts to rapid advances in ICT. It shows how, despite early resistance and a reactive approach to technology, Australian courts have been transformed by the challenges of implementing ICT. It illustrates with case studies the way Australian courts have drawn on each experience to improve their processes, and have come to lead the world in using practice notes and protocols as a control measure for procedural change. It reviews current experiences in Australian jurisdictions, presenting courts who now see ICT as a tool for managing workflows throughout their organisation. The authors foresee the challenge for Australian courts will be keeping this control, and contend that courts who achieve this are more likely to have ICT as the servant, not the master, of the justice process. They anticipate that Australia's success can be seen as a paradigm for other courts facing similar challenges.

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Yves Poulet, University of Namur, Belgium

Chapter XII examines the ambitious Phenix project, a global project for the whole computerization of all Courts and Tribunals in Belgium, with the use of ICT by all stakeholders. It focuses especially on the legislative measures that have been taken, mainly in relation to data protection and legal value of the documents generated by the use of the electronic procedure.

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Courts on the Web in Russia 196

Alexei Trochev, Queen's University, Canada

When the Internet reached Russia in the mid-1990s, Russian judicial chiefs actively embraced the idea of having a solid presence of national judiciary on the Web. To judges, having court Web sites would improve public awareness about Russian courts and relieve overloaded court clerks from answering mundane questions about the location of courthouses, hours of work, schedule of hearings, court forms, and so on. However, the chronic underfinancing of Russian courts in the 1990s and the decentralized nature of the Russian judiciary made the creation and the maintenance of the lower courts' Web sites much more sporadic. Improving public awareness about Russian courts is a priority for Russian judges, who increasingly issue impartial decisions yet at the same time face growing public skepticism about judicial performance (Solomon, 2003, 2004; Trochev, 2006). As the growing number of studies of the information and communication technologies (ICT) in courthouses around the world show, computerized courts can both speed up the administration of justice and strengthen public trust in the judicial system (Bueno, Ribeiro, & Hoeschl, 2003; Dalal, 2005; Fabri & Contini, 2001; Fabri & Langbroek, 2000; Fabri, Jean, Langbroek, & Pauliat, 2005; Langbroek & Fabri, 2004; Oskamp, Lodder, & Apostola, 2004; Valentini, 2003; Malik, 2002). Indeed, as the recent research demonstrates, those who know something about the courts: either about court procedures or about court-ordered public policies, tend to trust the judiciary and to comply with court decisions (Baird, 2001; Gibson, Caldeira., & Baird, 1998; Kritzer & Voelker, 1998; Tyler & Mitchell, 1994; Tyler, Boeckmann, Smith, & Huo, 1997). Chapter XIII focuses on the Web sites of Russian courts as the virtual gateways in the world of judicial administration (Trochev, 2002) and

discusses challenges of adapting Russian court Web sites to the needs of various users of judicial system: judges themselves, law-enforcement agencies, actual litigants, general public and scholars (Toharia, 2003).

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<i>Anne Wallace, University of Canberra, Australia</i>	

A 1999 Australian report on the prospective impact of information and communications technology on the justice system presented a vision of how technology might result in a new paradigm of 'e-justice.' Since that report was written, Australian courts have had nearly two decades of experience of the introduction of new technologies. Chapter discusses the experience of e-justice in Australia to date and argues that it still has some way to go to achieve the goals set out in the 1999 report. It suggests that, to date, the implementation of information and communication technology (ICT) in courts has largely concentrated on enhancing traditional methods of delivering justice. The innovative potential of technology is something that courts are still coming to terms with. In particular, courts have been slow to embrace the possibilities for the delivery of new kinds of services that will transform the nature of their relationship with users.

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Preface

Communication, or more precisely the information which goes with it, is the basis for all social order. Law, as a manifestation and product of this social life, also depends on flows of information. For this reason, the form and content of the law have continuously changed with the type of communicative instruments available. The jump from the oral to written word or the handwritten form to large-scale reproduction via the printing press wrought many cultural changes, the consequences of which were not fully visible until after long periods of time. As such, we can say that legal systems and contemporary judicial structures and procedures are the result of many centuries of development, in which the dominant communicative infrastructure and its supports (the spoken word, the written word, the printed word, and, as of now, the “digitalised” word) have determined both the form and content of the law.¹ The nature of the law and the way in which justice is administrated is without doubt conditioned by the underlying system of information. In this way, the information undercurrent also determines, up to a certain point, the complexity of the law, its structure, and the speed of the regulatory changes.

The end of the twentieth century has been marked by the appearance of information and communication technologies (ICTs) which, in themselves, represent the start of a new era. The establishment of these extensive communication networks linked to the potential of instruments that allow information to be stored, managed, and transmitted rapidly and cheaply is creating a rapid transformation of traditional modes of social and economic organisation. Ways of governing and administrating the public domain are not immune to these changes, nor is the administration of justice, also a public service.

Academic and professional literature on electronic government is growing steadily. The majority of developed countries already have nearly two decades of experience behind them in designing and implementing e-government strategies in many areas of the public administration, beginning in the management of taxes through to health services. Nevertheless, in the field of judicial administration, the practical advances in the application and use of ICTs have been, until quite recently, generally much slower and problematic.

Law and justice are not immune to changes in the prevailing communicative infrastructures because they are extremely information intensive. What happens after the introduction of information and communication technologies? How does or how can this new medium of ICT effect the judicial system? As one author cited in this volume puts it, too many of our courts are still like “islands of paper” in an “electronic ocean.”² However, since the very organisation of judicial systems is based on the exchange of information, the potential to be attained by the introduction of ICTs is even higher than in other fields. And yet the judiciary (lawyers and judges) are divided between the extremes of cyber-optimism and cyber-pessimism, between those who recognise the range of benefits aris-

ing from the unstoppable advance of networked technologies and those who only see the negative aspects of a process they consider to bring with it legal insecurity, threats to fundamental rights, illegal use of information, and so on. It is not surprising that this should be the case, in as much as we find ourselves in a phase of transition and therefore “crisis,” if you take the term literally as that conjuncture of change to an organised reality where all that is old seems useless and what is new is too unstable, as that which is still in motion and subject to evolution and therefore experienced with a certain level of uncertainty.

The truth is that information and communication technologies have appeared at a very opportune moment: the “juridification” of our societies has caused our judicial systems to become enormously complex, submitted to constant change and practically impenetrable even to the experts. This has also had immediate repercussions at litigation level, in such a way that our courts are put under great pressure if they really want to offer the service to which they are entrusted.

The extent and success that the use of ICT have had in other areas, particularly the management of public services, has meant that during the last decade the judicial powers from the majority of developed countries have started to implement electronic solutions in the government and administration of its services. There is little doubt that the capacity, turnover, and output of our judicial system could be markedly improved and that ICTs could contribute to the most efficient way of achieving that improvement.

It is often expounded that since the domains of law and justice are very bureaucratic fields and at the same time bound by a plethora of procedures, the resistance to change is strong. Certainly, there is a lot of reason in this analysis. However, it is also possible that the slow uptake and problems encountered in the introduction of ICTs into the world of justice—not taking into account the idiosyncrasies and specific problems of each country—could also lie with the need of judges and lawyers to minimise the risks implied by the implementation of new methods of courts management where the consequences on the global system have not yet been fully evaluated. We are, as we have said, in a very uncertain territory, and there is nothing lawyers fear more than uncertainty. When we ask the real actors—judges, lawyers, prosecutors, and so on—their opinion, the answer is always the same: technologies YES, but they have to guarantee the basic principles of legal certainty, integrity, and authenticity of documents, data privacy, and an independent judiciary. So, currently there is consensus—and empirical evidence, as some of the contributions of this volume show—in the affirmation that the application of ICTs in courts carries with it a multitude of benefits. Among the benefits, we should mention:

- **A more efficient judicial system** in the way it increases productivity and diminishes costs of transaction from a system which, as we have said, is highly information intensive;
- **A more effective judicial system**, by reducing the duration of procedures—thus saving both time and money—and through putting systems for document resource administration as well as other associated tools (video-conferencing, software for working in collaboration online, etc.) within the reach of judges and courts;
- **Increasing the citizens' level of access to the judiciary** by providing the best information available and a better understanding not only of the way the courts work but also, more importantly, of the legal instruments in their reach to ensure recognition of their rights;
- **Improved transparency** of the way the judiciary works, in that the technologies facilitate an improved control of cases and allow a better qualitative evaluation of outputs;

- **Increase in the confidence of citizens and business in the judicial system.** The sum of which results in a,
- **Greater legitimacy** of judicial power.

New forms of law and new doctrinal questions are arising due to the new economic and social realities driven by technological changes. Changes in the models of administration, the rules and procedures of our laws and statutes, cannot be implemented without going deeper into what our judicial powers are grounded on. The reform of the management of the judicial process following the widening use of networks is a must because legal efficiency and effectiveness are not only requirements but also a fundamental part of the due process. This additionally implies the elimination of unnecessary delays and a more collective, horizontal, and collegiate management of the courts.

It is clear that technological advances will not be held back, and judicial powers would do well to understand this and to respond positively to the challenge, putting trust in the incorporation of technologies into their everyday work, albeit in a way that is sure to guarantee keystone legal principles which safeguard democracy, the rule of law, and the fundamental rights of citizens.

An in-depth study is therefore required in order to look at and reflect upon the phenomena taking place, in order to determine with greater precision the direction in which the changes cited are leading us and the way in which to avoid risks. To this end, we contribute this collection of articles, written by a group of researchers and experts in the field.

The book includes contributions from different parts of the world (Australia, Belgium, Brazil, Italy, Russia, Spain, or the United States of America). However, this is not the most important aspect. Chapters have been written by world leading researchers on e-justice working from the most prestigious research centres in this field, that is, the *Research Institute on Judicial Systems of the Italian National Research Council* in Bologna (Italy), the *National Center for State Courts* of the United States of America, the *Institute of Law and Technology* at the Universitat Autònoma de Barcelona (Spain), or the *Centre de Recherches Informatique et Droit* in Namur (Belgium).

The chapters have been organised into two sections. In the first section, entitled **E-Justice and Change in the Administration of Justice**, we have included those articles that try to show the impact of information and communication technologies on the culture and the organisation of the administration of justice, and how they have helped to improve its effectiveness and efficiency. There are many elements that are analysed in the section: cultural change, organizational change, strategic plans, privacy, transparency, and corruption in the court system, knowledge management, decision making, and security and risk management.

Marco Fabri, in *The Italian Style of E-Justice in a Comparative Perspective*, presents some of the findings of an ongoing research on e-government in judicial administration. It illustrates how European Union countries are harnessing information and communication technologies to support the operation of their legal systems. The chapter not only identifies different strategies as well as tools developed, but also common trends between European countries. In particular, the top-down bureaucratic logic of actions to implement information and communication technologies in Italy is analysed. Finally, the lack of exchange of information on e-justice between European countries and the problem of interoperability between organisations and systems is noted.

In *E-Justice and Policies for Risk Management*, Davide Carnevali tries to explain why only a few countries are using information and communication technologies in operational systems in justice. From risk management theories, the author provides indications to support the development

of information and communication technologies strategies in the development of judicial electronic data interchange.

Marta Poblet, Joan-Josep Vallbé, Núria Casellas, and Pompeu Casanovas present in *Judges as IT Users: The Iuriservice Example* the main conclusions of a research project whose main object was to identify, organise, model, and use practical knowledge produced by judges in judicial settings. They describe Iuriservice, a Web-based system intended to provide the Spanish judiciary with a tool to facilitate knowledge management in daily judicial practice.

In *The Potential of Computerized Court Case Management to Battle Judicial Corruption*, James E. McMillan presents opportunities to develop processes and procedures that can battle corruption. In particular, the chapter provides information on the development of a computerised court management system implemented in Bosnia and Herzegovina and looks towards future potential developments in this area. The use of this system also entails greater efficiency and speed in the daily work of the courts.

In *Justice Beyond the Courts: The Implications of Computerisation for Administrative Justice in Social Security*, Michael Adler and Paul Henman consider the implications of computerisation for administrative justice in the field of social security. They attempt to determine whether, and if so how, the use of information and communication technologies affects the balance of power between competing models of decision making and also those who seek to promote them. The chapter is based on a study carried out by the authors in 13 OECD countries. This study allows us to see different effects of computerisation in different models of decision making in administrative justice.

The first section is closed with a chapter written by Melissa H. Conley Tyler on *Online Dispute Resolution*. In this chapter, the main uses of information and communication technologies to resolve disputes and conflicts are shown. In particular, the emergence of the area called online dispute resolution, which is used in new areas such as domain name or e-commerce, is analysed.

The chapters included in the second section, entitled **Experiences of E-Justice in the World**, start from the explanation of the evolution of the uses of information and communication technologies in the court system and the description of the different applications used, and goes on to try to explain why each country has reached a certain level of e-justice development.

Agustí Cerrillo, in *E-Justice in Spain*, sets out the different applications of information and communication technologies within administration of justice in Spain. The chapter, after analysing the institutional framework of justice in Spain, shows its impact in the development of e-justice.

Francesco Contini and Antonio Cordella, authors of *Italian Justice System and ICT: Matches and Mismatches Between Technology and Organisation*, analyse matching and mismatching between institutional and technological constraints and how the organisation of judicial offices can influence to a great extent the success or failure of information and communication technologies in the judiciary. They see how although information and communication technologies are mainly conceived as tools to improve management, efficiency, and consistent applications of rules, they have failed to improve the judiciary in Italy.

Roberto Fragale and Alexandre Veronese in *Electronic Justice in Brazil* examine how information and communication technologies make their way through and are shaping the future of the Brazilian judiciary. They show three stages in the development of e-justice in Brazil that have positioned this country as a leading country in e-justice in Latin America.

J. William Holland, in *Digital Government and Criminal Justice*, outlines the history of digital government in criminal justice in the United States of America and sets out questions about the

impact of this new model of justice on traditional constitutional safeguards, including individual liberty and privacy.

In *The E-Court Roadmap: Innovation and Integration of an Australian Case Study*, Sandra Potter, Phil Farrelly, and Derek Begg show rapid advances of information and communication technologies in Australian courts. It shows how despite early resistance and a reactive approach to technology, Australian courts have been transformed by the challenges of implementing the use of information and communication technologies.

Yves Poulet, in *The Belgian Case: Phenix or How to Design E-Justice Through Privacy Requirements and in Full Respect of the Separation of Powers?*, after setting out the main characteristics of the Phenix project, a global project for the whole computerisation of all courts and tribunals in Belgium, analyses its relation to data protection and privacy.

Alexei Trochev, in *Courts on the Web in Russia*, analyses the use of Web sites by Russian courts and shows its potential for improving the administration of justice and the image of judiciary in the eyes of the public.

Finally, in *E-Justice: An Australian Perspective*, Anne Wallace explains nearly two decades of experience the Australian courts have in the introduction of information and communication technologies. The chapter shows how the implementation of ICT in courts has concentrated on enhancing traditional methods of delivering justice and the potential of technology in the future.

ENDNOTE

¹ Vid. Benyekhlef, K., Sénécal, F., 2007: "Groundwork for Assessing the Legal Risks of Cyberjustice", Manuscript. See also Susskind, R., 2003: *Transforming the Law. Essays on Technology, Justice and the Legal Marketplace*. Oxford: Oxford University Press.

² Leeuwenburg & Wallace, 2003, p.11.

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Barcelona

March 2008

Section I
**E-Justice and Change in the
Administration of Justice**

E-Justice: Information and Communication Technologies in the Court System

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Chapter I

The Italian Style of E-Justice in a Comparative Perspective

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ABSTRACT

The European Union (EU) is an extraordinary laboratory of innovation and change, particularly in the justice sector. The diversity of environments within Europe provides contrasting examples of the use of technology to support the administration of justice. This chapter presents some of the findings of ongoing research on e-government in judicial administration, which has been carried on by the Research Institute on Judicial Systems of the National Research Council in Bologna, Italy. More in detail, the chapter considers the Italian case in a comparative perspective. It illustrates the great diversity of ways in which EU members are harnessing information and communication technology (ICT) to support the operation of their legal systems, and it identifies different strategies as well as tools developed. Finally, it detects some critical issues and trends in Italy in comparison with the challenges addressed by other countries.

INTRODUCTION

The European Union is an extraordinary laboratory of innovation and change. The diversity of institutional settings within Europe provides contrasting examples of the use of technology to support the administration of justice (Fabri & Woolfson, 2001; Oskamp, Lodder, & Apistola, 2004).¹ The variety of solutions adopted by individual countries, both technically and managerially, offers a unique insight into judicial

applications of information and communication technology (ICT). It also demonstrates the size of the challenge facing Europe if it is to harmonize systems across national boundaries (Fabri & Langbroek, 2000).

This is particularly in Italy, where the Ministry of Justice has invested many resources on ICT projects for the judiciary to improve the effectiveness of its justice system in constant crisis (Di Federico, 1998; Guarnieri & Zannotti, 2006), among the other European Union (EU)

countries (Zuckerman, 1999). Unfortunately, the gap is very deep between what has been projected and what has been realized until now. Actually, the working applications that are currently running in the Italian courts and prosecutor's offices are very few, considering the huge numbers of projects, and in comparison with some other European countries (Fabri & Contini, 2001). In Italy, ICT has not been yet the enabler of change that many policy makers expected it to be. Technology has not really challenged the actual judicial organizational structures (Barely, 1986), the structure of power (Garvin, 1993; Weick, 1990), the procedures, or the micro-ecology of actions (Bateson, 1972).

This work analyzes the Italian case in a comparative perspective, and it is organized as follows. The first part of the chapter deals with the e-government strategies adopted in some European states to deploy ICT in the justice system. Then, the second part of the chapter focuses on the ICT developments in some countries, which seem to have the most interesting running application. The third part exploits the ICT governance structure in the Italian justice system, followed by a brief description of the main IT projects and deployments in the Italian justice courts and prosecutor's offices. The concluding remarks deals with some critical issues and trends.²

E-GOVERNMENT STRATEGIES IN JUSTICE SYSTEMS

In the EU, there is a continuum from situations in which ICT projects are still in the hands of the centralized ministries of justice to the establishment of court services agencies and the consequent devolution to them of the functions related to the development of ICT in the justice systems. For example, in Austria, the projects are handled by the Ministry of Justice with the assistance of the Federal Computing Centre,

which gives technical support to the different public administration units as far as ICT projects are concerned. In Belgium, within the General Services of the Ministry of Justice, there is the Centre for Information Processing, which is assisted by experts and users' groups made up of judges, clerks, and ICT managers. Denmark has recently established a Court Service Agency, similar to the ones in Ireland, England, and Wales, within which there is a department for ICT. A similar situation is present in Norway where the State Court IT Service, which is supervised by but independent from the Ministry of Justice, is in charge of the development and implementation of ICT projects. In Sweden, the Ministry of Justice coordinates ICT matters along with the National Court Administration and the other national agencies for probation, police, prosecution, and prisons. In Finland, a Judicial Administration Department within the Ministry of Justice is in charge of ICT strategy, while technical matters are taken care of by the Data Administration Bureau, a unit of the Ministry. In France, ICT is strictly under the control of the Ministry of Justice which has a commission for data processing, including representatives of all the directorates of the Ministry: clerks and delegates from the legal profession. In Germany, ICT policies are developed by the ministries of justice of the states (*Länder*) in accordance with the chief judges and prosecutors of the various judicial offices. Local judicial councils also play a vital role in the implementation process (Fabri & Contini, 2001).

Strategies to develop e-government projects in the justice systems are also strictly connected to training and involvement of all the judicial actors. All countries acknowledge the importance of training in ensuring the success of a project, and almost all countries have dedicated training centres for ICT. Most training is still delivered in the conventional way. Use of Web-based e-learning is not widespread as yet, although a

pilot project is underway in Italy. In Austria, a computer-based multimedia tool called “process oriented learning” is used for training on new IT applications.

In many European countries, there remains a clear distinction between use of ICT by administrative staff and by judges and prosecutors. It is very interesting to note that in most countries ICT training is compulsory for court personnel but voluntary for judges and prosecutors. In some, at least, judges are required to attend training sessions before receiving a computer.

Post-implementation assistance has benefited more from developments in the private sector with several countries using call centres and online help-desks. In some countries, help-desks are staffed by the same end users that have contributed to the development of the project, thus generating a continuing project commitment.

Despite the differences referred to above, some common trends emerge, particularly in the approach to procurement. E-government projects in many EU judiciaries tend more and more to be outsourced, both because of lack of ICT development skills within court systems and because outsourcing is felt to be more cost-efficient. However, this strategic choice is not without drawbacks, since it may weaken the judicial system by making it too dependent on vendors for the design of systems and for technical assistance, including the implementation of changes after the system comes into operation. In particular, the shortage of skilled people in ICT in the administration of justice, where salaries are generally not comparable with the market, is becoming a very sensitive problem, strengthening a problematic dependency on the vendors. In addition, much of the ICT investments in Western European courts is still driven by decisions made in the past. Countries that purchased mainframe systems in the early 1980s were kept for many years from moving to more efficient platforms as

they became available. Some countries have adopted measures to combat such problems. For example, there is a move towards the use of open source software. Several countries have established public sector agencies specifically to procure systems on behalf of government departments, which tend to have features of “techno-structures” (Mintzberg, 1979). The hope is that such agencies will be less at the mercy of vendors because of their in-house ICT skills and the breadth of their procurement responsibility. Some other countries have abandoned the traditional procurement process of buying hardware and software, and instead sign contracts in which ICT vendors design and develop systems at their own cost and lease them back to the government. This liberates public bodies from exposure to the risk of developing the system, but the problem of dependence on a single vendor remains, at least for the duration of the contract. The Scandinavian countries have put great emphasis on user evaluation as a means of influencing vendors. By involving court personnel in evaluation workshops, seminars, and end-user focus groups, countries such as Sweden and Finland have helped to build project commitment and push vendors towards providing better services.

FROM CASE TRACKING THROUGH CASE MANAGEMENT SYSTEMS TO E-JUSTICE

It is interesting to note how in several countries IT projects commenced in a similar way in the early 1980s with land registry and properties databases or legal databases (Fabri & Contini, 2001; Oskamp et al., 2004). This is an important factor to take into consideration because these legacy systems afterwards have generated some problems in the upgrading of ICT platforms, primarily due to the fact that in the 1980s the

mainframe systems were based on vendors' proprietary architecture.

Another common trend in the 1980s and the early 1990s was that design, development, and implementation of IT projects did not follow any plan but were isolated answers to specific problems. In recent years, the adoption of project management tools has favoured a more systematic approach, and now several countries have developed an information technology strategic plan to improve the consistency and the interoperability of the different IT investments.

It is a matter of fact that e-government projects in the courts and prosecutor's offices means first of all the development of case tracking systems. Many EU countries have case tracking systems of some kind in their courts and prosecutor's offices, but their functionality and performance varies.

A continuum emerges from traditional case tracking systems to applications developed to better manage the workflow of a case, then support e-filing, electronic data interchange, and the buzzword e-justice. There are effective and well-designed systems functioning, for example, in Norway, Finland, Austria, and Estonia, where the problems connected to legacy systems do not exist—England and Wales—in particular in the criminal field. It is noteworthy that countries have developed their own case management system and that no information has been shared on the different applications among the European countries, outsourcing many phases of the projects and their deployment due to a lack of technical expertise in the ministries of justice or court service agencies.

Many countries are looking to integrate case management systems developed over time by different justice agencies. The problem is present in all jurisdictions but is particularly acute in countries where the justice system is more fragmented such as England, Wales, and Spain, where the political process of increasing the power of the autonomous communities

created a significant problem of coordinating judicial ICT projects.

The development of more sophisticated case management systems is also needed to provide better management information to monitor the quality of the court processes, improve the methods of forecast and appraisal of performance, as well as electronic IT systems for cost control. These needs are more sensitive in some countries, for example, Ireland and the Netherlands, than in others, where the traditional approach to collect "just" traditional statistical information is considered sufficient. An interesting issue that needs to be further investigated is the possible challenge that a sophisticated case management system might generate to the independence of judges. The same problem might also be raised with regard to the development of sentencing guidelines through IT support, which seems to have slowed down after an initial interest a few years ago.

A natural development of case management systems is to allow electronic filing and, more generally, judicial electronic data, or document, interchange (JEDI). Many countries, but not all of them, have already developed a good ICT infrastructure with a virtual private network for the judiciary or the judicial system in general. These countries are planning the possibility of exchanging information through intranet or Internet applications, but JEDI and, in particular, electronic filing, as implemented in some courts in the United States, has not yet been used in the European courts (Fabri & Contini, 2003).

In Finland an integrated civil and criminal e-filing and case management system based on a proprietary internal network has been running since 1993. They do not use a public key infrastructure (PKI) yet, and they are upgrading their systems to a Web-based one. It is noteworthy that Finland is a perfect example of how judicial electronic data interchange is possible without a complicated PKI infrastructure.

The same strong message came also from Austria, where several civil cases use electronic transactions between the attorneys and the courts without a PKI infrastructure. A strong incentive for attorneys to use the e-filing system comes certainly from the court policy which offers a reduction of court fees to each attorney who uses the e-filing system. In order to avoid frivolous actions, the judge has a strict control on case filings.

In Austria information on bankruptcy proceedings and land register files are available to the public via the Web, a possibility which is not given to the Finnish, who can access the case management of the court only if they use a specific workstation within the courthouse, due to concerns of privacy. In this respect, a project worthy of note is the "Exchanging Hearing Information Project" (XHBIT) used in England, which distributes automatically an electronic court log to the parties by fax, a pager, a mobile phone, e-mail, and a Web site. In this way, parties are informed of the hearing stages, and they do not waste their time unnecessarily waiting in the courthouse.

Another application to mention as a successful example is the Bulk County Court Centre in England. The Bulk Centre is used by large creditors, such as utility companies, and it transfers the repetitive and cumbersome work of money claims from local courts to a central computer-supported "back office" in Northampton, which processes all these cases automatically with a computer-based application. Based on this positive experience, Money Claim on-Line has been established, which is an online system for consumers and business that can submit claims (up to about 150,000 euro) to recover money using a fully Web-based procedure. If the claim is undisputed, the claimant can apply for a judgment order and request enforcement online by warrant to a court bailiff.

However, security in almost all the European countries, particularly in those that have not

developed any JEDI application so far, remains the issue of greatest concern. It looks like the development of judicial data interchange in Europe will depend on the development of a reliable digital signature system, which needs a quite complex infrastructure. Together with smart cards, such a system will constitute a fundamental step on the road to large-scale use of electronic filing by the courts. Until now the absence of procedures and the slow pace of implementation of digital signature has impeded progress. The issues to be addressed by any system employing digital signature are well-known: guaranteeing the authenticity of the sender and ensuring the integrity of documents and nonrepudiation (Walker, 1999).

ICT GOVERNANCE IN THE ITALIAN JUDICIAL SYSTEM

Not many ICT projects that are currently underway would have occurred without a new government policy about technology in the public administration that led to the creation of the Authority for Information Technology in Public Administration (AIPA) in 1993.³ AIPA was established to promote, coordinate, plan, and control the development of information systems in all the branches of public administration. The ultimate goal was to improve the services supplied by public administrations to the citizens through the use of ICT. In particular, AIPA coordinated strategically all the ICT projects in the public administration, approving the three-year ICT plan that each administration and government agency has to present to AIPA yearly. Other important tasks were the *regulatory* ones that include setting of standards for planning, designing and managing information systems, as well as the definition of quality and security policies. Among the regulatory tasks, AIPA also set criteria to monitor contracts related to the projects carried out by

the administrations. AIPA had also significant *promoting tasks* to stimulate projects that involve more administrations and to increase the development of the ICT infrastructure. Other tasks carried out by AIPA were the *financial ones*. AIPA, through both an *auditing* process and a *cost evaluation* analysis, checked the information technology procurement process followed by the administrations. *Training* and, in general, the ICT knowledge transfer within the public sector are other functions developed by the AIPA. These latter are mainly pursued through technical publications and the organization of courses, workshops, and seminars. AIPA is also an *advisory body* for the government. In this role, the AIPA defined the first technical rules on digital signature adopted by the Italian government.⁴

In April 2001, a new Ministry of Innovation and Technology was established to further boost the use of ICT. Within the Ministry, a National Center for Information Technology in Public Administration (CNIPA), which has taken over the tasks of AIPA, without changing the functions performed to assist the public administrations in the development of ICT projects. The law that established AIPA provided also for the creation of ICT departments in each ministry. The goal was to connect the single administrations with AIPA, giving also a new organizational structure to ICT departments within the public administrations.

In particular, in recent years, the ICT Department of the Ministry of Justice has known a huge growth in both budget and personnel.⁵ The executive positions of the ICT Department are held by magistrates;⁶ actually, the general manager of the ICT Department is a magistrate. The fact that the executive positions of the ICT Department are held by magistrates should come as no surprise, since it confirms the rule that sees almost all the executive positions of the Italian Ministry of Justice held by magistrates.

From the governance setting just described, it should be clear who is managing, funding, designing, and evaluating the ICT projects developed in the public administrations and in the judiciary in particular. Actually, each ministry is in charge of designing, managing, and funding its own ICT projects. The projects have to be proposed in the three-year ICT plan that every year has to be presented and approved by the CNIPA. Every year the CNIPA presents a three-year plan itself that collects remarks on the three-year plans of all the administrations, as well as a trend evaluation of ICT in the public sector. This plan must be approved by the government. The three-year plan is an important tool to coordinate the various initiatives, but the most important one is the mandatory opinion that each administration is forced to ask the CNIPA on ICT contracts.⁷ This is certainly the strongest way through which the CNIPA can coordinate the ICT initiatives among the public administrations, even though it is not always very effective. The strategic decision to leave inside each administration the design, the planning, and the implementation of the ICT projects, as well as the responsibility of the ICT developments, was probably made to create a sort of accountability and ownership of the projects, even if it is not really clear how this accountability can be enforced.

As far as the technology governance of the courts and prosecutor's offices is concerned, it is important also to mention the initiative undertaken by the Judicial Council. This latter, after the institution of the ICT Department of the Ministry of Justice, has established the peculiar position of the *ICT magistrate*. In each of the 26 Italian judicial districts, two—with few exceptions—*ICT magistrates*, one for the civil and one for the criminal area, have been appointed to coordinate, stimulate, and evaluate the ICT initiatives set out in their district. The meaning of this decision lies in the judge's and prosecutor's

Table 1. ICT expense and budget of the administration of justice (data in million euro)⁹

Year/Expense	2000	2001	2002	2003	2004	2005
Administration of justice budget	6,049.9	6,314.6	6,341.6	6,576.0	6,903.5	7,368.0
ICT expense in the justice field	169.74	202.50	172.03	177.85	154.19	141.28
ICT expense on justice budget	2.81%	3.21%	2.71%	2.70%	2.23%	1.92%

Table 2. Maintenance and development expense of the administration of justice (data in million euro)

Year/Kind of expense	2000	2001	2002	2003	2004	2005	Total
Maintenance	87,502	97,880	75,512	116,944	109,040	99,167	586,045
Development	82,244	104,630	96,520	60,909	45,153	42,113	431,569
Total	169,746	202,510	172,032	177,853	154,193	141,280	1,017,614

Table 3. ICT expense per business area (data in thousand euro)

Year/Business Area	2000	2001	2002	2003	2004	2005	Total
Infrastructure and shared applications	69,452	14,746	58,520	60,500	35,840	50,995	290,052
Miscellaneous and general matters	308	950	196	0	0	107	1,561
Criminal records	2,877	3,622	3,707	3,133	5,272	2,631	21,242
Civil area	12,033	40,934	32,121	61,097	40,587	23,737	210,509
Criminal area	60,296	115,506	57,427	39,652	52,473	51,962	377,315
Management area	956	409	353	236	5,815	0	7,769
Court of cassation	1,864	2,310	1,130	3,046	894	2,406	11,651
Cassation judgments	1,170	2,262	0	388	948	15	4,782
Department of prison	15,018	19,135	17,165	8,598	11,263	8,555	79,734
Juvenile area	5,772	2,636	1,413	1,203	1,101	869	12,994
Total	169,746	202,510	172,032	177,853	154,193	141,280	1,017,614

perceptions that it is important to look after the implementation of ICT in the judicial system. Information and communication technology is certainly considered a critical issue to keep the actual power structure in the courts and in the Ministry of Justice; therefore, it cannot be relegated solely to managers or ICT specialists, but it must instead receive the focused attention of the magistrates.

However, after the initial boost, the ICT Department of the Ministry of Justice shows some tendencies to apply the traditional bureaucratic logic of action (Friedberg, 1993), losing the needed flexibility which is fundamental to promote innovation processes. For example, the implementation strategy adopted by the ICT Department of the Ministry of Justice is still following a strict top-down approach, and it has not really changed even with the establishment of the regional offices. The ICT Department of the Ministry of Justice decides about ICT applications, and the use of such applications are mandatory for courts and prosecutor's offices all over the country without taking into consideration the different context in which they are going to be deployed.

Another major problem is that the ICT Department of the Ministry of Justice seems still too weak in dealing with the ICT vendors.⁸ In particular, the Ministry of Justice seems still too dependant on ICT vendors for technical design, implementation policy, monitoring, and developing of projects as well as for technical assistance. Even though the ICT Department has recently hired system analysts and computer programmers, most of the project design as well as the information systems maintenance and development is still outsourced. This creates major problems in the interconnectivity among different systems as well as dysfunctional ties with vendors that tend to play a dominant role in the ICT solutions proposed to maximize their profit. The establishment of the CNIPA

has partially mitigated this situation, but the technical weakness of the ICT Department of the Ministry of Justice is still a major problem. In addition, the salaries offered to ICT experts are much more appealing than the ones available in the public administration. As a consequence, many ICT people after a brief experience in the public sector leave the administration for the private sector.

The tables show the IT costs reported by the Italian Ministry of justice in relation with its total budget (Table 1), split for maintenance and project development (Table 2), and for business area (Table 3).

As shown in Table 2, the expenses for ICT development have been overcome by those for maintenance. If, on the one hand, this may be considered a logical consequence of the progressive growth of the use of IT applications in the administration of justice, on the other hand, the number of effective running applications within the judicial office is so low in comparison to the project planned on paper, and not satisfactory that these costs raise some doubts on the real deployment and developments of ICT projects.

Table 3 shows the different business areas of investment and their changed in the last years with a significant increase in the civil area, also due to the so called "civil trial online" project.

PROJECT AND RUNNING APPLICATIONS IN THE ITALIAN JUSTICE SYSTEM: A SYNTHESIS

If on the one side, in the recent years ICT projects have certainly burst into the Italian judicial system, on the other side, the main problem is still the implementation of these numerous projects, that in many cases are stuck in the feasibility study or in an everlasting piloting stage. The

projects have the interest of the criminal and the civil business as well as the administrative operations of both courts and prosecutor's offices, along with the Ministry of Justice. This section briefly describes some of these projects to give a broad overview of what has been planned and implemented so far.

In the criminal area, the case tracking system (the so-called Re.Ge.) is worth mentioning. It is currently running in all of the 165 courts of first instance, in the attached prosecutor's offices, and in quite a few of the 26 courts of appeal. The software is a typical automated case tracking system based on a client-server architecture. The software allows a limited data interchange between the courts and the attached prosecutor's offices. It was designed, and it is still, as an automation of the handwritten paper docket, as a register of actions of the case life from the criminal complaint until the sentence. Each court or prosecutor's office end user is differently qualified with a user ID and a password to access the system, and then modifies or updates records. There are several different levels of passwords based on the qualification of the end users.

In some prosecutors' offices, where the caseload is very high, the data entry can also be done by optical acquisition of the criminal complaints. Re.Ge. was designed as a "perfect functional equivalent" (Contini, 2000) of the previous paper docket; it actually automated the *status quo*; it was not projected to be a real case management system or an informing technology (Zuboff, 1988). It was not designed to help judges and prosecutors in their decision making process, even if in some limited cases, empirical research (Fabri, Contini, & Negrini, 1999) has shown how courts' personnel tried to increase potentiality. For example, some typical database functions were used to automate the production of standard judicial documents, and a smart use of the database allowed some prosecutors to develop the investigations about massive crimes

such as car thefts. Since its first implementation, there have already been several releases of the same software to meet the end users' demands but also to meet the numerous law changes that have characterized the Italian criminal law, since 1989 when the code of criminal procedure was redrafted. As of today, the tracking system is very outdated, and courts and prosecutor's office are in tremendous difficulties to manage it. The Ministry of Justice has been working to replace it with a Web-based application with functions closer to a case management system rather than a mere case tracking tool. The new application is in its piloting stage and it is supposed, but considering the record of delay of the Ministry of Justice, it is doubtful that it will happen, to be disseminated in the courts in April 2008.

Generally speaking, judicial offices have a very little margin to customize the software disseminated by the Ministry of Justice, which is in charge of its design, planning, implementing, monitoring, and developing. Empirical research (Fabri et al., 1999) has shown how this top-down, centralized approach is a limit to the innovation process. Actually, the initial possibility to develop some local applications autonomously by judicial personnel in courts or prosecutor's offices was particularly appreciated, generating a sense of ownership and a positive attitude toward technology. This possibility is now strongly discouraged by the ICT Department in the attempt to have a strong control over the applications all over the country, and also to prevent security problems.

The second system running is the application used by antimafia prosecutors. Italy has a special unit of prosecutors with a central bureau in Rome (*Direzione Nazionale Antimafia*) and 26 prosecutor's district offices (*Direzione Distrettuale Antimafia*), which correspond to the 26 districts of court of appeal. These antimafia units use a specifically designed standard query language (SQL) database (called SIDNA and SIDDA)¹⁰ which classify the information collected by the

prosecutor's office. Then it is supposed to help the prosecutors in their investigative work by a retrieval system. The application has been implemented in all of the 26 district offices and in the central Rome bureau where all the information about mafia crime are processed. The communication between the local units and the central bureau is still one of the major problems of the working system. Many times important information is not transmitted to Rome from the regional offices to preserve the absolute secrecy of the information. In addition, the data entry process, and its indexing, is made manually mainly by police forces. Therefore, it is extremely cumbersome and costly. As far as it is known, evaluation on the real use of the system by public prosecutors is not available.

Currently an upgrade of the really outdated National Criminal History Record System (*Casellario Giudiziario*) has been deployed. The system is supposed to electronically file immediately after the conviction and keep track of both convictions and formal indictments of the defendants nationwide.¹¹ The application should solve the serious problem of delay in filing convictions, but also in this case the Ministry of Justice has not envisaged an evaluation process of the application after its implementation, which, as far as we know, is not running very well according to several judicial officers.

Among other applications that are running, with several problems in different courts, there is a software for the tracking of the execution of sentences. This is one of the most troublesome criminal areas since the flourishing of different laws creates many difficulties to compute the length of the convictions as well as to keep the software constantly updated (called RES-Re.Ge.).¹² Related to this project is the information system (called SITUS)¹³ specifically designed for surveillance judges (*magistrati di sorveglianza*) who are in charge to supervise

jails and inmates. These two applications are supposed to be upgraded and merged in just one application in the "near" future.

In the civil area, all the courts, both of limited and general jurisdiction, have case tracking systems (SICC) with limited workflow capabilities. In some courts, an electronic repository (POLIS) of first instance sentences has been piloted. These sentences, as well as a limited access to the state of the proceedings, are available on the Web for remote access by lawyers (so called POLIS WEB) through digital signature. However, this is a perfect example of how the most relevant difficulty to the development of these systems is not technology but the need to make judges work in a different way to have the sentences in the database, as well as to change the organizational case flow. The application should be progressively extended to the other courts and be connected to the case management systems, but once again, the step between the pilot and the software dissemination seems to be always very difficult in the Italian experience.

POLIS, and in particular POLIS WEB, were supposed to be the test bed for a much more ambitious project which is called by the Ministry of Justice "the online civil trial."¹⁴ Here it would be sufficient to say that after more than 12 million euro spent in six years,¹⁵ the "online civil trial" is *de facto* at the time of this writing, and a limited e-filing system of injunctive orders still piloted in just 6 out of 165 Italian courts. A Government Bill, presented to the Parliament in May 2007, states that the use of this application by lawyers shall be mandatory for injunctive orders, forced sales, and social security cases by 2010. We doubt that the use of technology in the Italian judiciary enforced by law would produce the expected positive results.¹⁶ The project needs a large diffusion of digital signature, and it is very complex from the technological, normative, and organizational

perspective. It will be—and already is—one of the most expensive failures of the ICT history of the Italian justice system.¹⁷

Some other applications are available but cannot be mentioned in full. For example, one of the projects that cuts through both the civil and the criminal areas is the development of the database of the Court of Cassation, which contains European Union, state, and regional legislation, as well as jurisprudence of the Court of Cassation, the Constitutional Court, the Council of State, and the Court of Account. Historically, the Court of Cassation has been the only court to provide electronic access to abstracts of its sentences through an information retrieval software (*Italgiure-Find*) based on a mainframe technology. This service is available for free to judges and prosecutors and on payment for all the other users. The system has migrated to a client-server architecture with a much more user-friendly interface as well as a more powerful full text research engine. In addition, an XML (eXtensible Markup Language) schema has also been used to tag the sentences of the Court of Cassation. On this issue the Ministry of Justice is also carrying out, with other public administrations, a project (“*norme in rete*,” “laws online”) to create an Internet Portal to search law documents through the World Wide Web. The portal is already accessible at www.normeinrete.it, but several improvements are still needed. In the future the documents should use the XML standard to tag data and then enabling the search engine to locate information more accurately. Besides the project “*norme in rete*,” the Ministry of Justice is carrying out several projects with others public administrations to share information of common interest, but just very few local applications have really worked so far (e.g., connection to the city council registry office).

FUTURE TRENDS IN ITALY

In terms of general evolution, given the maintenance costs of current applications, the cutbacks in funding in the public sector as a whole, and, above all, the poor record of the Ministry of Justice when it comes to the development of useful ICT applications, it is hard to believe that developments in the use of ICT tools will be positive in the next few years. The gap between what is needed and what the Ministry of Justice is able to develop and to manage is still too great to be easily bridged. However, there are several projects underway, which would indicate the direction of ICT evolution in the Italian justice system.

The current public network infrastructure (known as *Rete Unitaria della Pubblica Amministrazione*) is moving over to a new infrastructure, known as the Public System of Connectivity (*Sistema Pubblico di Connattività*, SPC), which should perform better and be less expensive. This investment should increase the amount of electronic exchange of information within the public sector and, in particular, the use of certified electronic mail (*posta elettronica certificata*, PEC). In this respect, the government is heavily promoting electronic services that can be accessed by citizens, and the justice sector will be no exception. However, past experience shows that the problems do not lie in the development of appealing projects but in making them happen. As experience teaches, building information technology and communication infrastructure is important but not sufficient in order to develop effective and up and running applications. However, as far as the justice sector is concerned, the development of this new infrastructure should allow 450 out of the 849 justice of the peace offices to connect up to the public network. At present they do have not a fast and secure connection.

Generally speaking, the intention, not necessarily reflected in actual developments,

is to improve the generally outdated current applications that are at present in use in the courts and the public prosecutors' offices with Web-based, user-friendly, and more effective IT tools. In addition, the intention is to take many of the projects that are still stuck at the feasibility study or testing stage and bring them to completion. However, the cutbacks in funding for the public sector as a whole do not augur well. In addition, in the three year ICT plan of the Ministry of Justice, about 80% of the three year budget (about 429 million euro) has been allocated solely to the management and evolution of current applications and only 4% to the development of online applications.

Thanks to the use of certified electronic mail, it is hoped that the system of electronic requests and document delivery from the courts to members of the public will be improved. Development of the so-called "auction online" is also planned. This concerns the sale of goods which have, for example, been confiscated by the courts. At present these goods are only advertised on the Web.

In particular, as far as the priorities in the civil sector are concerned, the Directorate on Information Technology of the Ministry of Justice has sunk most of its resources into the so called "civil trial online." The goal is now much less ambitious than it was a few years ago, but it is still the most heavily promoted project and receives substantial support, notwithstanding the very poor results achieved so far. Other future developments will involve the use of the so-called electronic money order, which has only been tested in 7 out of 165 courts of first instance so far. In the future, in order to progressively increase the use of electronic transactions between the courts and other parties, electronic data interchange is expected to involve other kinds of civil proceedings, such as social security cases, which are, generally speaking, highly repetitive. However, as mentioned earlier, the

most probable future result, and not an evolution, will be a dramatic downsizing of present projects, which will have very little hope to being implemented as planned.

In the criminal area, a brand new application for managing criminal records should shortly be adopted throughout the country. It would appear to be a major improvement on the very old and outdated application, but an assessment of how it works in practice is strongly recommended. The application is also intended as part of a European project for the exchange of criminal records, which is in the pilot stage, at the time of writing, and includes France, Germany, Spain, Luxemburg, Belgium, and the Czech Republic.

As mentioned earlier, the outdated case tracking application used by the courts and the prosecutor's offices is due to be replaced by a new one which will be Web-based and more user friendly. The new application is now in the testing phase. It is scheduled for adoption in April 2008. The first installations are planned for about five medium-sized prosecutors' offices and related courts and then implementation should progressively involve all the 165 courts and prosecutors' offices in the country. Based on past experience, it is doubtful that this schedule will actually be observed.

The Ministry of Justice is also working on the electronic filing of crime reports from the different police forces to the prosecutor's offices. The aim is to avoid the duplication of typing, possible mistakes, and the costs of snail mail or personal delivery, and to make the communication of crime reports to the prosecutor's office faster and more reliable. Another project involves the electronic storage and retrieval of all the documents and records produced during criminal hearings. The project is now being tested in a court room where a digital audio-video recording system has been installed, and the IT application scans the paper documents

to be stored and then included in the record of the court hearing.

Probably the most interesting developments regarding specific IT applications are taking place in two prosecutor's offices. In one case, semantic knowledge management technology has been used in a complex investigation with thousands of documents and unstructured data. The application looks extremely promising and has been very effective at the local level. It is hoped that the Ministry of Justice will look carefully into the project, which could have a very positive impact in complex investigations such as organized crime and terrorism. In another case, an interesting evolution of the case management system has been developed, creating a Web based workflow application for managing and retrieving all the documents handled by the public prosecutors. The core of the application is the digitization of the public prosecutor's files, which should contain all the documents produced during the investigation (police reports, wiretapping records, phone numbers, data available from the case tracking system, etc.) in electronic form, and will allow electronic access to other databases (e.g., criminal records, prison records, personal records, land records, etc.) which might be of use to the investigation team. The application will have a search engine to allow traditional full text document retrieval, and can be used as a knowledge management tool to generate points for investigation. In addition, the application has a crawler which can search the local newspaper and will allow users, if requested, to share the information with other public prosecutors within the office, who could then carry out a related investigation. The application has been designed to use open source software as far as possible.

CONCLUDING REMARKS

There are some common problems that seem to be faced by all the European judiciaries and some that are more related to the different strategies and approaches followed by every country. There is still a very limited circulation of information on ICT in the administration of justice. This is a pity since there are many common problems held to which solutions have already been found but not shared. Therefore, we hope that *next* there will be an increase in the studies of judicial administration with a particular emphasis on ICT. This latter should lead to a constant exchange of information between scholars, practitioners, and policy makers in order to share the knowledge that has been attained in different contexts, but that is not easily available at the moment. To lose such knowledge is an enormous waste no one can afford, especially considering the big mistakes that have already been made in the development of ICT applications and the costs related to such failures. Sharing information, best practices, monitoring progress is also an important step towards the definition of benchmarks, and fundamental stimuli to a virtuous circle of change.

It has also to be emphasized that the administration of justice still seems to be considered "a world apart" in the broad e-government debate. It is about time justice was included among the priorities for e-government projects in Europe.¹⁸ However, it is clear how the European administrations of justice could do much more towards the development of e-services than they do at present. Using the four-stage model for benchmarking e-government projects in the European Union,¹⁹most of the European administrations of justice reach stage 2 (downloading of forms), but very few, and on selected projects, reach stage 3 (two way interaction), and even fewer stage 4 (case handling). Therefore, a lot of work is still

to be done in implementing ICT in the justice sector. In addition, not much appears to have been done in terms of listening to the “voice of the customers,” which is important to further development towards valuable e-services.

Several European countries have good ICT infrastructures, but this is not to be considered sufficient itself to advance the development of ICT in the administration of justice, but it is certainly a requirement. The problem of low IT literacy as well as the *digital divide* between some social strata can be fought with a good ICT infrastructure, which means low cost and high speed over the Internet. However, this will not solve all the problems connected to access to justice.

Another issue is a certain lack—again in some countries much more than in others—of project evaluation. European judiciaries are not immune from the “technology for technology’s sake” syndrome, or the *appearance of modernity*, and the impact of ICT on the quality of justice seems disregarded in many countries. The problem of interoperability between different organizations and, therefore, different systems is one of the most acute. There is not a significant exchange of documents between different judicial agencies; the level of integration is still very low in the judiciary. The problem seems more acute in countries with a federal system of the state, where each state has its own budget and tends to develop its own ICT system, which tends to limit the exchange of information.

In many cases, projects face many problems due to the poor technology used or to the complexity of the application that challenges the technology available. Security is, in some countries more than in others, a fear which can freeze, *de facto*, any innovation. However, in many cases PKI infrastructure is very expensive and considered excessive for the management of the courts’ electronic transactions, so that

authentication by user name and password is thought to suffice in order to access the court records electronically. In some countries, technology literacy is still a problem; certainly education and training, particularly in large organizations, are still key issues for the capillary diffusion of ICT. However, in many cases applications are not user-friendly, generating further difficulties for personnel.

There are countries that have adopted a *re-engineering and regulative approach*, while, on the other hand, there are countries that have been using a *pragmatic and incremental approach*. The latter has given better results so far in Austria, Estonia, Finland, and, partially, England (Susskind, 2003), where more e-services have been developed. Good results have been obtained starting from simple projects that can add some value to the court’s work immediately. The pragmatic and incremental approach is more effective to cope with one of the biggest challenges for successful ICT implementation much better, which is mobilizing the organization for the change that such implementation requires. The greatest obstacle to progress is only in part the technology itself; to a greater degree it is the capacity of institutions and organizations to make the required changes to the current working practices and attitudes in order to reap the benefits that the technology can bring. This is a long process that calls for an incremental and pragmatic approach.

A pragmatic and incremental approach has also been used for regulation, which, generally speaking, has followed ICT application, once tested, and not *vice versa*. To regulate in advance all the possible situations created by the use of an ICT application represents a considerable constraint for process innovation. This is what is happening in the countries that have adopted a “re-engineering and regulative” approach. Much frustration is being experienced, and resources are being wasted because “re-engineering” the

entire work process is very appealing on paper but extremely difficult in practice. Usually, these projects of gigantic proportions—the Italian “civil trial online” is a perfect example, with goals that are, for the time being at least, too ambitious have to deal with complexities that are too great and this leads to failure, draining of a lot of resources with disappointing results when put into practice. The judiciaries that have obtained some good results with ICT so far have focused on the cost/efficient delivery of services to their customers, seeking to make progress in practical terms so as to establish credibility, avoiding pipe dreams. Being precipitous, attempting to change rapidly by means of technology is a big mistake.

The situation is particularly critical in Italy, where there is a deep gap between what has been projected and what has been realized until now. In the Italian courts, there are a lot of feasibility studies, initiatives, pilots, and prototypes, but the number of working systems in a large number of judicial offices is still quite low. With a motto, we could say that in the Italian Judiciary “everything is feasible, but few things are realizable.” This lack of visible results is already generating a dangerous mistrust in the ICT capability to improve the quality of work and then the quality of justice. The risk of a goal displacement in the introduction of information technology is very high.

The introduction of information technology is not a goal itself, but it should bring a perceived benefit to the functioning of courts, such as more visibility, more accountability, a better quality of decisions, a faster pace of litigation, and a decrease in the cost of the proceedings. In addition, the judiciary has been very poor at evaluating and measuring the actual contribution made by technology to the administration of justice. The impact on the quality of justice is even less considered. These are the areas in which the greatest improvements are needed, as

the Italian judiciary struggles with the bewildering range of choices that technology provides.

Technology is a great opportunity of support to the judicial process and a stimulus for the revision of old and dysfunctional practices, but it is not a “plug and play” tool. It needs to be carefully nurtured and put in the correct institutional governance setting to give some positive organizational outcomes.

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ENDNOTES

¹ The current 27 European Union member states have a total population of about 500 million, with individual countries ranging from Luxembourg with 400,000 inhabitants to Germany with over 80 million. These very different sizes among the EU member states imply also differences in the number of judges and prosecutors, as well as administrative personnel. For example, there are countries with a few hundred judges, such as Finland, Denmark, Norway, and Ireland; countries with over 1,000, for example, The Netherlands, and Austria; and countries with several thousands, as is the case of France, Italy, and Spain. Quite peculiar are the situations in Great Britain with about 1,600 professional judges and more than 30,000 lay magistrates, and in Germany with more than 20,000 judges. There are also contrasting approaches to judicial governance structures. For example, almost all the countries of continental Europe have ministries of justice, but they often serve quite different functions. In addition, countries such as France, Spain, Portugal, Belgium, and Italy have nationwide judicial councils, established originally to ensure the independence of the judiciary, but—to very

different degrees—now playing a major role in judicial policy-making. In France, prosecutors are organizationally under the direction of the Minister of Justice but are considered part of the judiciary. In Italy, prosecutors have no hierarchical ties with the Minister of Justice and enjoy the same independent status as judges: they can easily switch between prosecutorial and judicial positions. In the majority of the other European countries, the office of public prosecutor is completely separate from the judiciary and has ties with the government for the definition of prosecution policies. In Great Britain, government agencies administer and run most courts. In England and Wales, the organization of the police into 43 semi-autonomous forces hindered coordination and led to the establishment in 1986 of the Crown Prosecution Service as an independent national prosecuting agency. Scandinavian countries have ministries of justice, but progressively they have shared organizational and policy-making functions with dedicated and specialized agencies. Austria and Belgium, notwithstanding the federal structure of the state, enjoy a hierarchical and centralized organization of the administration of justice.

² This work benefits of several research coordinated by the Research Institute on Judicial Systems of the Italian National Research Council (IRSIG-CNR) with financial support from the AGIS Programme of the European Commission and from the FIRB Programme of the Italian Ministry of University and Research.

³ The Authority for Information Technology in the Public Administration (AIPA) was created by the law n. 39 of 1993.

⁴ Presidential decree n. 513, November 1997: “Regulations establishing criteria and means

for implementing section 15 (2) of Law 59, March 1997, concerning the creation, storage and transmission of documents by means of computer-based or telematic systems.”

⁵ The department has now more than 500 people, and it has 13 regional offices (CISIA) spread throughout the country.

⁶ In the Italian justice systems, the word “magistrate” identifies both judges and public prosecutors, who are both considered part of the Italian judiciary. Their status (recruitment, career, transfer, disciplinary decisions) is managed by the Judicial Council (Consiglio Superiore della Magistratura).

⁷ The opinions are generally mandatory for contracts over 160,000 euro, even if it really depends on the kind of contract. The opinion can be: positive, positive under certain conditions, or negative. The opinion by the AIPA is due within 45 days.

⁸ On this regard, it is worth mentioning that all the public administrations are strongly invited to use (Presidential decree n. 101, 4 April 2002) a special government agency for e-procurement (CONSID). See: <http://www.consid.it> and <http://www.acquistinretepa.it>.

⁹ Source: Ministero della Giustizia, Relazione del Ministro della giustizia nell'anno 2006, Roma, 2007.

¹⁰ SIDNA stays for “Sistema Informativo Direzione Nazionale Antimafia,” “Information System for Antimafia National Bureau.” SIDDA stays for “Sistema Informativo Direzione Distrettuale Antimafia,” “Information System for Antimafia District Bureau.”

¹¹ The need to keep track of the defendants formally indicted was introduced by the 1989 code of criminal procedure. It is still a major problem to make available this information to all the courts and prosecutors’ offices in the country.

- ¹² RES stays for “Registri esecuzioni,” “Enforcement registry of action.”
- ¹³ SITUS stays for “Sistema Informativo Tribunali e Uffici di Sorveglianza,” “Information Systems for Tribunals and Surveillance Offices.”
- ¹⁴ A more appropriate translation should be “civil proceedings online,” since more than the use of electronic means for the trial the goals would be the exchange of documents and communication in the civil proceedings by electronic means.
- ¹⁵ These are the official numbers reported by the Ministry of Justice. For the online civil trial, the Ministry spent about 5 million euro in 2003, about 4 million euro in 2004, and about 5 million euro in 2006 (about 84% of the investments for ICT projects in the civil area).
- ¹⁶ In several official e-government documents issued by the Italian Ministry of Justice, it is stated that “the online civil trial should decrease the length of proceedings of at least 20%, and it should increase the efficiency of administrative tasks by 30-40%.”
- ¹⁷ The Presidential Decree n. 123 of 13 February 2001 has established the so called “technical rules” to implement the “civil proceedings online.”
- ¹⁸ For example, among the basic public services online identified by the EU Member States as e-government indicators for benchmarking eEurope, none is related to justice (http://europa.eu.int/information_society/eeurope/2002/news_library/documents/eeurope2005/eeurope2005_en.pdf). See also: http://europa.eu.int/information_society/eeurope/2005/doc/all_about/quality_usage_final_report_2003.pdf
- ¹⁹ See footnote 6. http://europa.eu.int/information_society/eeurope/2002/documents/Overall_report_FINALv2.doc

E-Justice: Information and Communication Technologies in the Court System

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Chapter II

E-Justice and Policies for Risk Management

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ABSTRACT

In spite of the technological, economic, and normative efforts, all democratic countries are developing electronic filing (e-filing) in the justice sector, but only a few of them have operational systems. This chapter tries to give a solution to this situation in light of risk management theories. Different strategic approaches to policies for risk management have been adopted by institutions governing ICT technologies in the development of the judicial electronic data interchange (JEDI). As the author shows with the support of the information provided by several case studies, such approaches are correlated to the (positive and negative) results achieved by the different countries in terms of successful implementation and diffusion of e-justice. In the concluding remarks and future trends sections, the author will provide indications to support the development of ICT strategies in this area.

INTRODUCTION

The organization of justice systems is essentially based on the exchange of information. Therefore, the potential of the ICT is definitely high in this area. Not only can it lead to a potential reduction of both time and costs, but also to an improvement of citizen access to judicial services, which can contribute towards improving the quality of justice (Carnevali, Contini, & Fabri, 2006). Investments in ICT applied to

the justice sector are steadily increasing all over the world. This means, in the first instance, the development of automated case management systems (CMS) from docket automation and case tracking to the automation of workflow as a whole. Second, it means the development of e-justice or, more correctly, the *Judicial Electronic Data Interchange* (JEDI) applications supporting e-filing systems (Fabri & Contini, 2001).

Some countries, such as the United States, Australia, and Singapore, have taken advantage of the Internet to developing e-justice for citizens. In Europe almost all countries are testing the use of ICT to improve the quality of work of judicial organization, which is still mainly paper based. And they have changed their rules in order to allow the use of electronic means to exchange documents related to judicial business (Fabri & Contini, 2003). However, notwithstanding all the technological and economic efforts and changes to rules, only a few countries (e.g., Finland, Austria, and England) have actual and working JEDI applications supporting e-filing systems all over the country, which, on the contrary, can often be found in projects and feasibility studies (Carnevali et al., 2006).

These circumstances have raised some questions to which this chapter will try to give some answers. Is the difficulty to provide and implement working JEDI applications maybe linked to the fact that the use of the electronic means is not perceived as safe enough in the exchange of data and documents regarding judicial business? Is risk management a useful key to interpret the current level of development of JEDI applications? What are the risk management strategic approaches prevailing in the different realities? What was the effect on the subsequent policies adopted and the results achieved in terms of successful implementation and diffusion of e-justice?¹

FROM CASE MANAGEMENT SYSTEM TO JUDICIAL ELECTRONIC DATA INTERCHANGE: INCREASING COMPLEXITY AND SECURITY CONCERN

After providing a first overview about the evolution from CMS to JEDI, this section will show how this path is strictly linked to the information system (IS) setting in which these applications

run. The increasing of security concern, which has occurred in the technological and organizational process towards e-justice, is related to the makeover and increasing complexity (technical, organizational, and normative)² of information systems as explained below.

CMS: The Main Application of a Closed Information System

CMS is the main application related to ICT in the courts and prosecution offices. At present, almost all countries taken into consideration in our research have implemented more or less sophisticated CMSs. That evolution is mostly linked to the adoption of improving technological features of CMS applications, the main steps of which will be clearly identified hereafter.

From the 1980s to the 1990s, automated CMSs, or better, case tracking systems, were developed in some countries starting from the paper docket (e.g., Belgium, Netherlands, France, Italy, and Spain) and in others from land and property registries (e.g., Austria, Germany, and Scandinavian countries) (Fabri & Contini, 2001). The technical, organizational, and normative complexity of those systems was relatively low. Their main function was to keep track of justice proceedings. Designed to computerize the existing administrative tasks, the automated CMS was developed without any particular legal constraint, and no serious problems of regulation arose (Carnevali et al., 2006; Fabri & Contini, 2003). Furthermore, CMSs were initially planned to collect data within the “closed information system” of single agency or court (LAN and client-server architecture). The exchange of data between courts and prosecutors’ offices or between different levels of jurisdiction was not allowed.

The relative low complexity of automated CMSs and the fact that they run on closed IS limited the security concern, mainly on the technical reliability of the system, and also on

the appropriate use by the users (individual adoption). Therefore, the issue has been handled in the context of the traditional risk management approach usually provided during the project management activity. The technical problems were dealt with in their turn by developing the existing products and implementing standard security systems (redundancy, back up, disaster recovery, etc.), while problems related to the knowledge of the tool by users were dealt with via training programs.

However, complexity increases when the organizational adoption of technology (Argyris & Schoen, 1996) has still to be tackled. Changing the well established procedures of an organization might lead to the failure or makeover of an implementation project for a new technology (Contini, 2000). As shown by studies on failures, the problem is often linked to the incapacity of appropriation and effective use of technology by the members of an organization and not to the design of the technology *per se* (Malhotra, 2001). Nevertheless, the features of the CMS projects which have been implemented have in most cases disregarded these kind of problems. These projects basically aimed, in fact, to automate some repetitive tasks carried out by court staff and did not provide considerable new organizational functionalities associated to the technical deployment (Fabri & Contini, 2003). New applications were used to produce, through the existing procedures, the traditional juridical and physical tasks. As a consequence, automated systems became an ingrained part of many judicial offices, and the office automation system resulted in the production of some documents (opinions, decrees, etc.) as a “functional equivalent” of paper based systems (Contini, 2000). At this first stage, the introduction of automated CMSs did not encroach upon the objects and the procedures of justice systems, and for this reason, it is perceived as “secure” as in the past.

In the 1990s, many countries have been trying to integrate case management systems developed over time by different justice agencies. Generally speaking, CMS moves step by step in the direction of being the management system for the whole workflow of a case instead of just being the automated functional equivalent of each single organization’s docket. In Sweden and Ireland, for example, CMSs include management of forms, monitoring of case flow, and calendar management. Moreover, the implementation of second generation CMS has developed, especially in the criminal sector, the quest for interoperability among the different institutions involved in the proceedings. As emerged in our research studies, the interoperability carried out by some countries involves, for instance, the definition of a “criminal chain” capable of managing the data from the moment in which the police receives a report of a crime to the prosecution activities, the decision of the court, and the eventual possible detention. Finland, Norway, and Italy, for example, have developed systems of data exchange (interoperability) between courts and prosecution offices. Furthermore, the ICT infrastructure of the described information systems moved from a “closed local area network” to multitier and multiplatform architecture (Fabri & Contini, 2001).

A new system with “open features” connecting a variety of institutions and subjects implies an increased technical, organizational, and normative complexity (Carnevali et al., 2006; Fabri & Contini, 2003) and therefore risks for security. The greater technical problems of security caused by interoperability have been mainly tackled by the use of connections designed to allow only well defined institutional subjects to use proprietary networks or a dedicated virtual private networks (VPN).

From the organizational point of view, the introduction of a workflow management system has changed the “traditional” working practices

and the coordination means among the institutions involved. This development stage of CMS required a “reshaping” of objects and procedures of the justice systems, and for this reason, it was perceived as much more “insecure” than the typical paper based docket. In some countries, the success of the adoption process of the new technology has led to new ways of doing things in the organization, initiating a process of change both in terms of knowledge and practices and also the correct use of new tools and routines. In this process towards innovation, the individuals, organizations, and institutions must be able to design and consolidate new areas of knowledge and skills (Contini, 2000), but this did not always happen in all countries for the adoption of new CMSs. The outcome of the adoption process ranged from the refusal to use the instrument, leading to weak the innovative capability of the artefact, to its organizational and inter-organizational reinvention (Contini, 2000). Anyway, the uncertain interplay among technology, organization, and even rules given by the opening of systems integration (interoperability) increased the security concern. However, this perception of risk was generally managed from within a closed but “widespread information system” of the public sector (Fabri & Contini, 2003).

Justice Online: Opening the Information System

An upshot of last generation workflow systems in the justice sector has been the attempt to “open” the information system for allowing the external subjects, therefore attorneys and the general public, to exchange data electronically (JEDI for e-services). For this purpose, many countries have activated improvement projects of widespread ICT infrastructure and applications. The essential prerequisite to the provision of e-services is an operational network

infrastructure. From an analysis of data regarding e-justice development, it emerges that only a few countries still have problems related to this point. Moving definitely to multiplatform and Web-based architecture, the new scenario offers at the same time widespread connections and e-mail supplies to all the actors potentially involved in the justice system. This opens dramatically the potentiality as well as the demand of data exchange (Carnevali et al., 2006; Fabri & Contini, 2003). At the same time, it further increases the perception of risk. In other words, if on the one hand the information is potentially accessible to a wider public, on the other hand, the level of security concern rises too.

In most European countries, United States, Australia, and Singapore, applications providing e-services by electronic transactions of data and documents among citizens, legal professions, and the justice system do exist. The JEDI applications currently in use in almost all those countries are mainly Web sites or portals of the Ministries of Justice, of Courts, Public Prosecutor’s Offices, or Bar Associations. The Web sites generally provide a kind of information which has been defined as “unidirectional” (info online) as it does not provide a real interaction and data exchange between the justice system and the public. It means that the general public and attorneys can “download” from the courts or from other above mentioned agencies electronic data and information without any particular concern for authenticity or privacy (e.g., court organization, court business hours, court procedures, court rules, courts forms, case law, hearing schedule, calendars, legislation, etc.) (Contini & Fabri, 2003). The data downloaded do not impact with the core judicial business, and therefore, typically it is perceived as quite secure.

Only few countries give electronic access to court records to download information. Australia and Singapore are the countries that give

greatest access to them, whereas in the large majority of European countries electronic access to specific court records is not allowed, or several restriction are applied due to an high security concern. The justice system is by definition one in which the information affects the area of citizens' fundamental rights and duties. Risk is further increased when transactions contain so called "sensitive data." Furthermore, the increase in uncertainty and suspicion towards the use of electronic transactions is also due to the higher perception of the menace for safety in the use of the electronic means. Maybe it is a consequence linked to greater distrust compared to the use of paper, considering that the "world of justice" is still strongly paper based.

The real exchanges of data and documents among all potential actors involved in the justice sector, which have been defined as "bi or multidirectional," having judicial effect on cases in progress (the so called *e-filing*), are rarely available. In this context, the e-filing refers to systems that allow the parties to process legal data and documents online, making it possible to submit them (upload) to the court electronically and with legal value, and also making them accessible online when collected in a digital folder. Furthermore, these systems also allow the parties to pay court fees electronically and to send or receive notification online (Contini & Fabri, 2003).

Indeed, while several countries have developed countless pilot projects of e-filing, the number of operational applications is very little. The Paperless Tribunal in Singapore and Victoria Civil and Administrative Tribunal in Australia represent an experience of "complete e-filing," but they are applied to relatively simple (small claims) and quite serial cases. In Europe, the Electronic Legal Communication (ELC) developed by the Austrian Ministry of Justice is probably the most important case of e-filing. Another important e-filing application was developed in England with Money Claims

On-Line (MCOL), which allows the exchange of data (but not of documents) and online payments. MCOL is the evolution for the general public of another important application: the Country Court Bulk Centre. The Centre was developed for large creditors in order to file and handle cases electronically to a central and highly automated unit. It is also worth mentioning the case of Finland with Tuomas and Santra systems that open the access to attorneys and general public for e-filing the documents into the court system (Contini & Fabri, 2003). Therefore, the technical, organizational, and normative complexities of a system, as well as the security concern, that have to be faced to download information online or to get court records access are extremely low compared to those faced by many countries in order to develop such e-filing systems.

The technical problems are related to sharing and adopting the appropriate technologies in order to allow the exchange of data to the wider public potentially involved. This introduces the problem of the correct identification of the persons entitled to access the data. From this follows the need to define specific rules and proper technologies to protect access to data. As for e-filing, the question of authenticity, integrity, and nonrepudiation of data and documents filed electronically must also be considered (Contini & Fabri, 2003). In several countries, security, risk assessment, and risk management raise the main issues. As the EU Commission pointed out in e-Europe Initiative since 1999, "users often feel insecure when using the Internet due to fear of viruses, hacking attacks and credit card fraud and a lack of confidentiality and authentication." To build confidence and trust in electronic communications, e-Europe Initiative proposed to improve the security of online transactions by supporting the development of certification services and Internet security solutions and "encouraging the development of common specifications for smart cards" and

digital signature.³ Basically, this has meant an increasing number of legal and technical rules for the state digital signature system and the adoption of smart cards as a condition for the evolution towards a greater use of electronic filing (Fabri & Woolfson, 2001).⁴

Almost all European countries, United States, Australia, and Singapore have changed their rules in order to allow the exchange of documents legally in the justice sector.⁵ Similarly, they have attempted to develop and adopt technologies capable of complying with those rules. In doing that, these countries have been choosing among several alternatives, such as simple vs. certificate e-mail, standard vs. encrypted document, free vs. certified access point, electronic signature (e.g., ID and password) vs. digital signature (e.g., PKI) with smartcard, and so forth. According to European provisions, most of them are trying to develop e-filing projects based on certificate e-mail, encrypted documents, and access point using digital signature (PKI) with smart card. But it is interesting to point out that the only widespread operational e-filing systems in Europe—which run in Austria, Finland, and England—are managed without this so complex technology and regulation. Also in Australia and the U.S. Federal Courts, the working systems do not use PKI and other security supplies. Only in Singapore the operational e-filing system is based on PKI (Fabri & Contini, 2003).

Furthermore, e-filing requires an extensive organizational change to adopt such complex technologies. This also implies a radical redesign of working practices to manage new means of transactions and the related artefacts (such as electronic documents, digital folders, digital archives, online payments, electronic notifications, etc.) that were previously embedded in a paper based environment. Finally, once more, the security concern grows with the increase of the organizational complexity linked to the adoption of a more complex technology (as

e-filing is) also outside the borders of the organization. Moreover, it is also strictly linked to the new uncertain challenges in terms of higher regulation (normative complexity) and governance constraints (Carnevali et al., 2006; Fabri & Contini, 2003), so the perception of risk increases even further.

Makeover Information System in Information Infrastructure

CMS is basically an application running on a relatively narrow computer network, which is defined and homogeneous. CMS is essentially the backbone of the organization's information system. Instead, the JEDI technologies consisting of a group of applications connected to a network, the elements of which are not always known. As a consequence, the features of the traditional closed information system are modified (Hanseth, Monteiro, & Hatling, 1996).

The interconnection of computer resources is undefined and fragmented. This produces an exchange of data among a wide variety of applications, in a joining of internal and external networks (internal and external information systems) which can be very different from each other. Moving from a “closed system” to an “open system” means to involve new and often unknown actors in the transaction of data among organizations. The use of the Web-based systems for the exchange of data is an example. Opening a network does not simply mean introducing new and more sophisticated technologies but it mainly means a fundamental change in the nature of relationships, the continuous redefinition of the organization's boundaries, or, better, the absence of defined boundaries of the organization.

The notion of information system must leave space to the more complex notion of “information infrastructure” (Hanseth, 2002).⁶ The information infrastructure (II) is not “a system of systems” but something different, which can

grant new enabling capacities to technology, presenting new possibilities of communication and data exchange to actors who had previously been excluded. Technology has thus new features which change the typical rules of a closed information system completely (Ciborra & Osei-Joehene, 2003), but the higher fragmentation characterizing an information infrastructure, of which JEDI technologies are components, increases the elements of uncertainty both connected with a higher level of technical, organizational, normative complexity, and with the opening to new unknown subjects.

The increasing perception of risk, caused by changing the process from CMS applications of an information system to JEDI applications of an information infrastructure, creates a new problematic setting in terms of risk assessment that the chapter will analyze in the light of risk management theories.

RISK: MANAGEMENT AND STRATEGIES

Security is always a relative condition. As an objective, it is necessarily intangible, perhaps a false hope. The estimate of dangers often has large margins of error as they are subject to change. Wildavsky (1988) defines risk as “the potential for harm and/or safety” (p. 3). But the concept of risk that we need should allow us to give some meaning to the uncertainty of reality so that it becomes accessible: risk implies that the “potential for harm” can be anticipated, minimized, and removed. Knight (1921) defined risks as calculable contingencies of activity which could be insured against.

Following the success of this rationalist idea of managing uncertainty, we can “calculate” risk when we make choices and make decisions considering the maximization of two dimensions: knowledge and the predictability

of events related to our particular goals. In this perspective, the calculation of risk carried out with particular techniques may represent future events in a way that enables us to achieve particular goals (Dean, 1999). The criterion of choice is to maximize the control of risk in order to achieve “no harm.”

This “zero risk approach” and the related idea of control are the essence of the risk management methods and techniques in economic, technological, organizational, social, and political fields. The principles traditionally ruling risk management imply that risks can be identified and dealt with by applying the appropriate controls. Furthermore, risk management consists in a planning and design process in which the stage of implementation is an obvious consequence of project deployment (Ciborra & Osei-Joehene, 2003).

Risk management methods and techniques, however, try to manage a so called *first order of risk* (predictability of risk) by anticipating technological harm and by making plans to subsequently reduce and possibly eliminate it through active project management based on the results (Ciborra & Osei-Joehene, 2003). Redundancy is useful to prevent the calculated failure of single parts of an ICT system. Unfortunately, there is the higher risk of failure and unknown serious consequences if parts of complex systems should interact (Perrow, 1984). The use of technology gives rise to a permanent state of redefinition, and what you have after the implementation is not what was designed originally. The social context shapes the development of technology which can take “unexpected trajectories” (Bijker & Law, 1992). Thus, the application of risk management in a complex environment, related to the uncertainty of the “technology drift” (Ciborra et al., 2000) includes a *second order of risk* (risk of risk management) implied in the application of risk management tools with unexpected

consequences such as serious breakdowns or even total failure of the technology deployment (Ciborra & Osei-Joehehene, 2003).

This means that the features of an information infrastructure produce a different technology from one of the information system. An information infrastructure is much more complex and ambiguous from a technical, organizational, and normative point of view for the unpredictability of paths, purposes, and opportunities that it can create. Therefore, it cannot be managed as the previous closed information systems were managed. It is really difficult, for instance, to calculate the risk and the relative management of a huge and widespread technology project in advance, given that implementation is basically without bounds both in terms of use and of development.

The above mentioned remarks outline the need of a new interpretation of the concept of risk related to a “technological determinism” perspective (Grint & Woolgar, 1997) in which the risk management methods and techniques play a key role. ICT technology shapes its characteristics in relation to social actors who use it, so some tools based on the sociological notion of risk also including the interpretation of risk made by social actors involved in risk management decisions should be taken into consideration (Lupton, 1999).

In the context of the “sociological concept of risk,” such interpretations subsequently determine different actions in risk management. The actions of social actors involved in risk management decision lead therefore to different strategies of risk governance. As outlined by Wildawsky (1988), these strategies can be summarized in the contrast between “anticipation” and “resilience” as broad alternatives in the search for safety. “Centralized, [large scale regulation and] slow-moving trials to prevent errors is essential to a strategy of anticipation. ...Decentralized, [small-scale regulation and] rapidly moving trial and error contributes to a

strategy of resilience” (pp. 8–9). Many current government chosen strategies coherent with the prevailing rationalist idea of risk management are “trial without error” (zero risk approach). The enforcement of this strategic approach not only produces the above mentioned negative “side effects” capable of paralyzing technology, but it may also hinder its potential.

Now the chapter will analyze how these different strategic approaches for risk management have greatly influenced the different policies and trajectories taken by JEDI paths and will subsequently examine the results obtained in term of e-justice deployment.

RISK MANAGEMENT POLICIES IN E-JUSTICE DEVELOPMENT

Standardization vs. Progressive Alignment

In the prevailing idea of traditional risk management, the fragmented situation typical of an information infrastructure and the subsequent exponential increase of risk become the main elements hindering the development of JEDI applications, especially for e-filing systems. Therefore, reducing complexity and instability caused by fragmentation is an absolute priority for most institutions of ICT governance. As happens in big corporations, which have to deal with the same problems in public administration, and in particular in the judiciary, “planned strategies” (Mintzberg & Waters, 1985) have been implemented following an anticipation approach of the top-down alignment governing ICT deployment, of which “integration policies” are the expression. In this perspective, it is absolutely essential to eliminate fragmentation through the precise definition of the way in which infrastructures, standardization of processes, and activities involved in the data interchange are organized (Weill & Broadbent,

1998), essentially producing very detailed legal and technical rules.

The analysis of data regarding results of the implementation of JEDI applications shows indeed that most countries consider detailed and thorough rules an absolute requirement both to define the “validity in law” of the electronic documents in order to assure their “safe” transaction and to provide services online (e-services). On the technological side too, there are worries about safety of the electronic means which determine the need to implement more sophisticated technologies such as digital signature to authenticate the documents and protect data interchange.

This approach—in which every use of JEDI applications depends on the creation of an “exasperated” system of legal guarantees, safety, and exhaustive projects—requires the development of complex ICT systems in terms of their rules and from the technical and organizational point of view. They are also so expensive that their implementation and diffusion has been often held up, mainly with the paralysis of technology implementation and of the development of its potentialities. In this way, the disadvantages generated by integration can overtake the advantages provided by the reduction of fragmentation: the risks of risk management add up to the fragmentation risks (Ciborra & Osei-Joehene, 2003). However, very few countries have expressed such an extended and systematic precautionary control in their projects. As a consequence, the serious side effects (risks of risk management) caused by a “traditional” strategy of risk management used to handle the greater complexity and uncertainty of JEDI applications did not produce the same results.

By avoiding unintended consequences, generated by the use of traditional risk management methods and techniques to govern the information infrastructure environment, some countries have adopted policies coherent with

the “resilience” idea of risk assessment. In this approach, risk is not dealt with as something to be eliminated beforehand, once and forever. Risk is always present and continuously takes on different forms because, as indicated above, technology is in permanent state of redefinition (Ciborra et al., 2000). Given the unpredictable nature of risk, it is more fitting and effective through progressive changes suggested by the use of the technology itself. Therefore, the “search for safety” is heavily empirical biased (Wildavsky, 1988). So the “acceptability of a certain amount of risk” becomes the key element to manage in effective way the development of e-justice.

Different Policies for Different Outcomes

Enforcement of Preventive Control: Widespread Projects and Almost No Working Systems

If we consider the indications emerging from the analysis of the implemented cases of JEDI applications, in particular, e-filing systems, the integration policies and anticipation strategy to a control of security asserted itself mainly in the countries of continental Europe characterized by a strong centripetal boost also given by the institutional structure of the judicial systems, for example, Italy and France, or by their legal tradition which leads to uniformity of standards, such as in Germany.⁷ In terms of rules, this meant the proliferation of regulations regarding certification of authenticity of documents and their transactions, and in technical terms, the stress on digital signature as a certification tool. This favoured the adoption of centralized solutions through widespread projects of integration with reference to rules, technology, and management. However, the outcome in these countries is that many projects exist, but almost no operational

e-filing systems, except pilot cases or local experiences, are to be found.

An example is the Italian Ministry of Justice's project, started in 2001 to create a complete e-filing civil dispute system (On-Line Civil Trial), which integrates the electronic civil case folder (documents, evidence, trial records, etc.) with a two-way judicial data and document exchange using interoperable applications among the courts and external users (lawyers, experts, etc.) involved in the proceedings. In order to carry out this widespread project, the Ministry has developed a highly secure environment based on a very detailed and deep regulation and a technically very sophisticated setup for client authentication, making XML-based data transmission over the Web possible through a certified access point. Furthermore, the application allows the users to adopt PKI digital signature and smart card to exchange data and documents through the system.⁸ At the end of this complex innovation process, all documents should have been produced and stored digitally and should be available in intranet/Internet modality to achieve the so called "paperless office."⁹

The full On-Line Civil Trial, added with online payments, should progressively extend to all 165 Italian courts, but, once again, the gap between the pilot and the implementation of the whole project seems very difficult to fill. The introduction of this complex innovation into the Italian judicial system has required a huge and basically impossible effort, not only in terms of wider and more stringent regulations and greater technical and organizational complexity but in terms of higher cost too (Carnevali et al., 2006). At present, after 6 years from launch and 12 million euro spent in the project, the On-Line Civil Trial has been downsized to a very partial e-filing pilot system for some injunctive orders in 6 courts out of 165 (mainly the Court of First Instance in Milan).¹⁰

Spontaneous Adaptation: Clearly Defined Projects for Evolving Operational Systems

On the contrary, the resilience strategy emerged in countries such as England, but also the United States and Australia.¹¹ The fragmentation of the judicial system in those countries does not favour the adoption of integrated and centralized solutions of widespread projects but privileges the development of incremental clearly defined projects for the solution of particular problems and provides for an update of rules limited to enabling the implementation of that particular technology. Moreover, there is not much emphasis on digital signature as an essential means to certify security of electronic transactions.

In those countries, evolving operational e-filing systems can be found, not only projects. And to speak also of applications presently working in Europe, the English "product" called Money Claim On-Line (MCOL) had great success. MCOL is the evolution for the general public of the County Court Bulk Centre, a system developed for large creditors to file and handle cases electronically to a central and highly automated unit. Since February 2002, the system has allowed users to make claims online to recover money up to 100.000 pounds without the intervention of a judge, if there is not a counterclaim. The Money Claim On-Line works very easily and consists of a few passages after the insertion of the ID (login name) and the password to access the service. New users have to register by e-mail but no digital signature is required.¹²

The aim is to try to solve promptly simple but quite numerous cases. This was a precise choice of the English Court Service which, after having made a lot of information available on their Web site (for example, hearing lists, court fees, etc.) wanted to promote e-filing starting from a great number of proceedings which could be solved

directly, more promptly, and easily by individual citizens and small businesses, thus improving access to justice. The increase in applications produced by the user-friendly access to the system did not cause a considerable increase in workload for the courts, as the counterclaims have stabilized at normal levels, thus showing that the system is satisfying expectations. The results shown on the MCOL Web site are encouraging: management of small claims directly by citizens and small businesses (“MCOL is now issuing more claims than any local county court 55.000 in 2004/05”), user friendliness of access to the service; positive response by consumers’ associations, and European acknowledgements about e-government.¹³

Inclusion of Main Actors: Solid Incremental Projects for Working Systems

Finally, there is an emerging third strategic approach to risk management which seems to have consolidated mainly in Austria and Finland.¹⁴ This approach, although starting from solid projects, proceeds by adopting technologies in an incremental way. Furthermore, as in resilience strategy, the adaptation to technical and legal rules runs parallel to the steps of the progressing project adoption. But the key factor characterizing this approach seems to be the inclusion of the main organizational actors related to the justice system (legal profession, insurance companies, and businesses). Considering these actors as part of the system means supplying them with the shared structure of “widespread information system” setting is reproduced. Fragmentation is reduced and consequently complexity too, bringing security problems to the first level of risk (predictability of risk).

An example of the results obtained with this approach is shown by the system presently used in Austria and called electronic legal communication (ELC). Since 1990, ELC has progressively

allowed the e-filing and online management for almost all kinds of proceedings.¹⁵ In Austria the implementation of online judicial services developed in the context of a general development project of the ICT system¹⁶ in which the legal profession was considered as a part and was involved in the development of the system with economic incentives. Being the almost sole means of access to justice for citizens, lawyers, and notaries become therefore the ultimate users of the system itself for all kinds of legal actions, from the simplest to the most complex both in civil and criminal sector.

Although the general project was centralized, the services have been made available progressively, consolidating the results before introducing new ones. Similarly, the reference rules were also changed progressively. At present, digital signature is not deemed necessary in this case as it is a “closed system,” it has all the necessary security guarantees. As a matter of fact, the lawyers and notaries provide the safe access to the system.¹⁷ The entirely positive results of the experience, awarded the EU “e-Government Label” in 2001, are shown by the speedier of settlement of the causes, by the improvement of availability of the judicial service (24 hours a day, 7 days a week) and of the information for the parts, by the rationalization of the human resources, by the reduction of mistakes due to a unique insertion of data, by the reduction of mail costs, by automatic payment of the fees due for the causes, and so forth.¹⁸

CONCLUDING REMARKS

This chapter originated from a question arising from the research we are conducting on ICT in the justice sector regarding the reasons for the difficulty to provide and implement JEDI applications, in particular for e-filing systems, which, on the contrary, can often be found in countless projects and feasibility studies. The

cases studied have shown that it is definitely not a problem related to the network infrastructures as all developed countries have the necessary technologies. Neither does it seem to be a problem of the basic rules allowing for the receipt electronic documents with legal value in the same way as those on paper and that can be exchanged electronically, present in almost all studied countries.

Compared to the “closed information system,” of which the CMS is the backbone, the open, fragmented and complex nature of the “information infrastructure”—generated by the interconnection of applications and networks of which judicial electronic data interchange technologies are the main component—is not perceived by the “justice environment” as safe enough for the exchange of data and documents regarding judicial business, in particular, for e-filing systems. For this reason, an analysis of the problem in terms of risk management is a useful key to interpret the current level of development of JEDI. In particular, the most recent theories about risk management offer a notion of risk which is not only linked to the “traditional” risk management methods and techniques for the preventive application of control inside the technology features or projects. The many disciplines coming from the social sciences seem more capable of taking into consideration the environmental context in which the technology works and the value of empirical knowledge (Beck, 1992).

An answer seems to come from the different strategic approaches in risk management made by ICT policy makers in the different countries. The management of the increased risk due to the implementation of e-justice have been dealt with following different approaches, more or less near to two broad strategic alternatives: anticipation and resilience.

The chapter has expounded how countries of continental Europe (mainly France and Italy) have adopted the management approach aimed

at avoiding all possible risks in the use of JEDI. This first kind of approach, based on anticipation strategy, can be defined as *enforcement of preventive control for risk management*.

1. Developing widespread projects to plan the development and implementation of JEDI applications (mainly e-filing systems) for managing and “integrate” in advance the fragmentation and complexity generated by the information infrastructures environment in its entirety.
2. Producing legal and technical large-scale regulation to enforce preventive control of risks.
3. Treating the increased risk of JEDI deployment with the traditional technical approach for risk management raises second order risks (risks of risk management): the generation of unpredictable side effects such as the implementation paralysis caused by the complexity of managing a widespread project with large-scale regulation.
4. Existing a lot of projects but almost no operational e-filing systems, except pilot cases or quite bounded cases.

On the contrary, in countries such as England, the United States, and Australia, an approach of risk management has prevailed in which the needs of protection and safety emerged according to the type of transaction taken into consideration. Based on the resilience strategy, this second type of approach to risk management can be defined as *spontaneous adaptation of the system*.

1. Developing clearly defined projects of JEDI to solve specific problems and the acceptance of some degree of fragmentation of information infrastructure environment as a key dynamics “flywheel” for use and development of new technologies.

2. Producing legal and technical small-scale regulation to allow for the needs of protection and safety which emerged.
3. Prevailing first order of risk (predictability of risk), the control of side effects is managed by an easier risk assessment of small-scale solutions.
4. Evolving operational e-filing systems can be found, not only projects.

Furthermore, the chapter has explored the emergent third approach of risk management, seemingly to be found in Austria and in Finland, which *includes the main actors of judicial business into the system*.

1. Developing solid projects of JEDI to plan an incremental development and implementation of JEDI applications and the fragmentation reduction of “information infrastructures” environment through the inclusion of main actors in the system.
2. Producing legal and technical regulations to allow for each specific part of the project.
3. Changing an information infrastructure to a sort of “widespread information system” to produce a reduction of complexity and an increase in elements of knowledge and in predictability. It comes back the first order risk without the increase in the means of control.
4. Working e-filing system from solid incremental projects.

Finally, responding to the last question of the introduction, the chapter has revealed how the different risk management strategies show a correlation with the results achieved by the different countries, in terms of the successful implementation and diffusion of JEDI applications. It is quite evident, in fact, that countries adopting a resilience strategy—by dealing with planning and implementation progressively, by

selecting from time to time what could be put online, and by solving technological, organizational and normative problems strictly related to services offered—have achieved far more positive results, and most services delivered by justice sector agencies are already available online. Therefore, the strategy adopted to use this means effectively has determined the success or otherwise of the choices made.

FUTURE TRENDS

In most European countries, however, anticipation strategies seem to prevail, consistent with the judicial tradition, which include the worries about reliability of the electronic means in comparison to paper. This “distrust” has led to much research seeking security when planning systems. The definition of technical and normative standards is typically much higher than those used for paper procedures and which have in fact prevented even partial implementation. As shown above, this is generating high costs and difficulties in design, implementation, and also adoption. Therefore, in most European countries, the e-services in justice sector will not be available extensively in the short term.

In this respect, I would like to end with few remarks.

- The idea that traditional paper procedures are safer is more a prejudice than a reality: It is in fact well known how easy it is to manipulate or lose paper folders, dockets, and documents.
- Economic transactions using “credit card” have long been established, and these certainly do not create fewer problems related to risks on security, but people continuously use them.
- Strangely enough, people operating online trading or banking have been entrusting for a long time their transactions to a simple

ID and a password while for operating with courts in most countries a digital signature is requested. Several countries' experiences show that not all proceedings, in fact, require the same level of security.

- The obsession for this search of "absolute security" which seems to lead most policy makers of the European countries is in clear opposition with one of the key principles of ICT development: granting higher user-friendliness in the exchange of information and therefore improving the citizens' and qualified operators' access to services.
- Exaggerating the security issue may generate a perception of increasing risk in the users of the net, reducing their tendency towards use. In practice, until you use a tool, you do not trust it. The concept of "critical mass" focuses on the number of users as a significant factor of ICT growth. "As the number of users grows, the technology tends to get momentum and it starts growing through a 'self-reinforcing' process" (Hanseth & Aanestad, 2003, p. 385).

In conclusion, as Wildavsky (1988) stated in order to develop the potentials offered by information infrastructures (such as JEDI), "net benefit, not no harm should be the criterion of choice [for policy makers]": "benefits will never be discovered unless risk (in the form of trial and error) is tolerated" (p. 57). As a consequence, strategies of more resilience and less anticipation are preferable even when in presence of a high level of knowledge and predictability because the anticipation strategy may produce more negative than positive results and may imply unacceptable costs for safety (Wildavsky, 1988).

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ENDNOTES

¹ This work benefits from several research studies coordinated by the Research Institute on Judicial Systems of the Italian National Research Council (IRSIG-CNR) with financial support from the AGIS Programme of the European Commission and from the FIRB Programme of the Italian Ministry of University and Research.

² In this context, “complexity” is to be understood as the collection of different kinds of elements (technological, organizational,

and also normative) and their connection. According to this definition, every problem related to complexity should be tackled considering the interdependence of all these elements as a whole (Law & Mol, 2002). For a more detailed description of “complexity” related to ICT development in the justice sector, see the work of Francesco Contini in Fabri and Contini (2003).

³ The European Union Directive on digital signature n. 199/33/CE was enacted on December 13, 1999. Furthermore, in this field, the Committee of Ministers of the COE adopted in February 2001 a Recommendation Rec(2001)3 of the “Committee of Ministers to member states on the delivery of court and other legal services to the citizen through the use of new technologies” that contribute to establishing the European framework.

⁴ For a general overview of European standards of electronic exchange of legal documents, see also the European Union Directive on Electronic Commerce n. C 128/32, May 8, 2000.

⁵ The European Countries’ regulations on digital signature and judicial electronic data interchange are based on this common framework. In the USA, several states (such as California, Colorado, and New Mexico) and the federal government have adopted rules to discipline e-filing and the use of security features. In Australia the *Electronic Transaction Act* of 1999 establishes the basic rule that a transaction is not invalid because it took place by means of an electronic communication, and it states the acceptance of e-filing and issue of documents by any department or ministry of the government.

⁶ Infrastructures are constituted by specific characteristics: shared resources, evolving applications and components, opening

from new users and applications, heterogeneous standards, inertial in terms of self evolution capability (Hanseth, 2002).

⁷ For a more detailed description of JEDI development in these countries, see the contributions by Alessandra Augusto (Italy), by Philippe Biju-Duval et al. (France), and by Wolfram Viehwues and Karl Heinz Volesky (Germany) in Fabri and Contini (2003). See also the contributions by Davide Carnevali and Maria Cristina Di Cocco (Italy), by Yves Rabineau and Damiano Beltrame (France), and by Carl Fritz Fitting (Germany) in Fabri and Contini (2001).

⁸ The Presidential Decree n. 123 of 13 February 2001 established the so called “technical rules” to implement the “On-Line Civil Trial.”

⁹ For more information of this ambitious project, see the contribution by Marco Fabri in this book.

¹⁰ For more information on that issue, see the contribution by Marco Fabri in this book.

¹¹ For a more detailed description of JEDI development in England and Australia, see the contributions by Perry Timms, Joyce Plotnikoff, and Richard Woolfson (England and Wales) and by Anne Wallace (Australia) in Fabri and Contini (2003). For more information on JEDI development in the United States, see the contribution by Jim McMillan in this book.

¹² In MCOL system, there is just one Internet screen requesting all the necessary information: name of the claimant and the defendant with respective addresses and the subject of the application, the reason, the sum of money, the oath that it is a true application (simply by checking the appropriate box), the solicitor's fee. Afterwards, confirmation is needed before sending the application. The court fees (the

calculation is made automatically) must be paid by credit card. The claim is then sent by mail to the defendant who has 14 days to pay or make opposition. If nothing happens, the procedure of enforcement starts automatically. The claimant can at any moment print the claim and check its status online. The defendant can ask information about the received claim to the appropriate help desk of the system.

¹³ For more information: www.hmcourts-service.gov.uk and <https://www.money-claim.gov.uk/csmco2>

¹⁴ For a more detailed description of JEDI development in these countries, see the contributions by Peter Bauer and Caroline Graf (Austria), and by Kari Kujanen and Riitta Marttila (Finland) in Fabri and Contini (2003). See also the contributions by Peter Bauer (Austria), and by Kari Kujanen and Sami Survilinna (Finland) in Fabri and Contini (2001).

¹⁵ The ELC works briefly in the following way. A citizen, an insurance company, or a business company generally by means of a lawyer (in the criminal sector, the system is activated by the prosecution office), can file a case electronically (activating the mail communications automatically), pay the court fees, be informed of the eventual hearing dates and mailing of summons, receive provisions, enforcement orders, and so forth. A receipt by e-mail is sent for all electronic transactions with the indication of the kind of document sent and the possibility, on demand, to obtain them again in case of loss. It is always possible to check the status of the proceedings in the general workflow.

¹⁶ The automation of court procedures is working since 1986. It started with summary judgements and since then has grown to support all important judicial business areas, which do not operate in special

ICT systems. It does not mean only a link to ELC but also to the interface of Edict File (insolvency, real property auction, commercial register publications, etc.) and Land and Commercial Registers; the external inquiries (mainly law enforcement); access to databases and electronic documents archives (e.g., Legal Information System and Austrian Court Database), and so forth.

¹⁷ Since 2007, the ELC was transferred to Web-based technology, which opens the possibility to deliver attached documents with legal value introducing a specific electronic signature for notaries, lawyers, experts, and court personnel.

¹⁸ For more information: www.justiz.gv.at

E-Justice: Information and Communication Technologies in the Court System

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Chapter III

Judges as IT Users: The Iuriservice Example

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ABSTRACT

Judicial culture generally refers to the set of values, cognitive skills, and practical knowledge of members of the judiciary. In this chapter, we present a research project whose main object is to identify, organize, model, and use practical knowledge produced by judges in judicial settings. To do so, we describe the steps followed to develop Iuriservice, a Web-based system intended to provide the Spanish judiciary with a tool to facilitate knowledge management in daily judicial practice. Iuriservice is a Web-based application that retrieves answers to questions raised by incoming judges in the Spanish judicial domain. This system provides these newly recruited judges with access to frequently asked questions (FAQ) through a natural language interface. The impact and limits of the implementation of Iuriservice in the larger context of the court system will also be considered. Finally, we will conclude by situating the Iuriservice example in the context of recent trends in judicial reform.

INTRODUCTION

In very few years, information and communication technologies (ICTs) have pervaded all areas of the judicial business. Generally, the term *e-justice* applies to the specific developments of ICT in judicial domains such as access to courts, management of cases, legal information retrieval, pretrial and trial procedures, or sentencing. Accordingly, we have recently witnessed an eclosion of “e-justice” offspring: e-filing, e-mailing service of process, e-signature, e-judgment, e-briefs, video conferencing, and so on. Despite their particularities, they all tend to make judicial procedures more efficient and speedier for external users and legal professionals alike. In this chapter, we focus on Spanish judges as ICT users to describe the steps taken toward the design of Iuriservice, a Web-based system intended to provide the Spanish judiciary with a tool to facilitate knowledge management in daily judicial practice. Iuriservice is a Web-based application that retrieves answers to questions raised by incoming judges in the Spanish judicial domain. This system provides these newly recruited judges with access to frequently asked questions (FAQ) through a natural language interface. The judge describes the problem at hand, and the application responds with a list of relevant question-answer pairs that offer solutions to the issue, together with a list of relevant judgments.

The work we present here is, ultimately, an attempt to identify, organize, model, and use practical knowledge produced by judges in judicial settings. In other words, it deals with judicial culture. But, as we will also show, the implementation of Iuriservice poses practical and methodological issues, such as which institutional arrangements are required to develop the whole project, which ICT competences have developed Spanish judges, how to assess their needs, or how to create a feedback cycle between researchers, developers, and potential users. We

start the chapter by providing an overview on how Spanish judges are recruited and trained, including their present ICT skills. We continue by describing Iuriservice as a case study in professional judicial culture within the context of state-of-the art e-justice. An emphasis is made here on the role of judges in the development of Iuriservice as participants, testers, and users. The impact and limits of the implementation of Iuriservice in the larger context of the court system will also be considered. Finally, we will conclude the chapter by situating the Iuriservice example in the context of recent trends in judicial reform.

THE SPANISH JUDICIARY: RECRUITMENT, TRAINING, AND IT COMPETENCES

To a large extent, the Spanish judiciary follows the same organizational model of judiciaries of civil law countries in continental Europe as regards recruitment and training of judges. Those countries having adopted the “bureaucratic model,” therefore, tend to recruit the members of their judiciaries among young law graduates with little or none previous professional experience by means of competitive written and/or oral exams intended to evaluate their general knowledge of various branches of the law. Successful candidates are then required to fill the vacancies existing at the first level of jurisdiction. This model of selection, as Di Federico (2005) states,

is based on the assumption that judges and prosecutors thus recruited will develop their professional competence and will be culturally socialized within the judiciary, where they are expected to remain for the rest of their working lives, moving along career ladders whose steps are based on successive evaluations which in

various ways take into account seniority and professional merit (p. 8).

Candidates to access the Spanish judiciary have to be older than 18 years and hold both the Spanish nationality and a law degree. No previous professional experience is required and no psychological test or assessment is made. The selection process, which is made on annual or biannual basis, largely relies on the assessment of the learning by heart ability of candidates.¹ Legal topics essentially cover the same contents offered by the law school curricula: civil, criminal, constitutional, administrative, commercial, and labor law. In sum, candidates will have spent a mean of roughly five years after graduation preparing the competitive examination, accessing the judiciary at the average age of 29 (Judicial School, 2006). Before taking office, nevertheless, they have to attend the Judicial School for a period of 18 months.

In 1994, by Act 16/94 of November 8, the General Council of the Judiciary, responsible for the training of judges, reformed the educational programs of the judiciary. The law made the Judicial School responsible for the initial and continuing training of judges. From September 1999 to May 2007, the school had already graduated eight classes (1,386 judges in total). The Judicial School offers a training program that emphasizes the practical aspects of the judicial job, including a six-month period of training in judicial units spread over the country. During this period, judges assist and collaborate with their senior judge or magistrate by proposing draft resolutions and participating in judicial tasks such as oral hearings. They may also direct oral proceedings under the responsibility of their mentors. During this training period, judges will have to send to their professors at the school proposals of judicial decisions and keep a diary of activities. These exercises, together with the evaluation report written by the

tutor, will be considered in the final evaluation of the candidate. If the evaluation of the tutor happens to be negative, the assistant judge will have to repeat the training. At the end of the 18-month training, students are given a mark that, combined with the score achieved at the entrance examination, results in the final rank order of each new batch of judges.

Judges accessing the Judicial School have improved significantly their technological skills during the last eight years. As shown in Casanovas et al. (2006a), there has been a consistent growth of judges' declared computer skills, declared use of the Internet, and number of people possessing a personal computer. Compared to the 52nd class members (1999-2001), new judges of the 58th class (2005-2007) have more computer skills (47% vs. 73.2% of affirmative answers) and a personal computer at home (35% vs. 82%). However, on their arrival, only half of the students were used to working with legal databases. Although it might seem surprising, this is highly consistent with the general growth and particular way of developing the Internet in Spain. One of the most striking features of this development is that Internet access since the beginning has been related to the accessibility from personal computers at home, rather than at the workplaces or at schools, universities, or centers of study. Young judges do not constitute an exception to this collective pattern.

When interpreting the declared computer skills of judges entering the Judicial School, the important issues to take into account are:

- Internet access takes place mostly from personal computers
- The Internet's main functional utilities are limited to: (1) search and browse (72%); (2) e-mail (68%); and (3) e-news (53%) (Ministry of Industry, Tourism, and Commerce, 2006)

- Judges have not received specific computer training as law students at the Law School
- During the 5 years (average) of preparation for the official examination to become a judge, candidates did not need any computer skills either

The data may help to understand aspects such as the low rate of legal database use among those who access at the beginning of the semester. But do notice at the same time that they are becoming more familiar with technology and prone to learn and use new computer tools. This means that a significant change has been produced since previous work on Spanish judicial culture (Alvarez, Ayuso, & Bécue, 2005) and our last report on judicial recruitment in Spain (Poblet & Casanovas, 2005).

IURISERVICE AS AN IT PROJECT: FROM PROTOTYPE TO APPLICATION

Previous Work

Iuriservice has been developed within the context of the SEKT project (2004-2006).² The aim of SEKT was to develop and exploit semantically based knowledge technologies³ in order to support document management, content management, and knowledge management in knowledge intensive workplaces. Specifically, SEKT aimed at designing appropriate utilities to users in three main areas—digital libraries, the engineering industry, and the legal domain—providing them with quicker access to the right pieces of information at the right time.

The precedents of Iuriservice, nevertheless, are to be found in the Observatory of Judicial Culture (OJC). Created in 2001 out of a national research project,⁴ the OJC focuses on research on judicial behavior, reasoning, and professional

profiles of judges and magistrates. OJC's main purposes are to identify how the judges are currently working, which are their difficulties, and to provide the Spanish judicial system with useful tools to improve the performance of its judiciary. The methodology put in place from the beginning required gathering good descriptions of judicial units (organizational roles, tasks, workload, identification of problems, etc.), and this required the elaboration of both ethnographic and statistical data. Thus, in 2002, the *Young Spanish Judges Survey 2002* targeted 129 judges with less than 4 years experience (out of 352 judges in their first appointment). To perform comparative analysis, 139 senior judges were also surveyed. An important aspect of the survey was that people in charge of the interviews with judges were newly recruited judges at the Judicial School who volunteered to take part into the project. The main objective of the survey was to identify the most frequent problems that incoming judges usually face in their first appointment. A special emphasis was put on ICT, given their strong impact on the daily activity of judges (use of databases on legislation and jurisprudence, case management systems, and the Internet). By using multiple correspondence analysis (MCA) and cluster analysis methods, researchers constructed a typology of judges based on four clusters. Results showed that only the first one, composed of both junior and senior judges, used regularly digital databases and the Internet (Alvarez et al., 2005).

The results drawn from the *Young Spanish Judges Survey 2002* offered a fertile terrain to dig for further research on needs, doubts, and most frequently asked questions raised by young judges at their first appointment.⁵ At this stage of research, Iuriservice was a very preliminary prototype built to answer in natural language the possible questions made by young judges on duty (Iuriservice I). But if the system had to be able to adapt to user requirements and provide them

an efficient support in a fast and reliable way, the accuracy and the necessary validity of the FAQ repository was critical. For those reasons, we planned within the framework of SEKT an extended ethnographic work as a primary source of data regarding both the context of use and the contents of the questions to which the system would provide answers. Results would lead to the development of Iuriservice II.

The SEKT Ethnography

Doing fieldwork in Spanish courts necessarily requires the formal approval of the General Council of the Judiciary [*Consejo General del Poder Judicial*]. The Council is the institution that governs the judicial branch of the state at the national level, and Spanish judges are a national body of civil servants. Nevertheless, the Constitution also establishes that the autonomous governments may have judicial competencies transferred to the autonomous level. These competencies refer to management of the judicial system as an organization: human resources management, maintenance of

buildings, facilities, case management systems (CMS), and other office resources. In those autonomous communities which have no competences transferred yet, the Spanish Ministry of Justice remains in charge.⁶ This multicompetency system adds some complexity to the organization of the ethnography. Thus, before going to places we formally contacted—via telephone and official letters—the Presidents of the High Courts of each autonomous community—the highest judicial authority—to inform them on the characteristics of the study, carried out with the authorization and credentials of the General Council.

The fieldwork developed under the SEKT framework covered 14 autonomous communities (out of 17) and targeted the judges of the 52nd class of the Spanish Judicial School. This is a batch of 248 judges who passed the oral and written examinations in 2000, entered the School in September of that year, and graduated in 2002 after having spent six months in judicial units as judges in training. They took office by early 2002. Therefore, when the UAB-GRES researchers visited and interviewed them, they

Figure 1. List of the answers given by newly recruited judges containing the substantive on duty (Iuriservice I)

- 1 ON-DUTY PROBLEMS
- 2 ON-DUTY SERVICE
- 3 BEHAVIORS DURING ON-DUTY PERIODS
- 4 TREATMENT OF URGENT FAMILY MATTERS DURING THE DUTY
- 5 ON-DUTY MATTERS, PERSONS INVOLVED IN SPECIFIC ACTIONS
- 6 CRIMINAL: ON-DUTY PERIODS
- 7 ON-DUTY PROBLEMS CONCERNING MINORS PROTECTION
- 8 SOLVING SPECIFIC ON-DUTY MATTERS
- 9 ON-DUTY MATTERS
- 10 ON-DUTY/ CALLS FROM THE POLICE CONCERNING CERTAIN ASPECTS WHICH DO NOT FIGURE IN THE BOOKS/ PRACTICAL ASPECTS DURING ON-DUTY PERIOD)
- 11 DOUBTS ARISING DURING ON-DUTY PERIODS
- 12 WHAT SHOULD BE UNDERSTOOD BY ON-DUTY ACTIONS
- 13 OF THE ON-DUTY COURT
- 14 WHEN THE LEGAL RESPONSIBILITY FILE COULD BE OPENED, ESPECIALLY IF IT COULD OCCUR DURING THE ON-DUTY PERIOD
- 15 AT THE BEGINNING, DURING THE FIRST THREE MONTHS, MY DOUBTS CONCERNED IMPORTANT DECISIONS TO BE TAKEN DURING THE ON-DUTY PERIOD
- 16 CANNOT CONCRETE, THE MOST IMPORTANT DOUBTS ARISEN DURING THE ON-DUTY PERIODS
- 17 IF THE DISTRICT JUDGES HAD TO DO ON DUTY PERIODS

had already spent two years in office, were ready to move to another place, and, eventually, to promote to the category of magistrate. Consequently, the 52nd class fitted perfectly the two basic requirements of the ethnography: they were newly recruited judges who, at the same time, had spent enough time in the office to provide researchers with a number of questions regarding daily problems, on-duty periods, and legal procedures at large. Judges of the 52nd class had been sent to fill vacancies of first instance courts scattered throughout the peninsula. To create a relevant sample, we randomly selected 150 judges.

Knowledge Acquisition Process: Modeling Legal Ontologies

The acquisition of the judicial knowledge and understanding of the problems faced by newly recruited judges in their daily work is essential to Iuriservice (prototypes I and II). Iuriservice I was concerned with the questions regarding the doubts that judges faced in their first appointment. The open-ended questions were analyzed with textual statistics methods to extract the domains where the main difficulties lied. After the analysis had been performed on all the questions, legal experts were able to derive a large

set of questions regarding the difficulties faced in the judicial activity, for example, the judicial process, the on-duty period, and so forth.

The doubts regarding the judicial process and questions arising in the on-duty period were among the most relevant. The judge on duty has to make quick decisions about the facts of a case, relevant measures to establish, or the applicable procedure for a given case. Therefore, the most usual set of questions take the form of “what should I do in such a situation?” More experienced peers are often consulted to reply to these questions. Technically speaking, these problems are not complex. However, they are difficult to solve. The judges’ original question cannot be answered by simply pointing out a particular statute or invoking a precedent. Rather than dealing with standard legal information retrieval, we face here what we call “Professional Judicial Knowledge” (PJK), that is, context-sensitive knowledge of different types: propositional (knowing that), procedural (knowing how), and personal (intuitive, prepropositional). PJK is (1) shared among members of a professional group; (2) learned and conveyed formally or, most often, informally in professional settings (e.g., the Judicial School or the judiciary); (3) expressible through a mixture of natural and technical language (legalese, legal slang); (4)

Figure 2. Questions extracted from literal transcriptions of the questionnaires

1. I have ordered a injunction of protection [orden de alejamiento] in favour of a woman, and after some days she comes back asking me to cancel or remove it. What should I do? Do I always have to cancel or remove it? What may I advise her?
2. There is a couple and an injunction of protection against the husband, but the police knows that they are living together and they told me that. Any time she gets angry with him or they have some trouble she uses the injunction, the police detains him and I have to organize a hearing...just to find them together again next morning. What can I do? Can I modify or cancel the injunction?
3. I have been asked to dictate an injunction of protection, but this implies to leave a man on the street without a living. What can I do? How can I help this man?
4. One woman asks me for an injunction of protection because of psychological abuse, but it turns out that she's never gone either to the psychologist or the psychiatrist. Should I dictate an injunction of protection?

non-equally distributed among the professional group; (5) nonhomogeneous (elaborated on individual bases), and (6) universally comprehensible by the members of the profession (Casanovas et al., 2006a). In sum, professional legal knowledge contains a repository of know-how solutions, next steps, and ready made procedural and practical knowledge, for a huge amount of similar cases which are not covered by statutory provisions.

The initial Ontology of Professional Legal Knowledge (OPLK) was therefore based on the common ground of knowledge that any inexperienced judge shares with the more experienced ones, together with the information and the FAQs provided by the *Young Spanish Judges Survey 2002*, using the “competency approach” (Grüninger & Fox, 1995) to identify relevant aspects and the coverage of the ontology. The term “ontology” refers to a specification of implicit and shared knowledge.⁷ In this initial OPLK, we manually modeled from nearly one hundred competency questions a set of terms, relations, and classes.

The construction of Iuriservice II, nevertheless, required a knowledge acquisition process more focused on doubts, difficulties, and problems faced by the newly appointed judges. The questionnaire was modified in order to give more importance to those questions which were useful to obtain information regarding all those problems. This new approach made possible, for example, to identify more than 800 competency questions, in comparison to the 100 questions that were extracted from the answers to the first questionnaire.

While OPLK models the situated knowledge of legal professionals at work, questions obtained through fieldwork confronted us with a particular subset of PLK belonging specifically to the judicial field. Therefore, we named our conceptual specifications of the knowledge contained in these empirical data Ontology of

Judicial Professional Knowledge (OJPK). At present, OJPK has 104 concepts and a total of 651 instances, and it covers 6 different subdomains (on-duty, gender violence, minors, marital issues, immigration, and property).

The method used in building OJPK focused on the discussion within the legal experts’ team over the terms that appear on the competency questions. This method had several phases. First, it consisted in selecting (underlying) all the nouns (usually concepts) and adjectives (usually properties) contained in the competency questions. Once the terms had been identified, the team discussed the need to represent them within the ontology and their organization within taxonomies. The relevant relations between those terms also had to be identified (mainly *is_a* and *instance_of*). Accordingly, we followed the middle-out strategy (Gómez-Pérez, Corcho, & Fernández-López, 2002). With this strategy, the core of basic terms is identified first, and then they are specified and generalized if necessary. In this way, the quality of the FAQ repository in which Iuriservice II is based would improve notoriously. Not only the system had more question-answer pairs to offer, but also the typology of problematic domains developed into such a fine detail allowed better replies on one specific problem.

Legal experts classified manually the questions stored in the FAQ database into different subdomains (Casanovas, Casellas, Tempich, Vrandečić, & Benjamins, 2005). However, first intuitively and then with the help of a classifier, it was discovered that the questions could sometimes have been misclassified and also that the questions could refer to more than just one subdomain at the same time. In simple terms, the classifier attempted to learn by which keywords to distinguish the topics or subdomains of questions. Ideally, the classifier would automatically, correctly, and unambiguously decide what subdomain a particular question belongs

Figure 3. Current status of OPJK

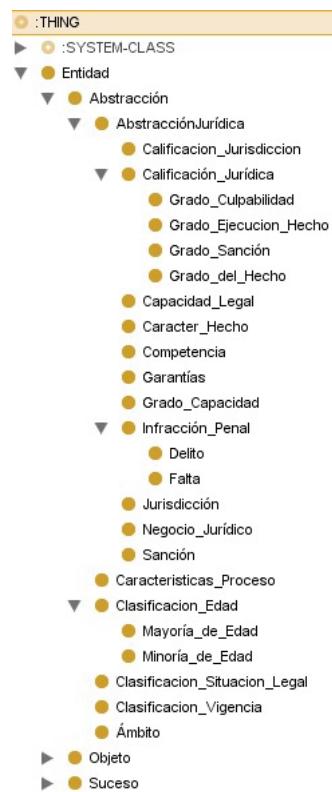
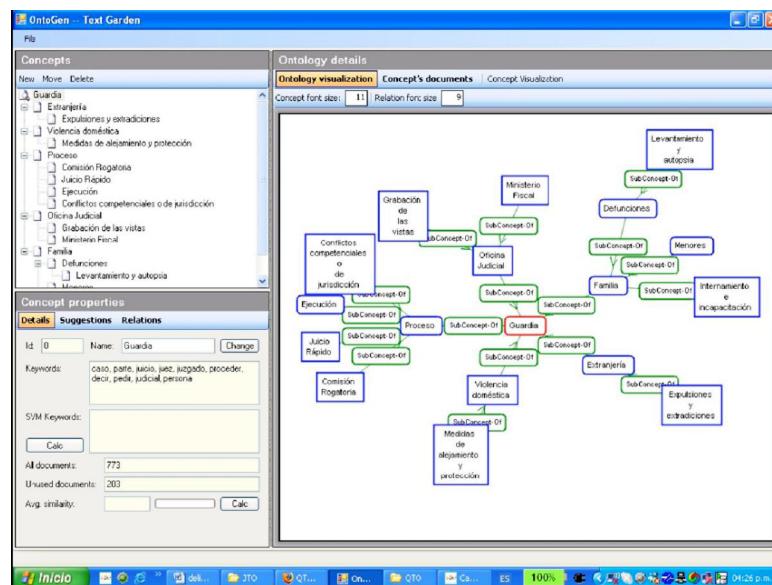


Figure 4. QTO in OntoGen's interface



to. In practice, however, the classifier made mistakes. Some of the mistakes indicated that the categories were not specified with a sufficient amount of detail. Other mistakes indicated incorrectly labeled questions, but there could also be questions that could be correctly classified in several ways (Casellas et al., 2006). A semi-automatic classification of the questions into subdomains was then performed and the Question Topic Ontology (or QTO) was constructed using OntoGen.⁸

This topic ontology has been developed to improve the FAQ search system, regarding the subdomain classification stage. QTO topics could be considered the classified legal subdomains. The input question could then be matched to one of these subdomains and then, only the questions included within the sub-domain would be further searched for (Casellas, Casanovas, Vallbé, Poblet, Contreras, Blázquez, & Benjamins, 2007).

The Iuriservice Architecture

Iuriservice can be best understood as an extended answer retrieval platform that allows users—incoming judges, in our case—to type a query in natural language and to retrieve the most similar answered questions that best matches the question input by the judge. The extension concerns two features. On the one hand, the system uses legal ontologies to proceed by semantic similarity. On the other hand, there is an answer explanation system that offers complementary documentation (e.g., judgments) to support or expand the answer provided by the system. The key differential aspect of this system is its knowledge about the judicial professional domain, expressed as judicial domain ontology. Rather than matching, based on keywords, our system uses ontologies to both retrieve the most similar question and to provide the link to additional documentation. Figure 5 below illustrates those two modes; on

Figure 5. High-level architecture of Iuriservice system. A FAQ system is combined with an answer explanation system that provides explanations for the answers provided by the FAQ part.

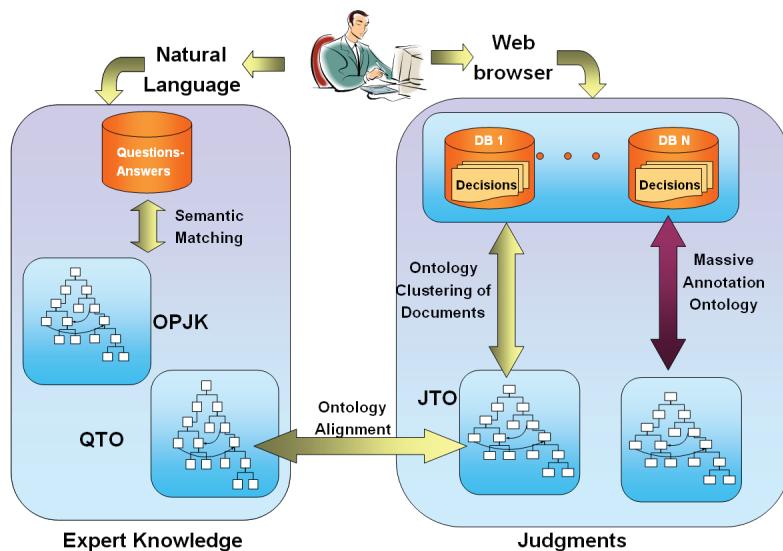


Figure 6. Iuriservice FAQ search system

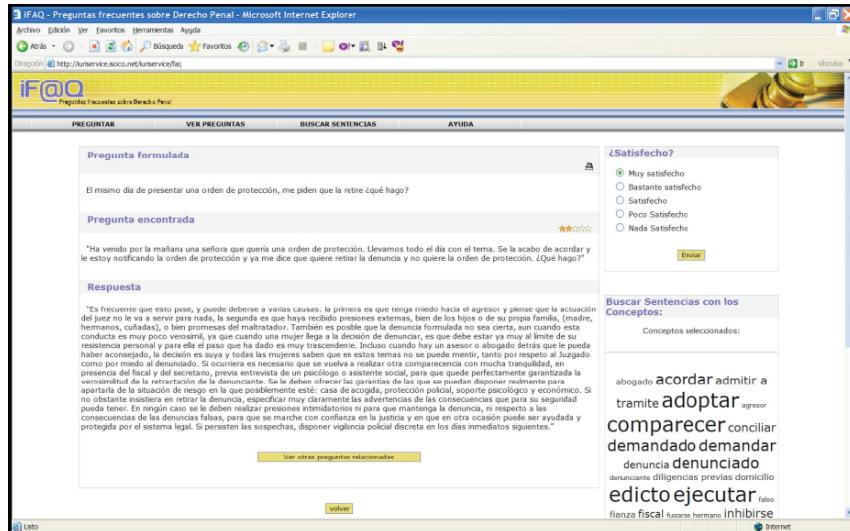
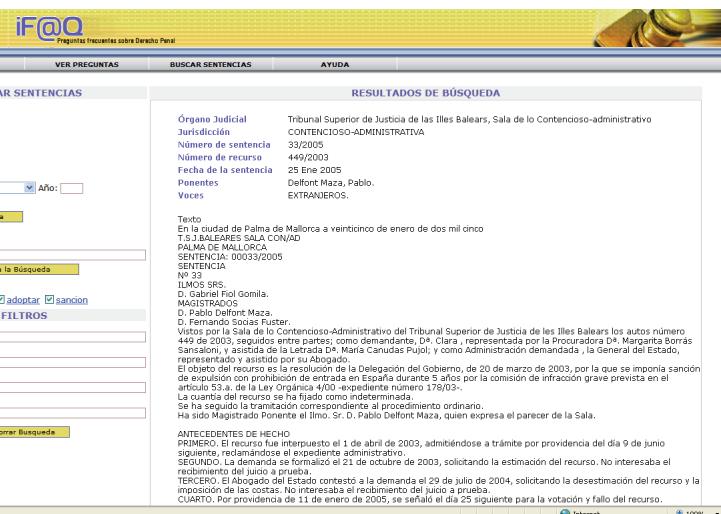


Figure 7. Case law tool



the left hand side, there is the FAQ part (Expert System), while on the right hand side, there is the Answer Explanation (Judgment) functionality. As it can be seen, the “answer explanation” part can also be used as a semantic metasearch engine over distributed legal sources.

The design of Iuriservice is based on the following technological considerations: effec-

tiveness (the system should be able to locate the best possible matching FAQ question to the user’s input question) and efficiency (the search process should be fast and scalable according to the FAQ repository size). These technological considerations were derived from established user needs (judges) and have influenced the

designed and the use of semantic technologies within Iuriservice.

The first step performs topic detection of the input question and classifies the concerned question in different subdomains, using statistical techniques. The second step is the search process, which searches in files, databases, and other document repositories, using search strategies such as morphological, synonyms, orthographic, and semantic search (based on semantic similarities). In this way, questions are retrieved based on their legal meaning, rather than on matching keywords. The legal meaning is defined in ontologies.

The case law tool offers a search and browse application for databases of judicial decisions also through the use of ontologies. This application allows judges to search using different fields such as the judicial organization, the judicial topic, jurisdiction, deponent, dates, decision number, and some ontology terms. This subsystem is similar to other existent judicial databases, but performance is improved by the use of semantics that allows query expansion with ontology terms.

THE ROLE OF JUDGES IN DEVELOPING IURISERVICE

Judges—as users—have been an essential part of the project from the very beginning. Their role as final users, therefore, must not obscure their contribution to each stage of the project. The role of the users may be divided into three different stages: (1) users needs, (2) usability tests, and (3) final user field tests or user validation. In this section, these different tests shall be briefly presented.

Regarding the first kind of tests—see Bösser, Casanovas, Casellas, Melchior, Thurlow, and Vallbé (2006) for details about tests and statistical results—the general needs of the users were identified from the analysis of the data gathered in the ethnographic work described in precedent sections. Yet these data were not enough, since other information regarding specific features of the future system had to be gathered in order for Iuriservice to be seriously useful. Therefore, the issues studied referred to specific features of the application and to preferences concerning system response time and desired qualities of the results of querying the database.

Figure 8. Features of the legal application included in the analysis (Bösser et al., 2006)

Attributes: Legal application user preferences study 1					
Attribute / dimension / factor	Quality or Functionality?	Attribute values (2 or 3)			
Recall: Retrieval of judgements	Q	99%	97%	90%	
Precision: Proportion of items returned by search which is relevant	Q	Low – 35%	Medium – 75%	High – 95%	
Time (system response time) for search	Q	Fast – comparable to Google	Medium – Up to 5 minutes	Long – May be more than 5 minutes	
Related rulings are	F	NOT shown	shown		

The selection of users for this study presented two different difficulties. On the one hand, the final users—junior judges—were not very familiar with the type of application they would have in the future. We therefore planned a lengthy period of introduction to the application as part of the formal training program of one of the selected groups of future users. On the other hand, access to these users is regulated by administrative rules and likely to be possible only at designated periods. Thus, it was clear that this was a very valuable resource to be preferably used at the end of the project, when the system could be presented with all its functionalities.

To perform these tests, we started by identifying a number of experts. They needed to be familiar with the way users used to work, or being themselves involved in the training of the prospective users. Experts were asked to carefully consider the situation of the users and to put themselves into their place when completing a questionnaire and a choice-based analysis. The Web-based questionnaire contained questions such as “How useful would you consider a system that allows you to pose your questions to the system in the same way you would ask them to a peer and not by the use of keywords?” The results showed rather positive expectations concerning the system. As for the second kind of needs analysis, two choice-based preference analysis were carried out on six legal experts (among the experts who participated in the previous test) and on a group formed by six authoritative judicial experts from the Spanish Judicial School. These were experienced senior judges concerned with judicial training and also involved in all latter usability tests carried out for Iuriservice.

The main purpose of the test was to elicit which application features to be offered by the FAQ system were (relatively) of higher value for the users. The features included in the analysis were recall, precision, time, and the possibility

of browsing related rulings and are shown in the Table 8.

First, the general results of the preference analyses in both groups showed that the greatest majority of experts attached more weight to “precision” (i.e., the ratio of the number of relevant records retrieved to the total number of irrelevant and relevant records retrieved) than to “recall” (i.e., the ratio of the number of relevant records retrieved to the total number of relevant records in the database). Second, there was a clear preference attached to a system feature that suggested related rulings. Finally, the need for a Google-like response time (short) was desired, but delays up to 5 minutes appeared acceptable (with high precision rates) (Bösser & Melchior, 2006).⁹

The scope of the usability inspection was to identify severe defects in application design and usability problems, to detect the nature of these problems, and to suggest recommendations for possible solutions (Bösser & Melchior, 2005). In this case, two different kinds of standard usability tests—heuristic evaluation and cognitive walkthrough—were carried out. Similarly to the previous group, the team of usability testers was not selected from the target final users of the software. Instead, they were recruited from the group of experienced judges and lecturers from the Judiciary School. Since these experts teach incoming judges during the 9 months before the incoming judges are first appointed to a court, they are perfectly knowledgeable of their future needs as users.

As regards the heuristic evaluation, the testers were provided with a standard questionnaire¹⁰ and were asked to perform specific tasks while filling in the questionnaire. As for the cognitive walkthrough test, it was planned and executed in the Spanish Judicial School. In both question/answer and Search&Browse applications, the tasks selected were fully representative of the tasks the system would be able to perform when complete. A completely detailed description of

each task and the sequence of actions executed had been elaborated before the test.

Several improvements of the system were applied as a result of these tests, most of them regarding issues such as visibility and system status, error prevention, help, and documentation. At the same time, the system was modified to improve its effectiveness of search.

Tests with final users were all made possible by the intervention of the senior judges from the Spanish Judicial School. In this way, 10 trainee judges carried out the tests, and it is worthwhile to note that all of them made a real effort to do it. Thus, tests were prepared for a group of judges who participated in a test lasting for two days and a group of legal experts. On the first day, a number of typical cases was presented to the judges, and they were asked to solve the cases in a randomized order, using their usual tools and their normal working procedures. These data served as a baseline for the tests on the second day. First, testers were given an introduction to Iuriservice, and then they performed some exercises to get familiarized with Iuriservice. In addition to Iuriservice, the subjects also had the online search systems used in daily work at hand. The participants solved a number of cases from the same sample used on the first day, in randomized order again, so that each participant solved all cases, half with and half without using of Iuriservice.

The subjects recorded both the time taken to solve the task and the number of queries executed. The decisions made were annotated and assessed by independent experts afterwards. Once all test cases were completed, the subjects were asked to rate Iuriservice, and to complete a standard software usability measurement inventory (SUMI) questionnaire.

The same procedure was carried out with legal experts, but with a smaller number of cases. The main conclusion drawn from the tests is that all tasks were solved in a much shorter time using Iuriservice, as compared with the

non-use of Iuriservice for the same task (Bösser et al., 2007). Although this result might not be fully generalizable in quantitative terms (due to the limited number of judges available for the test), these results show that Iuriservice provides an extra information service that allows the users to find the required information quickly and easily.

Regarding the users feedback concerning the system, all of them rated the Iuriservice application as positive and helpful, and saw it as a desirable system. The summary of results of the SUMI questionnaire (Software Usability Measurement Inventory) shows that subjects assess the Iuriservice application as highly positive (Bösser et al., 2007).

INTEGRATION OF IURISERVICE IN THE COURT TECHNOLOGY SYSTEM: IMPACT AND LIMITS

Iuriservice was officially introduced in a formal session to members of the General Council of the Judiciary, representatives of the CENDOJ (Centro de Documentación Judicial), judges of the 58th class, and Directors of the Latin-American Judicial Schools who were present at that time at the Spanish School (November 27th, 2006).

Legal issues matter in judicial research, since they are a prerequisite for project development and implementation. On December 15th, 2005 the Plenary of the Spanish Judicial Council (CGPJ) issued an Order approving the extension until 2007 of the agreement on research between the CGPJ and the Autonomous University of Barcelona (UAB) (January 31st, 2001). The order states explicitly that researchers are under the restrictions on sensitive data established by the Spanish legislation (and art. 6 of the original agreement, concerning the confidentiality of judicial data). In addition, there is an agreement of research signed by the UAB, iSOCO, and La

Ley-Actualidad S.A. (Wolters Kluwer) (2004). In virtue of this agreement, SEKT researchers have had access to the 450,000 judgments contained in La Ley legal database.

Iuriservice is now at the first stages of implementation at the Spanish Judicial School. At this moment, therefore, user needs compliance and positive attitude and feedback towards Iuriservice are of high importance, since these are indispensable aspects to move the project forward.

CONCLUDING REMARKS

Generally, we may summarize our approach to law and technology issues by defining law itself as a “cognitive technology.”¹¹ In this perspective, the basic assumption is that we may analyze contemporary law as knowledge coded in rules, values, or images. This knowledge may also be coded in different natural and artificial languages and contained in multiple formats (text, audio, video, graphics, etc.). Finally, legal knowledge may be developed, shared, and conveyed in different ways by individuals, professional groups, corporations, political organizations, companies, or citizens at large.

To provide a consistent explanation of this “legal knowledge in context,” the interdisciplinary cooperation and ongoing feedback of judges, jurists, social scientists, and computer engineers is most required. Similarly, the complexities of developing IT projects within the legal domain call for the cooperation between different kind of scientific and technical expertise. In this regard, Iuriservice may provide an interesting example of multidisciplinary cooperative effort.

FUTURE RESEARCH DIRECTIONS

It is not unsafe to sustain that research in the e-justice domain is still in its infancy. And yet,

e-justice is expected to bring a new vision on how judicial disputes may be managed and resolved in the information society. In this regard, one of the most promising fields developed in the e-justice context is related to Semantic Web technologies. Semantic Web technologies are applicable in a variety of e-justice domains. For example, in audiovisual data integration, whereby data in various locations and various formats can be integrated in one single application. This is the case of the e-Sentencias Project in Spain.¹² E-Sentencias develops a software-hardware system for lawyers to manage the documentation connected to their legal cases and the related multimedia files (Spanish legislation establishes the videorecording of all oral hearings of the civil jurisdiction). Both an ontology-based metasearch engine and a specific hardware platform are developed to optimize the knowledge generation and management processes in the judicial field. The objectives of this approach are (1) to save time to users; (2) to aid searches intelligently; (3) to optimize the results; and (4) to improve the organization of the search memory.

But there are other areas of e-justice that constitute a privileged domain for Semantic Web applications. Among others, electronic data interchange (e-filing, creation, retention, and classification of electronic data to provide better, domain specific search engine capabilities), cataloging and information retrieval at a particular database, Web site or archive, knowledge sharing and i-FAQ systems, and so forth.

Finally, it could be interesting to develop a common framework of Semantic Web applications to integrate research in the e-justice and online dispute resolution (ODR) fields. ODR services are usually labeled as “out-of-court” dispute resolution, applicable mainly to both disputes that originate from online transactions and off-line disputes handled online. Neverthe-

less, there are successful experiences showing that a convergence of the two areas may take place.¹³ In this perspective, the development of active users-side applications is in line with the concept of an e-justice at the service of its legal professionals and citizens at large.

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¹ In oral exams, candidates are required to “recite”—to “sing”, in the judicial jargon—five different topics selected at random (out of 300) within a specific amount of time. To do so, they usually spend 12 to 16 hours per day in front of the textbooks and hire a “coach” or “*preparador*” (usually, a senior judge or prosecutor) who trains them on how to recite any of the 300 legal topics by providing useful tips for recitations that are carefully rehearsed once or twice a week.

² Semantic Knowledge Technologies (SEKT), EU IST integrated project, VI Framework Program (EU IST IP 2003-506826).

³ Semantic technology may be defined as “a software technology that allows the meaning of and associations between information to be known and processed at execution time. For a semantic technology to be truly at work within a system, there must be a knowledge model of some part of the world that is used by one or more applications at execution time” (TopQuadrant, 2004).

⁴ The Observatory of Judicial Culture (SEC2001-2581-C02-01, Ministry of Science and Technology) results from a co-ordinate project between the Autonomous University of Barcelona (UAB), the University of Barcelona (UB), the Polytechnic University of Catalonia (UPC), Intelligent Software Components (iSOCO), and the board of directors of the Spanish Judicial School.

⁵ The results allowed to identify three main areas in which young judges had problems: (1) the organization and management of daily relationships within the judicial units (with clerks, civil servants, etc.); (2) the interpretation and implementation of some newly enacted procedural Spanish statutes (Ley de Enjuiciamiento Civil, January 2000); (3) the “on-call” period (called *guardia*: the week in which the entire Court is on duty tackling the preliminary investigations and procedures of the criminal cases that keep entering to the Courts).

⁶ At present, there are eight autonomous communities fully responsible for the management of the judicial system within its territory: the Basque Country, Catalonia, Galicia, Andalusia, Navarra, the Community of Valencia, the Canary Islands, and Madrid.

⁷ For the purpose of this chapter, we follow Heflin (2004) in defining an ontology such as the structured set of “the terms used to describe and represent an area of knowledge” (Jeff Heflin, OWL-Use cases, <http://www.w3.org/TR/2004/REC-Webont-req-20040210/>).

⁸ OntoGen v 2.0 is a semi-automatic and data-driven system for the construction of topic ontologies, that is, discovers possible concepts and relations from a corpus (Fortuna, Grobelnik, & Mladenović, 2006). Topic ontologies consist of a set of topics

(or concepts) and a set of relations between the topics which best describe the corpus. The latest version of the tool is based on a novel ontology learning framework constructed especially for data-driven learning systems. The framework gives a basic ontology definition and defines concept and relation learning processes specially adjusted to include machine learning algorithms. OntoGen is developed and maintained by the Josef Stefan Institute (Ljubljana, Slovenia): <http://ontogen.ijs.si/>.

⁹ The R² value (coefficient of determination) was extracted for both analyses, and all subjects showed a very high value, indicating that they responded rationally (exhibiting transitive choice behavior) and carefully (Bösser et al., 2006).

¹⁰ By Deniese Pierotti, Xerox Corporation, though adapted to the system that was tested. Retrieved from <http://www.stcsig.org/usability/topics/articles/he-checklist.html>

¹¹ We borrow this term from the works by Danièle Bourcier (2003).

¹² E-Sentencias (E-Sentencias. *Plataforma hardware-software de aceleración del proceso de generación y gestión de conocimiento e imágenes para la justicia*) is a project funded by the Spanish Ministry of Industry, Tourism, and Commerce (FIT-350101-2006-26). E-Sentencias is a consortium of: Intelligent Software Components (iSOCO), Wolters Kluwer España, UAB Institute of Law and Technology (IDT-UAB), Centro de Prototipos y Soluciones Hardware, Software (CHEPIS, UAB) y Digital Video Semantics (Department of Computer Science UAB).

¹³ This is the case of the Internet service “Money Claim Online” of UK Courts (<https://www.moneyclaim.gov.uk/csmco2/index.jsp>).

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Chapter IV

The Potential of Computerized Court Case Management to Battle Judicial Corruption

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ABSTRACT

Automated court case management systems present opportunities to develop processes and procedures that can battle corruption. This chapter provides information on the development of such a system for the nation of Bosnia and Herzegovina and looks toward future potential developments in this area. Computerized court case management systems (CCMS) can be used to help the judiciary manage complete their daily work. These systems can also be used to prevent data corruption and allow data “mining,” that identifies potential corruption activities. This chapter briefly discusses the issue of judicial corruption and describes automated system functions that can be used to eliminate and potentially indicate corrupt practices.

BACKGROUND

Corruption in judicial systems is not a single country issue. While it is recognized as motivation for many international reform projects, corruption is an ancient worldwide issue without discrimination between developing and developed nations. The United Nations adopted the Convention against Corruption resolution 58/4 on October 31, 2003 that detailed

both the concerns and actions for prevention, criminalization, international cooperation, and asset recovery that governments should enact.¹ The United Nations also supports the Judicial Integrity Group that is “an association composed of Chief Justices and senior judges, in the development of standards and policies to strengthen judicial integrity and capacity.”² This organization created the Bangalore Prin-

ciples³ in 2002 that detail “standards of ethical conduct of judges.”

Presently, government corruption as an issue has risen to the level where an entire organization, Transparency International,⁴ is devoted to combating it. The Hon. Huguette Labelle, Chair, Transparency International, stated on release of the Global Corruption Report 2007 at the London School of Economics on May 24, 2007⁵:

Justice with a price tag is no justice at all. Real justice is priceless.

Corrupt courts deny victims and the accused the basic human right to a fair and impartial trial, sometimes even to a trial at all. Those who cannot or will not pay are locked out. Legal instruments such as contracts—the fabric of business and commerce—are meaningless. Criminals go unpunished, destroying effective governance and democratic participation. Trade, investment and economic growth are diminished.

Four general areas identified for potential judicial corruption defined by the report⁶ are:

1. **Judicial appointments:** Failure to appoint judges on merit can lead to the selection of pliant, corruptible judges.
2. **Terms and conditions:** Poor salaries and insecure working conditions, including unfair processes for promotion and transfer, as well as a lack of continuous training for judges, lead to judges and other court personnel being vulnerable to bribery.
3. **Accountability and discipline:** Unfair or ineffective processes for the discipline and removal of corrupt judges can often lead to the removal of independent judges for reasons of political expediency.
4. **Transparency:** Opaque court processes that prevent the media and civil society

from monitoring court activity and exposing judicial corruption.

This chapter attempts to partially address the third and fourth causes, accountability and discipline as well as transparency, via the application of a computerized court case management system in the nation of Bosnia and Herzegovina (BiH).

The courts in BiH were fertile ground for developing and testing a new generation of court case management systems for several reasons. First, the 1992–1995 war resulted in destruction of the existing governmental institutions. As a result, completely new political boundaries and governmental organizations were created. In May 2004, the BiH Parliament passed a law creating the High Judicial and Prosecutorial Council⁷ (HJPC) as an independent body to oversee the judiciary and prosecution. The law also prescribed removal of all seated judges and prosecutors in the country and creation of a screening process and re-appointment of those officials who passed examination. The HJPC is also charged with additional administrative and oversight duties in operating the courts. It is in this environment of rapid change and innovation in the BiH judicial system that the design, development, and implementation of the CCMS was created (described in the rest of this chapter). It allowed the designers and implementers to explore methods used in the past by a corrupt system. With the support of the BiH judiciary and the HJPC, it provides a way to address some of the problems.

RANDOM JUDGE ASSIGNMENT AND RECUSAL

The BiH CCMS provides random judge assignment based on judicial organizational assignment. That means that criminal and civil cases are randomly assigned to judges in the

respective criminal and civil departments or respective case category assignments in smaller jurisdictions. This is a first line of defense against corruption. But what if a particular attorney is able to corrupt the system by bribing the presiding judge to have their case reassigned? The system will track that reassignment as well since all judge assignments; even the original one made by the computer system are related to the case and are recorded and maintained in the historical record. While a single corrupt reassignment may not necessarily be caught, a pattern and practice of reassignment will certainly be recorded and provide valuable information for analysis that could potentially be flagged by the system.

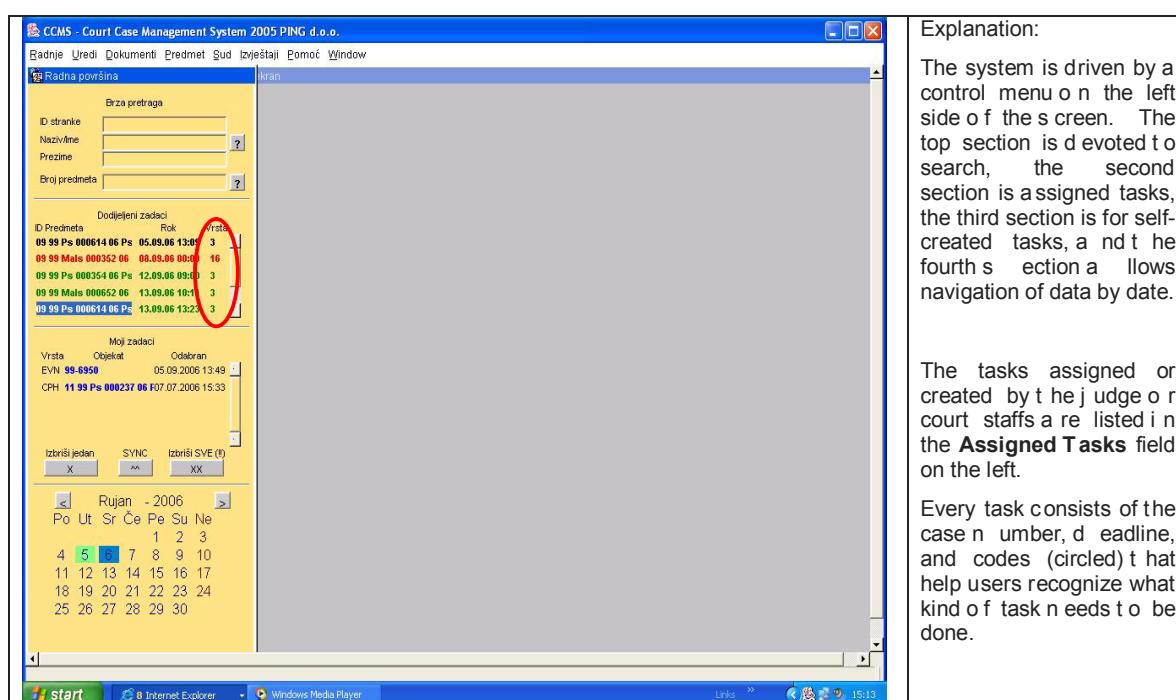
The system also has the ability to automatically disqualify judges from assignment if particular attorneys or case parties are involved based upon identification numbers. Bosnia and

Herzegovina have assigned national identification numbers for all citizens. These numbers can be entered into the system and associated with judges as conflicts due to family or business relationships. In the future this part of the system can be expanded to include deep business and family tree linkages as more information is entered as part of the natural expansion of the CCMS data.

TASK EVENT TIMELINES

The BiH CCMS is one of the first systems where task events are automatically created and tracked as documents are received and produced. The reason these capabilities have not been implemented in systems before is because of recent advances in computer hardware speed and storage capacity, database capabilities, high-speed

Figure 1. The BiH CCMS basic screen



network implementation, and new integrated applications development environments. In other words, after many years wishing that software could work effectively together, it is now happening. In fact, these new technological realities are currently causing all of major commercial court case management vendors in the USA to update their systems.

Often judicial corruption manifests itself in the form of case delay. If one party pays the court official to do nothing, then justice is not served. Since the BiH CCMS is based on an event-task model, when an event such as a document filing occurs, an automatic task is sent to the appropriate person's list. That task then appears on the person's list as determined by court rule (please see the screen graphic in Figure 1). If the task is not performed by that person, after a prescribed time period, a notification is sent to the supervisor. Eventually if it is not addressed, it is sent to the presiding judge and potentially to a national level. However, what if the clerk or judge "pretends" to do something on the system? The BiH CCMS already produces task event reports by system user to determine if work is being completed by the assigned person on schedule. This information can be automatically reported to the staff or judge's superiors.

DOCUMENT VERIFICATION

Document falsification, duplication, nonproduction, and delay are some methods used by judicial (and other government) officials to manipulate paper-based systems in order to solicit and obtain bribes and other nonmonetary benefits. Many current court records processes based on paper records attempt to address this by requiring multiple people to interact with the paper documents, perform entries in the various registry books, and affix differing rubber stamp seals to track and authenticate work. Unfortu-

nately, computer, scanning, and color printing technology has made it very easy to create realistic fake documents, and the Internet has made it simple to order rubber stamps if needed. An even easier approach would be to scan an official seal mark from another document, copy it, then paste and print it on the new document using a color printer. Therefore, extensive efforts are currently being made around the world to add security "devices" to government produced official physical documents such as passports and identification cards. These security devices, such as the computer chips embedded in passports attempt to create a second electronic trail via an "electronic document" contained in the chip as well as via computer networks back to the government departments for authentication. Thus, if the picture returned across the network from an originator's database matches the passport or ID card, then that document is verified. The new BiH CCMS has a similar "secondary path" for verification.

The BiH CCMS is the first national court automation system in the world where creation and storage of court produced documents is a mandatory part of its operation. This means that a court generated document is not considered official unless it is created and stored via the CCMS.

The BiH CCMS uses a combination of database entries and word processing software to generate notices, decisions, and other documents. The computer users enter the case that they wish to work on, and the system next automatically calls a word processing document template and inserts as much information as it can (see screen graphic below in Figure 2). When the judge or clerk finishes and closes the document, the system automatically stores the electronic version of the document and lists it in the case registry. The mail room clerk is then sent a task to print out the requisite number of documents to be stamped and mailed to the

Figure 2.

Explanation:

After selecting the case number, one can see what type of action is needed for the case, as well as its deadline.

Double-clicking the **Case Number** field on this screen will display all case details.. Further actions can be performed on the case through these options.

From this screen you can access the:

- Internal Memo Form / Court Correspondence (Create a document)
- Form for events/hearings scheduling
- Form for recording/conducting a hearing
- Form for judge's orders

recipients. The system further allows for additional copies to be printed on demand.

This approach automatically creates the secondary path for verification because the paper document version is simply an official copy of the original electronic document. As a result, any challenge to the authenticity of a court document can be checked via the computer network against the electronic original. It also potentially allows the document text information to be searched and categorized much like the Google's⁸ system that provides searching through the Internet. Overall, the document system sets the stage for future full transparency of all court records, which can be governed by a country's privacy laws and exposes documents on the Internet.

DELIBERATE DOCUMENT ERRORS

There have been instances where corrupt officials have deliberately created documents that introduce errors and delay case disposition. Since all court generated documents are created through the CCMS and electronically stored in the system, it will be possible for supervising judges and corruption investigators to quickly and easily examine and compare official documents from a central office. Further, document templates are used to reduce unintended error and to ask why the standard process was not applied in a particular case. In the future, it will be possible to develop software that can automatically scan and compare documents against a template standard. This comparison would identify intentional and unintentional

errors before they are sent and report errors to supervising officials.

CROSS CHECKING RESULTS WITH CASE PARTICIPANTS

Does one attorney never lose when this attorney's case comes before a particular judge? Does one party never lose in a particular court? Does a specific judge always rule a particular way when faced with a defendant of a particular ethnic background? Is a particular "expert" always used by a judge? If any of these questions are true, is there any correlation with the case outcome? Analysis of the CCMS data allows these questions to be asked in an ongoing and confidential manner. New business analytic software can potentially be applied to search systems and identify issues before they become embarrassing court problems. Business analytic software is well-established and used by retail businesses and manufacturing to spot anomalies as well as by government to spot health care reimbursement fraud.⁹ But to my knowledge, such software has not been applied to courts. With the proper foundational CCMS, this analysis is now possible.

POTENTIAL FUTURE PROCESSES AND TECHNOLOGY TO BATTLE CORRUPTION

As with all systems, both manual and automated, they continue to evolve. The implementation of national computer networks either using internal or Internet resources will provide the ability to widely implement CCMS in court locations throughout a country. This provides the capability to do analysis from afar by auditors and analysts from independent agencies or internal judicial conduct departments. This analysis is

therefore unknown to the potentially corrupt judge or staff and potentially results in an "unseen hand" stopping the temptation to conduct corrupt activities. In addition, there are other automated processes as well as procedures that can be adopted in the future to prevent corruption. A few possible future enhancements are noted below.

Event Non-Entry

A problem that could potentially be addressed by enhancing the CCMS is non-entry of a document filing by registry staff. This "losing documents" method is used to extort money from litigants in order to proceed with the case so the document can be "found." To combat this method, the CCMS would create a long and unique document tracking number, using random number assignment. This long number would be printed on a document filing receipt generated by the system and handwritten on the filing document in ink by the registry clerk. There would be a sign in the registry intake office notifying filers that this number must be written by registry staff on the filing or it will not be deemed filed. The document receipt would then be given to the filing party so that when they walk away from the courthouse, they could check their document number against the CCMS number. This approach allows judges and other officials to ensure that the document filing process has followed court rules. Eventually as scanning of paper documents is introduced and privacy laws are further refined, all documents can be made accessible to case participants by entering document numbers on the Internet, which would allow verification without court or government assistance. This function improves transparency of the court's work and enhances trust in the court since litigants can "double check" that the document they filed and/or received are consistent with the official court record.

Cross Checking and Correlating Court Case Information

Automated systems can only indicate potential areas of corruption. Cross checking CCMS information by supervisors and internal judicial system investigators is also required. In particular, investigators will need to randomly check and validate the identification of case participants, businesses, law enforcement officers, and agents to root out pseudonyms and other aliases. Further, investigators will need to have access to organized crime files and business registries, so that associations of persons, gang members, and legal businesses used to front illegal activity can be coded into the CCMS system. This allows additional data to refine analysis and determine potential or real corruption patterns.

Digital Recording of Court Proceedings

With vast increases in computer storage capabilities, it is possible to securely store digital audio (and in the future video) recording of court proceedings. Digital audio records of judicial actions combined with the CCMS documentation has the potential of serving as a great deterrent to judicial corruption and misconduct because the record is open to internal investigators. In the future, that same record should be opened to the press and the public based upon privacy laws so the courts become an increasingly transparent public service.

CONCLUSION

As noted above, no automated system is effective without human monitoring, investigation, and action. Additional input in the form of individual complaints, personal interviews,

reports, data analysis, and investigation are required to effectively use the case and document data created by the CCMS. It is only through this kind of analysis and prosecution that corruption can be determined and proper action taken. The nationwide implementation of the CCMS by the BiH Courts will provide an advanced information foundation for corruption analysis of court operations. This foundation is of critical importance for the courts ability to create and sustain a trustworthy and effective judicial system.

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ENDNOTES

¹ The complete text of the UN Convention Against Corruption can be accessed in multiple languages at the United Nations Office on Drugs and Crime Web site: <http://www.unodc.org/unodc/en/corruption/index.html>

² <http://www.unodc.org/unodc/en/corruption/index.html>

³ A copy of the Bangalore Principles can be accessed at http://www.unodc.org/pdf/corruption/bangalore_e.pdf

⁴ Transparency International's Web site is <http://www.transparency.org/>

⁵ (Labelle, 2007, May).

⁶ (Transparency International, 2007).

⁷ Bosnia and Herzegovina High Judicial and Prosecution Council Web site is <http://www.hjpc.ba/Home.aspx>

⁸ Google is an Internet search service located at <http://www.google.com>

⁹ Business intelligence software such as Oracle Business Intelligence, Microsoft Dynamics, SPSS Clementine, SAS Analytics, and SAP Analytics are a few of the systems currently available in 2007.

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Chapter V

Justice Beyond the Courts: The Implications of Computerisation for Procedural Justice in Social Security

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ABSTRACT

*This chapter considers the implications of computerisation for procedural justice in social security. It outlines an approach to the analysis of administrative justice—defined as the justice inherent in routine administrative decision making—that is derived from Jerry Mashaw's pioneering study **Bureaucratic Justice**. This approach explains the prevailing system of procedural justice in terms of the 'trade-offs' between six normative models of administrative decision making. The six models are associated with bureaucratic, professional, legal, managerial, consumerist, and market forms of decision making, and the 'trade-offs' reflect the outcomes of power struggle between different groups of social actors who champion the various models. This chapter attempts to determine whether, and if so how, computerisation affects the balance of power between the competing models of procedural justice and the groups of social actors who seek to promote them. It is based on an expert-informant study carried out by the authors. Two indicators for each of these six models were formulated and expert informants in 13 OECD countries were asked first to rate their importance on a 1–5 scale and second to assess, using another 1–5 scale, whether computerisation had made them more or less important. The main findings reported in the chapter suggest first that bureaucracy, followed by managerialism and legality are the most important determinants of administrative justice in social security, while the market followed by professionalism and consumerism are the least important, and second that the effect of computerisation has been to further entrench the bureaucratic and managerial models and undermine the professional model. The chapter relates these findings to*

data on to the aims of computerisation, the extent to which social security systems had embraced computerisation, and the emphasis that social security systems placed on data protection. In addition to generalising about the experiences of the 13 countries in the study, the chapter also describes the experiences of individual countries. It concludes that computerisation has altered the characteristics of service delivery by promoting some forms of administrative justice over others in particular by strengthening ‘top-down’ and managerialist forms of accountability at the expense of ‘bottom-up’ and rights-based approaches, and ends with a plea for a greater research focus on the administration of welfare and its justice implications.

INTRODUCTION

Although there is much argument about the scope of justice claims and the priority that should be given to them, justice is widely recognised as a principle of wide application and considerable importance. Indeed, John Rawls asserts that it is the primary criterion by which the basic structure of society should be judged, ‘the first virtue of social institutions, just as truth is of systems of thought’ (Rawls, 1972, p. 3)

Rawls distinguishes between the *concept* of justice, which refers to ‘a proper balance between competing claims’ and competing *conceptions* of justice, each of which expresses a different set of ‘principles for identifying what determines this balance’ (Rawls, 1972, p. 10). The coexistence of a single concept and several competing conceptions suggests that justice, like many other important social and political ideals, is *essentially contested* (Gallie, 1964).

It has become commonplace to distinguish between different subdivisions of justice in terms of their fields of application. Thus, *restorative justice*, which is concerned with compensation for harm or injury (in civil matters), can be distinguished from *punitive justice*, which is concerned with the punishment of wrongdoing (in criminal matters) (Honoré, 1970). Restorative justice and punitive justice

make up *legal justice*, which can in turn be distinguished from *social justice*.

A distinction can also be made between *procedural justice* (that we take to be synonymous with *procedural fairness*), which is concerned with ‘process,’ and *substantive justice*, which is concerned with ‘outcomes’ (Richardson, 1984, p. 105). Procedural fairness focuses on how individuals are treated while substantive justice focuses on what they contribute or receive. Both the subdivisions referred to above, that is, legal justice and social justice, have procedural and substantive dimensions. In the first case, these procedural dimensions include the rules of evidence and procedure that govern decision making in the criminal and civil courts; in the second case, the administrative rules that govern decision making by government departments and other official bodies.

If justice is concerned with ensuring that everyone receives what is due to them in terms of their personal characteristics and circumstances (whatever they may be), the idea of *procedural justice* suggests that this principle can be applied to procedures and that a fair procedure is one in which individuals are treated in a manner that reflects what is due to them.

This chapter investigates the contribution of electronic information and communication technologies (ICTs) to the operation and transformation of procedural justice in social secu-

rity. It is based on comparative data collected by the authors on the impact of ICTs on social security systems. The data were collected in the middle of 2000 and at the end of 2004. The 2000 data, which cover the period from 1985 to 2000, were generated by 23 expert informants, who included 'insider experts' working for the government or for a social security institution, and 'outsider experts', who were usually independent researchers or consultants, in 13 Organisation for Economic Cooperation and Development (OECD) countries; 10 Western European countries (Belgium, Denmark, Finland, France, Germany, Ireland, the Netherlands, Norway, Sweden, the United Kingdom); Australia; Canada; and the United States of America. The 2004 data, which updated the 2000 data set and covered the period from 2000 to 2004, were collected from 14 expert informants in eight of these countries.¹ The earlier period was dominated by the introduction of online computerisation of social security administration, whereas the latter was dominated by the growing use of the Internet.

Questionnaires, which were sent out and, in most cases, returned by e-mail, covered a large number of issues, including the history, current scope, past and present aims, and the consequences of computerisation; surveillance and data collection, the relationship between computer professionals and policy makers, and the experience of and attitude towards new and emerging technologies. The data have been analysed and written up in a report published by IBM (Adler & Henman, 2005a), which part-financed the study, and in a series of articles (Adler & Henman, 2001, 2005b; Henman & Adler, 2003).

One of these articles (Adler & Henman, 2001) analysed the impact of computerisation on procedural justice in social security, and this chapter is concerned with the same topic. However, it extends the earlier analysis in three ways: while the 2001 article drew on the 2000

data alone, referred to only 10 of the 13 countries in the study, and focused on the implications of computerisation for routine administrative decision making, this chapter draws on 2004 data as well as 2000 data, refers to all 13 countries, and considers data on the importance attached to data protection as well as data on the implications of computerisation for routine administrative decision making.

The first section of this chapter outlines a typology of procedural justice, which is used in the second section to assess the nature of procedural justice in social security and the extent to which it has changed as a result of computerisation. The third section of the chapter relates these findings to data relating to the aims of computerisation, the extent to which social security systems have embraced computerisation, and the emphasis that social security systems has placed on data protection. The chapter concludes with a broader discussion of the implications of ICTs for procedural justice.

ANALYSING PROCEDURAL JUSTICE

One approach to procedural fairness presents it in terms of a set of principles that are imposed on an organisation by institutions that are *external* to it, in particular by the courts, as a result of individual challenges to administrative decisions. Another approach sees it as a set of principles that are put into place by the organisation itself, perhaps as a result of some *internal* monitoring of administrative decisions. The principles underlying judicial decisions are extensively analysed by administrative lawyers, in particular by those with interests in judicial review and in administrative tribunals, although, with one or two notable exceptions (see, in particular, Genn, 1994; Hal-liday, 2005), the impact of these decisions on

first-instance administrative decision making has not received much attention. On the other hand, the principles associated with internal audit and accounting systems, administrative rule making, staff training, and so forth, have received much less attention from administrative lawyers. However, it is not our view that a choice needs to be made between internal and external approaches to the procedural justice. We think that both are important and that they need to be combined.

In his pioneering study of the American Disability Insurance (DI) scheme, Jerry Mashaw (1983) identified three broad strands of criticism that were directed at the scheme. He argued that each strand of criticism reflected a different normative conception of the DI scheme, that is, a different model of what the scheme could and should be like. The three models were identified with *bureaucratic rationality*, *professional treatment*, and *moral judgment*, that is, with *bureaucratic*, *professional*, and *legal* models of organisational decision making.

In addition to the three models identified by Mashaw, we have added three more—*managerialism*, *consumerism*, and *the market*. These normative models are really ideal types (Weber, 1949, pp. 90–93) and, as such, can be described in terms of their salient features. These features comprise the characteristic mode of decision making, the legitimating goal of decision making, the mode of accountability, and the nature of the remedy available to dissatisfied users. It should be noted that each of the models casts the user in a different role. The six normative models of administrative justice are outlined below.

In the *bureaucratic* model, the role of the user is largely passive. An application is usually submitted on a preformatted form and assessed without any further involvement by the user. Officials apply carefully formulated rules to the information provided by the user on the application form. The legitimating goal of the

organisation is to make accurate (and consistent) decisions by applying the administrative rules. Accountability is hierarchical, and officials are accountable to their superiors. Dissatisfied users can appeal against the decision, and these appeals are dealt by means of an (internal) administrative review of the original decision. Although there is evidence of bureaucratic-like organisations in early civilisations, the bureaucratic model began its ascendancy in the late nineteenth century (Weber, 1946, pp. 196–244), and was until recently the dominant model in many welfare organisations.

In organisations characterised by a *professional* model, professionally trained staff make administrative decisions by applying their knowledge and expertise to the specific circumstances of the individual case. Accordingly, users may play a more interactive role in their dealings with the organisation, although they are still subordinate to the professional experts. The legitimating goal of the organisation is to promote the interests of the user. Accountability is interpersonal and staff are accountable to their professional peers. Users who are dissatisfied can ask for a second opinion or complain to the relevant professional body or association. The professional model also began its ascendancy in the late nineteenth century (Durkheim, 1957), but it was only in the twentieth century with the emergence of the welfare state that professionals became involved in the implementation of welfare policies (Wilding, 1982).

In the *legal* model of organisational decision making, users (or their representatives) take a more active role in asserting their rights and arguing the merits of their case. Decisions are made by independent decision makers who weigh up the arguments of the parties. The legitimating goal of the organisation is legality (fidelity to the rule of law), and accountability is to an independent adjudicator beyond the confines of the organisation. Users who are unhappy with the decision in their case may

appeal to a court or tribunal. The legal model has developed over the centuries, but it was only in the twentieth century, with the progressive enactment of social rights of citizenship, that it has become important in the implementation of welfare policies (Cranston, 1985).

In the postwar period, most public welfare services were shaped by the bureaucratic, professional, and legal models outlined above, although their importance varied from one policy domain to another. However, by the mid-1980s, welfare organisations had come under attack in many countries. They were variously criticised for promoting their own interest rather than the interests of those who were dependent on them, being too rule-bound and insufficiently sensitive to the preferences of those who were dependent on them, and for being inefficient and failing to contain the growing demands for cost containment.

New and better forms of management were championed as the most appropriate response to these criticisms. Managerialism, as it came to be known, challenged the powers and prerogatives of bureaucrats and professionals in the name of managers who demanded the ‘freedom to manage,’ involved the attainment of prescribed standards of service, gave priority to achieving efficiency gains, introduced different forms of financial and management audit to assess how well the prescribed standards of service had been met, and enabled a new breed of managers to impose sanctions on individuals who did not achieve them.

In the *managerial* model, which emerged in the 1980s and 1990s, users do not play an important role. The legitimating goal of this model is improved performance and is premised on managerial autonomy, that is, on allowing managers the freedom to manage. Accountability is achieved through the use of performance targets, performance indicators, and various forms of audit. The only recourse which dissatisfied users have is to complain to

management or a regulatory body that can then impose sanctions on those who do not meet performance standards and to seek adverse publicity.

In contrast to the absence of the consumer in the managerial model, in the *consumerist* model, which also emerged during the 1980s and 1990s, the user is at the centre of the organisation (Clarke & Newman, 1997). Here the aim is to ensure consumer (i.e., user) satisfaction. In reaching decisions, there is active engagement or consultation with the user. ‘Customer Charters’ promise better quality services through the publication of service standards, the tighter regulation of services, and the details of complaints procedures. The right to be heard—‘voice’ (Hirschman, 1970)—ensures that dissatisfied users are listened to and dissatisfied users are entitled to compensation.

Finally, in the *market* model, decision making is based on matching supply and demand. Users are viewed as rational economic actors who choose the organisation which best satisfies their wants or preferences. The legitimating goal is economic efficiency, while the prevailing mode of accountability is competition; efficient organisations thrive, make profits, and expand, while inefficient organisations make losses and decline. In contrast to consumerism, where the individual can use ‘voice’ as a remedy and can obtain compensation under the consumer charters if the specified standards have not been met, markets provide the possibility of ‘exit’ (Hirschman, 1970). In addition, an aggrieved individual may seek compensation for breach of contract where he or she suffers some measurable loss from the action or inaction of the administration. Internal or quasimarkets (Le Grand, 1991; Le Grand & Bartlett, 1993) have some but not all of the characteristics of the market model just outlined.

The six models are summarised in Table 1. The table refers to the models as ‘models of procedural justice,’ and this term calls for some

Table 1. Six normative models of procedural justice

Model	Mode of Decision making	Legitimising Goal	Mode of Accountability	Mode of redress
Bureaucratic	Applying rules	Accuracy	Hierarchical	Administrative review
Professional	Applying knowledge	Public service	Interpersonal	Second opinion or complaint to a professional body
Legal	Asserting rights	Legality	Independent	Appeal to a court or tribunal (public law)
Managerial	Managerial autonomy	Improved performance	Performance indicators and audit	Complaint resulting in sanctions or adverse publicity
Consumerist	Consumer participation	Consumer satisfaction	Consumer Charters	‘Voice’ and/or compensation through Consumer Charters
Market	Matching supply & demand	Economic efficiency	Competition	‘Exit’ and/or court action (private law)

explanation. Each of them refers to a different way of making and challenging decisions. However, the fact that the models are ideal types rather than empirical generalisations means that the various components of each model function as standards for assessing the decisions that are actually taken. As such, they not only describe how decisions should be made and may be challenged but also how individuals should be treated. It is in this sense that they constitute models of procedural justice.

Following Mashaw, we argue that these models are *competitive*, rather than *mutually exclusive* (1983, p. 23). It follows that, although they are not all necessarily in evidence in any particular context, the six models can and do coexist with each other. This important insight enables us to see both what trade-offs are made between the six models in particular cases and what different, and possibly more desirable, trade-offs might be made. This approach is a *pluralistic* one, which recognises a plurality of normative positions, making any given trade-off attractive for some people and unattractive for others.

Mashaw argued that, other things being equal, the more evidence there is of one model,

the less will there be of the others. However, by focusing on the relative strengths of competing models, he ignored their absolute strengths. Examples of decision making in which the relative strengths of the six models are given weights of 6, 5, 4, 3, 2, and 1 units and 60, 50, 40, 30, 20, and 10 units would clearly have very different characteristics. This is because ‘thick’ balances are clearly very different from ‘thin’ ones. This fact is particularly important when we consider the effects of technology on organisations since technological developments have the capacity both to intensify and to dilute the absolute strengths of the various models under consideration.

COMPUTERISATION AND PROCEDURAL JUSTICE IN SOCIAL SECURITY

Since the mid-twentieth century, all OECD countries have developed sophisticated social security systems.² Over that time, there has been a considerable increase in the legal codification of the eligibility rules for benefits, although social assistance remains somewhat

Table 2. Indicators for the six normative models of procedural justice

Indicator	Model
In making decisions about entitlement to benefit, social security institutions apply well-established rules	Bureaucracy
Dissatisfied claimants have their cases reviewed internally	Bureaucracy
Dissatisfied claimants can complain to a professional body	Professionalism
In making decisions to benefit entitlement, staff exercise administrative discretion	Professionalism
Claimants can check & correct personal records	Legality
Dissatisfied claimants can appeal to an independent court or tribunal	Legality
Social security institutions are expected to meet performance targets	Managerialism
Indicators are used to assess staff performance	Managerialism
Social security institutions are expected to abide by customer charters	Consumerism
Claimants participate actively in decision-making	Consumerism
Claimants can choose between more than one social security institutions	Markets
The government purchases social security services from non-governmental service providers	Markets

more discretionary in many countries. At the same time, advanced ICTs have been utilised to facilitate the assessment and distribution of benefits. These ICT systems typically have key elements of the eligibility rules embedded in them and expert systems for the assessment of benefit have increasingly been investigated.³ With appropriate back-end technologies, Internet technologies are making it possible for claimants to apply or assess their eligibility online. At the same time, ICTs have played an important role in implementing reforms associated with ‘new public management (NPM),’ such as outsourcing service delivery through purchaser-provider relationships and instituting and recording performance data.

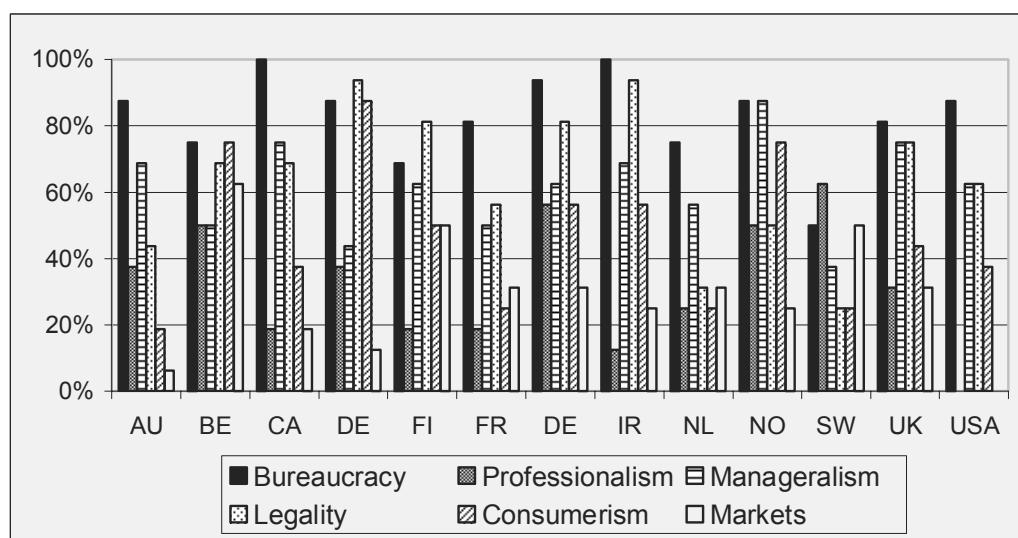
What then have these technologies contributed to procedural justice in social security systems? Have they reinforced and enhanced some models of procedural justice at the expense of others? To assess the implications of computerisation for procedural justice in the delivery of social security benefits, we identi-

fied two indicators for each of the six models included in Table 1. In 2001, each respondent was asked to rate them on a 1–5 scale (where 1 = generally very important; 2 = generally important; 3 = important in some areas; 4 = not very important; 5 = unimportant), and the scores for the two respondents were combined. The two indicators for each of the six models procedural justice are listed in Table 2.

In 2001, respondents were then asked whether, over the period 1985–2000, computerisation had made each of the models of procedural justice more or less important. A 1–5 scale was again used (where 1 = greatly increased importance; 2 = increased importance; 3 = much the same; 4 = decreased importance; 5 = greatly decreased importance) and the scores for the two informants were again combined. In 2004, respondents were asked an identical set of questions covering the period 2000–2004.

Figure 1 represents the relative strengths of each of the six procedural justice models in each of the 13 national social security systems

Figure 1. Relative strengths of procedural justice models in national social security systems, 2000



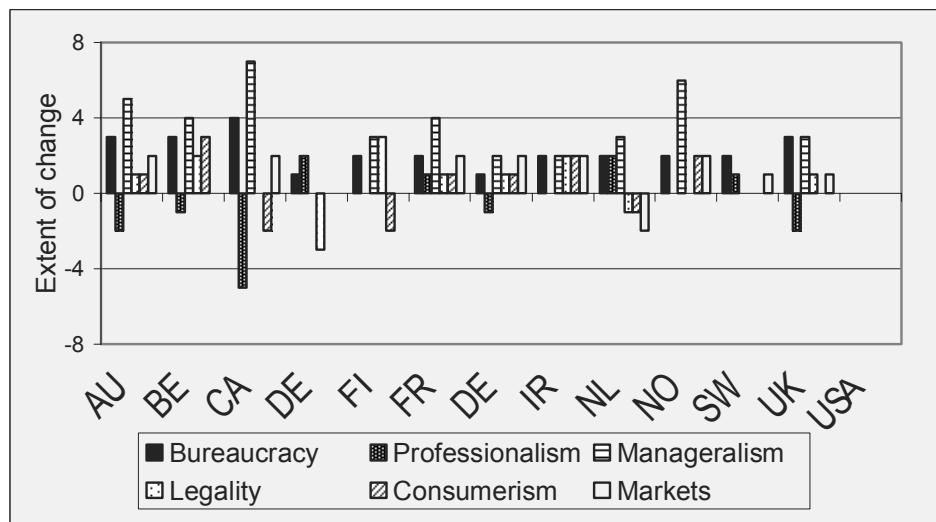
in the study as it was in 2000. Although there are some variations between countries, some consistent patterns can also be observed. The bureaucratic model, evidenced by the use of well-defined rules to assess eligibility and of internal review procedures for dealing with dissatisfied claimants is strong in all countries. In this approach, users are placed in a relatively passive position *vis-à-vis* the social security institution, their treatment being assessed in terms of the circumscribed information that was collected on standardised forms. As might be expected, from 1985 to 2000, computerisation contributed to an increase in the importance of this model across the board (see Figure 2). This increase can be seen in the strengthening of well-defined rules for assessing entitlement rather than in an increased use of internal review, which appears to have been unaffected by computerisation.

The professional model, exemplified by the exercise of administrative discretion in assessing eligibility and the availability of a second

opinion, scored quite low in most countries, with Sweden (63%), Germany (56%), Belgium (50%) and Norway (50%) having the highest scores. In most cases, computerisation was found either to reduce or not to affect the influence of the professional model (the exceptions were Denmark, France, Sweden and the Netherlands). In fact, the professional model, more than any of the other models of procedural justice, suffered most from computerisation. Consistent with the findings of earlier studies, computerisation has tended to reduce the role of administrative discretion in determining eligibility (c.f. Alexander, 1990; Garson, 1989; Henman, 1999). Somewhat surprisingly, an increase in discretion resulting from computerisation was reported in Denmark and the Netherlands, which may be due to the use of computers to provide enhanced information to support front-line decision making, rather than to automate it.

The importance of the legal model of procedural justice, reflected in the emphasis on claimants' rights and the existence of inde-

Figure 2. Change in types of procedural justice resulting from computerisation, 1985 to 2000



pendent appeal procedures, appears to have been greater than or equal to professionalism but less than bureaucracy. Computerisation seems to have had a minimal effect on the influence of this model, having had little or no effect on appeal procedures or on the capacity of claimants to access their personal records, although Finland and Ireland reported that, as a result of computerisation, there was a greater emphasis on claimants checking and correcting their personal records. Given that information technologies increasingly make it easier for claimants to access personal data, the lack of developments in this area indicates that this is not a priority for social security institutions.

In 2000, the managerial model, evidenced by the use of performance targets and performance indicators, was second in importance behind bureaucracy in Australia, Canada, the Netherlands, Norway, the United Kingdom, and the United States. In each of these six countries, managerialism had a rating of greater than 50%. In 10 of the 13 countries in our study, computerisation in social security has been associated with the increased use of performance targets

and performance indicators (although a decrease was reported in Denmark and usage appears to have remained much the same in Sweden and the USA). Indeed, compared with other models of procedural justice, computerisation appears to have had the greatest (or equal greatest) impact on managerialism. Although our informants made it clear that a number of factors have contributed to the rise of managerialism that it is not entirely attributable to computerisation, it is clear that information technology has been of critical importance in contributing to and enhancing this development.

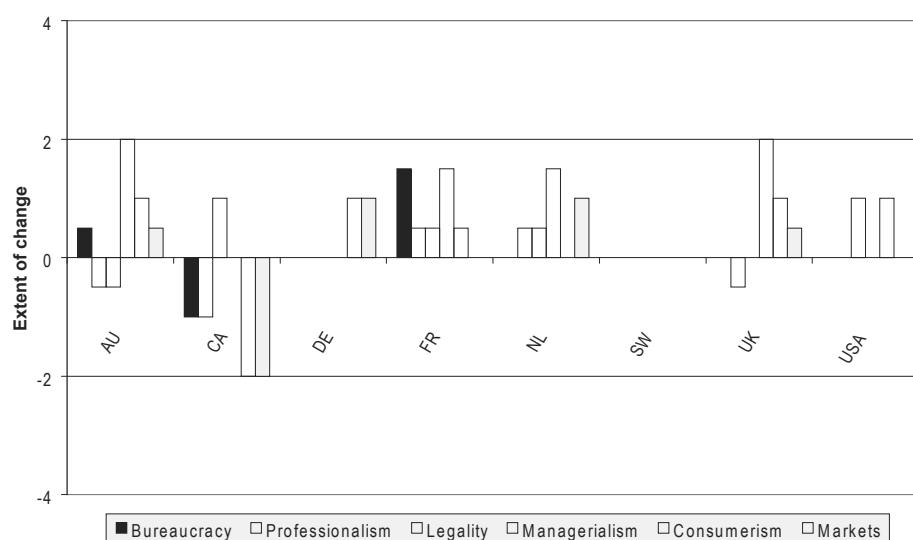
The consumerist model of procedural justice, which is evidenced by the development of customer charters and the active involvement of claimants in decision making, appears to be much stronger in some countries (Denmark, Belgium, Norway, Germany, Ireland, and Finland) than in others. The effect of computers on the importance of this model of procedural justice has tended to have been small and mixed. Small overall increases in the importance of consumerism were reported for one group of countries (Australia, Belgium, France, Germany, Ireland,

and Norway), while small overall decreases in its importance were reported for a second group (Canada, Finland, and the Netherlands), and no change was reported for a third group (Denmark, Germany, Sweden, the United Kingdom, and the USA). Most experts thought that computerisation had increased the use of customer charters (although a decrease was reported for Finland). On the other hand, most of them reported either that computerisation had decreased the participation of claimants in decision making or that participation had not been affected by computerisation (Ireland was the exception here in that an increase in participation due to computerisation was reported). This is consistent with the process of automation that tends to reduce professional discretion and formalise strict rules, thereby reinforcing the role of social security staff.

In general, the existence of the market model of procedural justice, exemplified by the use of nongovernmental organisations to implement social security policy and the ability of

consumers to choose their preferred service provider, appears to have been very limited, the exceptions being Belgium, Finland, and Sweden. This finding is rather surprising given that those countries noted for their advocacy of private market mechanisms—generally the English-speaking countries—do not seem to have employed them in social security. On closer examination, it would appear that these countries have introduced internal or quasimarkets (Le Grand, 1991; Le Grand & Bartlett, 1993) into the delivery of social security. This has led to the outsourcing of ‘noncore’ activities such as computing and the establishment of purchaser-provider relationships. By contrast, in those continental European countries that provide some level of choice, the competing insurance funds must all provide benefits that satisfy the legislative requirements, and competition is more in terms of the level of service provided. For example, in Belgium, employees can now choose which fund to register with for sickness and unemployment insurance, and

Figure 3. Change in types of procedural justice resulting from computerisation, 2000-2004



employers can select which fund should provide family allowances.

Computerisation has had some effect in increasing the influence of the market model, the exceptions being the Netherlands where it appears to have reduced the importance of this model and Belgium, Denmark, Finland, and the USA where no change was reported. The contribution of computerisation appears to have been to increase the extent to which governments purchase the delivery of social security from nongovernmental organisations, but computerisation has had minimal effect so far on the ability of users to choose their preferred service provider.

An increase in managerialism is often associated with a shift to markets. However, our findings indicate little correspondence between the managerial and the market models in national social security systems. These observations probably reflect that fact that managerialism has, to date, led to outsourcing and the creation of internal or quasi markets, rather than open competitive markets. Whether such a progression will occur remains an open question. Countries where the market model is strong are generally those with a long history of many social security institutions delivering benefits that are defined by statute. This form of arrangement can be found in many of the countries of continental Europe, in particular in Belgium and Germany.

Figure 3 presents the changes in the relative strengths of the six models of procedural justice as a result of computerisation in the four years from 2000 to 2004. Unfortunately, as noted above, only 8 of the original 13 countries provided responses in the follow-up questionnaire. Compared with the changes associated with computerisation from 1985 to 2000, the impact of computerisation from 2000 to 2004 on procedural justice appears to have been much less. Indeed, Sweden recorded no change, and

Denmark and the USA recorded minor changes in only two models of procedural justice. Clearly, the shorter time frame was one factor, but a second factor could well have been the fact that the focus of computerisation since 2000 has been on Internet-enabled and network processing, which did not involve many changes to the procedures of delivering social security benefits. Although the medium for benefit application and delivery may change with the Internet, the fundamental assessment procedures do not. This emphasis on Internet-related technologies in the period 2000–2004 was borne out by our respondents who identified Internet access through computers as the top technology priority in most countries in both 2000 and 2004 (Adler & Henman, 2005, p. 44).

In terms of the reported changes, computerisation seems to have had the greatest impact on managerialism, whose importance increased in four of the eight countries (Australia, France, the Netherlands, and the UK) for which data was available. Overall, the changes in the relative importance of the six models of procedural justice in individual countries in the period 2000–2004 were in the same direction as those in the period 1985–2000. For example, in France all six models of procedural justice increased as a result of computerisation between 1985 and 2000, and all but the market model increased between 2000 and 2004. Canada, however, exhibited a more divergent pattern, with the bureaucratic and market models increasing in importance in the earlier period but decreasing in the later period.

RELATING PROCEDURAL JUSTICE TO OTHER FACTORS

Having identified the extent and transformation of different models of procedural justice in the delivery of social security benefits, we

now question whether these models relate to other aspects of the computerisation of social security. In particular, we ask whether there is any relationship between the aims of computerisation and extant models of procedural justice. To address this question, we compare data from our 2000 survey on the aims of computerisation in the period 1985–2000 with the strength of the different models of procedural justice in 2000. Only 6 of the 17 possible aims that respondents were asked to assess appear to relate to procedural justice:

- Because ‘promoting accurate and consistent decision making’ is about the correct application of rules and laws, it relates to both the legal and bureaucratic models.
- ‘Improving information flows within and beyond the social security system’ could be interpreted as contributing to procedural justice, but it is arguable that this might relate to any particular model of procedural justice.
- ‘Increasing the responsiveness of service delivery’ is perhaps more reflective of managerial and consumerist models of procedural justice.
- To the extent that complex policy undermines claimants’ capacity to understand policy and assess their entitlements, ‘managing complexity’ might be seen as enhancing the consumerism model of procedural justice, but if it is about ‘managing complexity’ of the policy for welfare staff, then this supports bureaucratic and legal models of procedural justice.
- ‘Providing improved information for front line staff’ can be understood as supporting a professional model of procedural justice, and, perhaps to a lesser extent, bureaucratic and legal models.
- ‘Promoting universal access to new technologies’ is probably most reflective

of consumerist models of procedural justice.

Table 3 tabulates the relative strengths of the six models of procedural justice and the importance attached to the different aims of computerisation. The shaded cells in the bottom half of Table 3 indicate those aims that were regarded as among the top three aims of computerisation (with scores of 2.5 or more on a scale with a maximum of 6), while the shaded cells in the top half of the table indicate those models of procedural justice that were of most importance (with scores of 66% or more). Comparing the shaded cells in the two halves of Table 3 reveals a complex pattern of overlaps to which it is hard to attach any meaning. Given that many of aims of computerisation have implications for several models of procedural justice, this is not really surprising. Two other areas in which procedural justice is compared are (a) the extent to which social security systems had embraced computerisation, and (b) the emphasis that social security systems placed on data protection.

Figure 2 (above) suggests that computerisation has tended to enhance the importance of the bureaucratic and managerial models of procedural justice, while reducing the influence of the professional model. We therefore hypothesised that countries with greater levels of computerisation are likely to have higher levels of bureaucratic and/or managerial models of procedural justice and lower levels of professional justice, and vice versa. Our data provide some support for this hypothesis, but again it is not strong. Comparing the data in the bottom row of Table 3 with the data in rows 2–7, we see that Norway has the lowest level of ICT penetration (8%) and also a relatively strong professional model of procedural justice (50%). On the other hand, Canada has a high level of ICT penetration (80%) and a relatively weak professional model (19%). However, Norway, which has a low level

Table 3. Relative strengths of different models of procedural justice & importance of different aims of computerisation

Strengths of Different Models of Procedural Justice, 2000		Australia	Belgium	Canada	Denmark	Finland	France	Germany	Ireland	Netherlands	Norway	Sweden	UK	USA
Bureaucracy	88%	75%	100%	88%	69%	81%	94%	100%	75%	88%	50%	81%	88%	
Professionalism	38%	50%	19%	38%	19%	19%	56%	13%	25%	50%	63%	31%	0%	
Managerialism	69%	50%	75%	44%	63%	50%	63%	69%	56%	88%	38%	75%	63%	
Legality	44%	69%	69%	94%	81%	56%	81%	94%	31%	50%	25%	75%	63%	
Consumerism	19%	75%	38%	88%	50%	25%	56%	56%	25%	75%	25%	44%	38%	
Markets	6%	63%	19%	13%	50%	31%	31%	25%	31%	25%	50%	31%	0%	
Past aims of computerisation, 1985-2000		Australia	Belgium	Canada	Denmark	Finland	France	Germany	Ireland	Netherlands	Norway	Sweden	UK	USA
promoting accurate & consistent decision making (B/L)	2	0	2	3	1.5	0.5	2.5	0	0.5	4	2	5.5	3	
improving information flows within & beyond the social security system (all)	0.5	5.5	1	1	1	1	2	0.5	1	1	1	1	1	
increasing responsiveness of service delivery (Mg/C)	2.5	1	3.5	1	2.5	1	0.5	3.5	2	1	4	2.5	5	
managing complexity (C/B/L)	3	4.5	1	2.5	1	0.5	4.5	3.5	2.5	3	0	0	1	
providing improved information for front-line staff (B/L)	2.5	1	1	2	1	1	1.5	0.5	0	1	1	1	1	
promoting universal access to new technologies (C)	0.5	0	0.5	0	3	0	1	0	0	0	0	0	0	
Level of Use of New & Emerging Technologies, 2000		73%	57%	80%	52%	38%	59%	48%	47%	65%	8%	42%	70%	53%

Table 4. Effects of computerisation on surveillance & data protection

	Number of Countries agreeing	Number of countries neutral	Number of countries disagreeing
sharing of data is constrained by data protection legislation	12	1	0
data protection legislation extends to private computer firms working for government agencies	10	2	1
reviews of claimants entitlement have increased as a result of computerisation	9	3	1
the accuracy of input data is checked with data from independent sources	9	2	2
the timing of policy change is constrained by computing considerations	9	0	4
the identification of overpayments is given higher priority than underpayments	6	2	5
the computer system gives reasons for its decisions	6	5	2
the computerised decision-making system can be accessed by applicants or their representatives	3	4	6
copies of the benefit decision-making program are available to external persons, e.g. to lawyers, welfare rights workers, academics or the general public	2	3	8
claimants (and/or organisations representing them) have been involved in the design of computer systems in social security	0	2	11

of computerisation, has strong bureaucratic (88%) and managerial models (88%) of procedural justice. It is of course possible that our measure of ICT penetration does not accurately measure the types of ICTs that are more likely to make a difference to procedural justice, or that the hypothesis is not sound.

SURVEILLANCE AND DATA PROTECTION

In 2000, respondents were asked a series of questions about the effects that computerisation had on a range of surveillance and data protection issues. The results are set out in Table 4.

Respondents from all countries except one (Canada, which was neutral) agreed that sharing of data was constrained by data protection legislation. Respondents from all countries except three (Canada and Sweden, which were neutral, and the United Kingdom, which disagreed) acknowledged that data protection legislation extended to private computer firms working for government agencies. Respondents from most countries reported that reviews of claimants' entitlement have increased as a result of computerisation, that the accuracy of input data is checked with data from independent sources and that the timing of policy change is constrained by continuing considerations.

On other issues, there was less agreement between respondents from different countries. For

example, respondents from Australia, Canada, Finland, the Netherlands, Norway, and Sweden agreed that the identification of overpayments is given higher priority than the identification of underpayments, but respondents from Belgium, France, Germany, the UK, and the USA disagreed that this was the case. Similarly, respondents from Belgium, Finland, Ireland, Norway, Sweden, and the United States agreed with the statement ‘the computer gives reasons for its decisions,’ while those from Denmark and the Netherlands disagreed.

Few respondents thought that the computerised decision-making system could be accessed by applicants or their representatives. The only respondents to report that this was the case were from Sweden, Ireland, and the USA. The respondents from the United Kingdom and the United States were the only ones to state that copies of benefit decision-making programs were available to external persons. There was general agreement that claimants had not been involved in the design of computer systems in social security.

These results are consistent with the view that computerisation has tended to enhance bureaucratic and managerial models of procedural justice, while reducing professional models. However, there is little evidence that this ‘top-down’ type of accountability is being matched by an increased emphasis on the legal and consumerist models of procedural justice which embody ‘bottom up’ and rights-based approaches.

CONCLUSION

In 2000, the bureaucratic model of procedural justice was strong in all countries. It ranked first in importance in 8 of the 13 countries that were included in the survey and equal first in two other countries. Between 1985 and 2000, computerisation contributed to an increase in its

importance across the board. By contrast, the professional model was weak in most countries and, more than any of the other models, lost out as a result of computerisation. The importance of the legal model was greater than or equal to professionalism but less than bureaucracy and seems to have been relatively unaffected by computerisation. By 2000, the managerial model had become second in importance behind the bureaucratic model, and, across the 13 countries, computerisation had the greatest (or equally great) impact on this model. The consumerist model of procedural justice, was clearly much stronger in some countries than in others. In general, there was limited evidence of the market model although computerisation appears to have increased its influence.

Among these broad shifts, computerisation appears to have had little effect on the availability and structure of appeal procedures, but has had a greater effect on the procedures for determining entitlement to benefit. In particular, the assessment of entitlement had, by 2000, become increasingly automated, involving an increased reliance on rules and a correspondingly decreased use of discretion. This has been supported by an increased reliance on performance measures, associated with the managerial model of procedural justice. However, there is little evidence that this ‘top-down’ type of accountability is being matched by an increased emphasis on the legal and consumerist models of procedural justice which embody ‘bottom up’ and rights-based approaches.

The impact of computerisation on procedural justice in the four years from 2000–2004 appears to have been much less. This was due, in part, to the shorter time frame but it probably also reflected the fact that the focus of computerisation since 2000 has been on Internet-enabled processing, which did not involve many changes to the delivery of social security benefits. In terms of the reported changes, computerisation seems to have had the greatest impact on

Exhibit 1.

richer people city dwellers able-bodied people white people younger people	<i>are more likely to have computers and an Internet connection than:</i>	poorer people rural folk people with disabilities ethnic minorities older people
--	---	--

managerialism, whose importance increased in four of the eight countries for which data was available. Overall, the changes in the relative importance of the six models of procedural justice in individual countries in the period 2000–2004 were in the same direction as those in the period 1985–2000.

The validity of these conclusions assumes both that the indicators of each of the six models of procedural justice are appropriate ones and that the assessments made by our expert informants are accurate.⁴ We cannot be entirely certain about either of these assumptions, but we are nevertheless reasonably confident about our findings. Although computerisation has undoubtedly had some common effects on all social security systems, there have also been differences in the impact it has had on different social security systems. In particular, contrary to the general trend of a weakened professional model, computerisation appears to have strengthened the professional model in Denmark, France, the Netherlands, and Sweden. The impact of computerisation in the Netherlands appears to have been different from that in other countries in that it was associated with a decline in the importance of the market model. The reasons for these differences are complex and are beyond the scope of this chapter. What is clear is that computerisation has had an impact on the trade-offs that are made between the different models of procedural justice outlined above.

Thus, it alters the ways in which decisions are made, the ways in which they can be challenged, and the ways in which individuals are treated by social security institutions. Such changes are an outcome of the relative bargaining and social strengths of interested parties, such as claimants and their representatives, governments, public servants, unions, and voters. Whether or not any or all of these changes are desirable ones is another matter.

As far as data protection is concerned, most of the country experts reported that, in 2000, the sharing of data was constrained by data protection legislation, that data protection legislation extended to private computer firms working for government agencies, that reviews of claimants' entitlement have increased as a result of computerisation, that the accuracy of input data is checked with data from independent sources, and that the timing of policy change is constrained by computing considerations. On several other issues, for example, the relative importance given the identification of overpayments and the identification of underpayments, and whether or not computers give reasons for their decisions, the data suggest that different practices are to be found in different countries. On the other hand, few of the country experts reported that computerised decision-making systems could be accessed by applicants or their representatives, that copies of benefit decision-making programs were avail-

able to external persons, or that claimants had not been involved in the design of computer systems in social security. These results are consistent with the suggestion made above that computerisation has strengthened ‘top-down’ forms and managerialist forms of accountability at the expense of ‘bottom up’ and rights-based approaches.

FUTURE RESEARCH DIRECTIONS

The major impetus for automating benefits has come from the pressure to increase productivity, which was included as one of the top three aims in 8 of the 13 countries in our study (Adler & Henman, 2005, p. 322). This put it ahead of cutting costs, promoting accurate and consistent decision making, increasing the responsiveness of service delivery and managing complexity, which were included among the top three aims in five countries. The assumption here is that automation makes service delivery more efficient without actually altering its characteristics.

To the extent that there has been a concern with the justice implications of automating benefits, this has been concerned with its distributional implications, that is, with what has become known as ‘the digital divide’ and with the problem of digital exclusion (Cabinet Office, 2004). The term ‘digital divide’ refers to the gap between those with regular, effective access to digital and information technology, and those without this access, and encompasses both physical access to technology hardware and, more broadly, skills and resources which allow for its use. Groups often discussed in the context of a digital divide include socioeconomic (rich/poor), racial (white/minority), geographical (urban/rural), and age (young/old) groups (Compaine, 2001; Norris, 2001; Warschauer, 2003).

The digital divide is a significant facet of social exclusion. It implies a lack of certain socially useful skills and refers to factors which inhibit ambition and opportunity. Available statistics in many countries suggest that some people are more ‘digitally included’ than others, while others are more ‘digitally excluded.’ See Exhibit 1.

The disadvantages experienced by some groups may decline over time and there is, in fact, evidence that a number of them are closing. Thus, in many countries, there is no longer a gender gap in Internet use, and some ethnic minorities are actually better connected than White people. However, in most countries, other ethnic minorities, older people, and poorer people are significantly less likely to have a computer or an Internet connection and thus less likely to benefit from the computerisation of benefits.⁵

This concern with the distributional implications of computerising benefits reflects the dominant focus among those interested in justice with substantive justice, that is, with outcomes and with what people contribute or receive. However, as we pointed out earlier, justice is also concerned with process and with the ways in which people are treated. The research described in this chapter suggests that automation has altered the characteristics of service delivery by promoting some forms of procedural justice over others. This is an important finding and one that, in our view, calls for further investigation, especially because of the limitations of a small-scale study.

Our conclusions are only as good as the data on which they are based. As explained at the beginning of this chapter, the data were generated by 23 expert informants, who included ‘insider experts,’ working for the government or for a social security institution, and ‘outsider experts’ who were usually independent researchers or consultants in 13 OECD countries. This had a

number of advantages over other methods of data collection. It was certainly cheaper and more convenient than visiting each of the countries concerned would have been and provided an effective means of understanding the detailed operation of policies and procedures in different countries. It overcame the language barriers that might otherwise have been encountered. Moreover, the use of two experts from different backgrounds, and the possibility of interrogating them interactively, provided a check on the interpretation and analysis of the data they provided and the validity of the conclusions drawn from the data.

However, there were a number of problems with this procedure. In practice, it proved to be much more difficult and time consuming than we anticipated to identify and recruit two expert informants in each country. Several of those who agreed to take part were very slow to respond. The questionnaire called for an extensive knowledge of computerisation in social security and some of our expert informants were not able to complete all the questions. Although the use of two complementary experts from each country enabled us to combine and check their responses, the data on which this chapter is based reflect the knowledge and opinions of only one or two people who had the difficult task of assessing the overall or average situation in their country whose arrangements were typically very complex and diverse. Differences in meaning associated with different languages and cultures were another complicating factor. The fact that we have frequently quantified the judgments of our expert informants, and produced tables and figures based on the numerical values we assigned to their judgments, can give a false impression that they are valid and reliable measures of some objective reality.

In drawing conclusions from our data, it follows that we must be extremely cautious. Because the data reflect subjective judgments, the conclusions we have reached have the sta-

tus of hypotheses that need to be tested using more robust methods of data collection. They are analogous to the conclusions reached in small-scale qualitative research that can serve as the basis for large-scale quantitative research. It follows that this chapter, and the study on which it is based, represent the beginning rather than the end of social enquiry. In the context of recent policy reforms, in which service delivery has taken a more dominant role in the operation of the welfare state, it is particularly important that there should be a greater research focus on the administration of welfare and its justice implications.

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ENDNOTES

¹ We had hoped to be able to use all our expert informants again in 2004, but we were unable to contact some of them and others were not available.

² We define social security to include social insurance, social assistance, and categorical benefits, that is, payments from the state to individuals and households to provide those who experience the loss or interruption of their earning power with a substitute income (known as income replacement benefits), or to make a contribution to meeting the costs of children, disability, and housing (known as income maintenance benefits). Taxation and private insurance benefits, including health insurance, were not included. However, it is recognised that, in a number of cases, the boundaries between benefits that were included and those that were not are often blurred.

³ See, for example, Australia's unsuccessful benefit assessment expert system called Edge (Henman & Dean, 2004; Henman, in press).

⁴ The correlations for the two informants for the responses reported in this chapter

are: Australia 0.69; Canada 0.56; Denmark 0.63; Finland 0.36; France 0.56; Ireland 0.75; Netherlands 0.42; and UK 0.47.

⁵ In this context, computerising benefits refers not just to the internal processes of social security agencies, but also to the associated administrative processes and service delivery that involves client interaction (such as applying for benefit, altering personal circumstances, and receiving advice).

E-Justice: Information and Communication Technologies in the Court System

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Chapter VI

Online Dispute Resolution

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INTRODUCTION

Every community—whether physical or virtual—will inevitably experience conflict. New ways of interacting through information and communication technology has led to new conflicts, such as domain name or e-commerce disputes. At the same time, governments need to deal with the entire range of disputes in society, whether crimes, neighborhood disputes, ethnic conflict, or disputes with its own employees. A key role for government and for e-governance is providing mechanisms to help resolve these disputes.

The emerging area of online dispute resolution (ODR) potentially offers a useful set of tools and techniques for resolving disputes. Capable of being used for both online and off-line disputes, ODR has already proved that it can provide effective resolution for at least some disputes: more than 1.5 million cases had been successfully resolved online to July 2004 (Conley Tyler, 2005).

Governments and e-governance institutions around the world are adopting or considering

the applicability of ODR as a tool for digital government.

BACKGROUND

ODR refers to dispute resolution processes conducted with the assistance of information technology, particularly the Internet.

ODR has been available since 1996 and has rapidly passed through three broad stages of development:

- A “hobbyist” phase where individual enthusiasts started work on ODR, often without formal backing
- An “experimental” phase where foundations and international bodies funded academics and nonprofit organizations to run pilot programs
- An “entrepreneurial” phase where a number of for-profit organizations launched private ODR sites (Katsh & Rifkin, 2001, pp. 47-72).

ODR is now entering a fourth “institutional” phase where it is piloted and adopted by a range of official bodies including courts and government dispute resolution agencies (Conley Tyler, 2003).

Two main forces have been driving the development of ODR to date (Conley Tyler & Bretherton, 2003). First, the difficulty of utilizing traditional dispute resolution methods in low-value cross-border disputes has led to interest in low-cost, cross-jurisdictional dispute resolution methods. This has been a particular concern for governments and intergovernmental organizations interested in fostering e-commerce (Federal Trade Commission, 2000; OECD, 1999; Trans Atlantic Consumer Dialogue, 2000). Without effective remedies in the “borderless marketplace,” where traditional court-based remedies are not a realistic option, consumers and business may decide not to transact (Consumers International, 2001). Consumer confidence is seen as a key issue in increasing the level of online commerce.

At the same time, the forces that promoted alternative dispute resolution (ADR) as an alternative to court adjudication in recent decades are also driving the development of ODR. Some ADR enthusiasts have been motivated to investigate the potential of the online medium to provide more effective techniques for dispute resolution—in some cases, from simple curiosity (Raines, 2006). The search for more convenient, cost-effective, efficient, and durable ways of resolving disputes will continue for as long as disputes exist (Brannigan, 2004).

CURRENT STATE OF ODR

Types of ODR

ODR has adapted traditional dispute resolution processes for use online, including facilitated negotiation, mediation, arbitration, and case

appraisal. Courts now provide some of their functions online in some jurisdictions. Facilitated negotiation is the simplest form of ODR in which an online space is provided where parties can negotiate directly. This can include collaborative peace-building tools that facilitate multiparty discussions (Balvin, 2005; Hattotuwa, 2005). Online mediation involves a trained neutral who facilitates the negotiation process either via a secure Web site or e-mail (Raines, 2006). In online arbitration or adjudication, a skilled neutral (either a private arbitrator or a judge) will adjudicate on one or more issues, receiving evidence either via electronic documents or videoconferencing. Case appraisal is where a neutral party considers a dispute and provides nonbinding advice. This can include, as for iCourthouse (www.i-courthouse.com), through a virtual “jury” mock trial.

In addition, a number of new ODR techniques have been developed to take advantage of new information and communications technology. These do not have precise analogs in the “real world.” Automated negotiation allows communication between disputants without a human intermediary. It includes processes such as “blind bidding” where parties submit confidential settlement offers during a number of rounds. A computer program automatically notifies them of a settlement at the arithmetic mean once the offer amounts are sufficiently close (see Cybersettle, www.cybersettle.com, for an example). Negotiation support systems have also been designed to take advantage of the online medium (Belluci & Zeleznikow, 2005; Kersten, 2005; Lodder & Thiessen, 2003). They are expert systems that allow manipulation of negotiation variables by one or both parties to help them plan and conduct negotiations.

Communication Methods

The communication tools used in ODR have changed as online technology has developed

(Kaufmann-Kohler & Schultz, 2004). Early ODR sites tended to rely mainly on e-mail meaning that communication was delayed, text based, and insecure. By contrast, most services launched since 2001 use a secure Web site encrypted by Secure Socket Layers (SSL) technology where parties are given a password to access a Web site area dedicated to their dispute.

Sites can either allow asynchronous communication through threaded discussion (bulletin boards) or real-time chat facilities. Instant messaging is being used by some sites, as is “secure e-mail” via an encryption program. Caucusing (the ability for one party to meet among themselves or with the neutral without the other party) is a basic feature in newer systems. Some sites offer facilities such as case tracking and document editing.

A number of providers integrate ODR methods with traditional tools such as phone, fax, teleconference, and face-to-face meetings. Videoconferencing is offered by a number of sites (Conley Tyler, 2005). The majority of sites provide a single-language service; however, there is an increasing number of bilingual and multilingual services.

Types of Disputes

The range of disputes resolved by ODR has been broad: from family law to Internet domain name disputes; from small claims to insurance disputes. Online and off-line consumer disputes have been a major focus of ODR sites.

It is not surprising that many ODR sites were established mainly to resolve online disputes; however, a number of sites have focused mainly or exclusively on off-line disputes (Conley Tyler, 2005).

The areas of dispute handled fall into five broad categories:

1. **Consumer disputes:** For example, ECO-DIR (www.ecodir.org), the European Union's prototype online consumer dispute resolution site or Square Trade (www.squaretrade.com), a U.S. service that offers facilitated negotiation and mediation of mainly online disputes, including eBay auction disputes.
2. **Internet disputes (especially domain names):** For example, the Asian Domain Name Dispute Resolution Centre (www.adndrc.org), based in Hong Kong, which arbitrates Internet domain name disputes.
3. **Commercial, family, workplace, and neighborhood disputes:** This includes providers such as The Claim Room (www.thecclaimroom.com), a UK company that provides mediation for mainly commercial litigation disputes and SmartSettle (www.smartsettle.com), a Canadian company that helps people prepare for negotiation by analyzing their preferences and the options on the negotiation table. Others deal with quintessentially “real world” disputes within workplaces and families: the Federal Mediation and Conciliation Service (www.fmcs.gov) is a U.S. government service that brings laptops to the workplace to conciliate labor/management disputes while Family Mediation Canada (www.fmc.ca) provides Web-broadcast teleconferencing and joint document collaboration for parties in family disputes.
4. **Complex litigation:** A number of courts now provide online facilities including the Federal Court of Australia's eCourt (www.fedcourt.gov.au) which enables electronic filing and document management and offers a “virtual courtroom,” particularly for Native Title hearings in remote areas. Singapore's e@dr (www.e-adr.gov.sg) is another example.

5. **Peace and conflict:** Info-Share (www.info-share.org) provides tools for bringing the parties in the Sri Lankan peace process together electronically while the Cultures of Peace News Network (www.cpnn.org) is a global network of sites created by United Nations Educational, Scientific, and Cultural Organization (UNESCO) to enable people to share information on promoting peace.

What is striking is the number and variety of situations where people are choosing to resolve their disputes online.

Uptake of ODR

As of July 2004, at least 115 ODR sites and services had been launched with examples in each continent including South Africa, Peru, and the Philippines (Conley Tyler, 2005). Most ODR sites were located in North America or Europe; however, there has been notable growth in the Asia Pacific (Hattotuwa & Conley Tyler, 2006). While most ODR systems rely on fixed technologies such as personal computers, some ODR systems have started to use mobile technologies such as short messaging service (Hattotuwa & Conley Tyler, 2006). This may help to overcome the “digital divide” (Parlade, 2003; Wahab, 2005) and make ODR more attractive in the developing world (Hattotuwa, 2006).

The number of cases dealt with by ODR sites varies widely: from only one case to more than one million disputes (Conley Tyler, 2005). Lack of information for all sites makes it difficult to make comprehensive judgments (Consumers International, 2001). While some sites that do not caseload information may have attracted fewer cases (Schultz, Kaufmann-Kohler, Langer, & Bonnet, 2001), other factors such as client confidentiality may prevent some providers from reporting on their results.

Settlement rates fall between 50% and 95% and are broadly comparable with settlement rates for ADR generally (Conley Tyler & Bretherton, 2003). There is no evidence that online settlements are less durable than other ADR outcomes. Enforcement of ODR outcomes may be problematic in some circumstances (Kaufmann-Kohler & Schultz, 2004, pp. 209–233).

Most ODR sites have formal policies and procedures, including dispute management protocols, standards of conduct, codes of practice, and privacy policies (Conley Tyler & Bornstein, 2005; Wiener, 2001).

Advantages and Disadvantages of ODR

ODR has a number of advantages over traditional dispute resolution methods:

- Bridging distance, saving travel and venue costs
- Enabling parties to access expertise outside their local area
- Improved transfer, retrieval, and storage of data
- Enabling delayed communication 24 hours per day
- Improving access to justice for some groups (e.g., those who are isolated, disabled, under threat of physical violence, or shy in face-to-face settings)

However, ODR also has potential disadvantages:

- Text-based methods reduce communication cues which can lead to misinterpretations, negative interpersonal behavior, and frustration due to delays in response
- Online communication advantages those who are familiar and comfortable with the relevant technology and tools. (By contrast,

face-to-face dispute resolution advantages people who are physically attractive, articulate, well-educated, or members of a dominant ethnic or racial group.)

The list of advantages of ODR helps explain why ODR tools are being used by an increasing number of people to resolve their disputes. ODR can be a convenient, quick, and low-cost option. For some disputes, such as low-value, cross-border Internet transactions, ODR may be the only financially feasible settlement option. In other cases, the choice can be because of costs, time, or inclination. Sometimes people in dispute simply prefer not to meet. Technology can be particularly useful where parties would be in physical danger if they were to meet (Hattotuwa, 2005).

Because it disadvantages some disputants, ODR is not a substitute for other methods: it should be seen as an additional tool for dispute resolution (Conley Tyler, Bretherton, & Bastian, 2003).

As ODR practice develops, guidance will be required on the appropriate situations for its use. Some disputes are not suitable for any type of ADR. Other disputes are eminently suitable for ODR, such as online disputes and single transaction disputes. At this stage there are no agreed guidelines about the type of disputes that can be resolved through ODR: the key limitations are the needs of the parties and the ADR practitioner. More guidance on these issues will become available as ODR practitioners begin to reflect on their skills and techniques (Raines, 2006).

LESSONS FOR GOVERNMENT

The current state of ODR thus shows an impressive and growing body of experience and best practice, including through government-

provided ODR. The future is likely to bring increased adoption of ODR by governments and other formal institutions.

A case study of the Department of Justice Victoria illustrates the government rationale for ODR and demonstrates a high level of interest in ODR among the general public and government dispute resolution agencies. This is likely to have parallels in government contexts in other jurisdictions.

Government Rationale for ODR

The Government of Victoria, Australia's second most populous state, is committed to bringing the benefits of information technology to all its citizens. Investigation of ODR was a logical consequence of its previous information technology policies.

In 1999, the Victorian Government issued Connecting Victoria, a blueprint for growing the State's information and communications technology to ensure that all citizens would benefit from technology. One of the key commitments in this policy was to have all suitable government services available online by 2001: a goal which was achieved. Victorians now have access to over 450 government services through www.vic.gov.au and the evidence suggests that online government services have been well received: a survey of online users found that 82% of respondents said electronic service delivery made government services more accessible and 62% thought it improved service quality (summarized in Conley Tyler, Bretherton, & Bastian, 2003).

As well as improving its service delivery, the Victorian Government believes its adoption of "leading-edge" technology will have two other effects:

- It will help make government itself more open, efficient, and accessible

- It will encourage business and citizens to adopt e-commerce and the Internet

In line with these aims and its Growing Victoria Together Strategy, the Victorian Government committed funds to the Department of Justice to investigate ODR. It was seen that ODR could contribute to the priority action area of promoting rights and respecting diversity, including:

- Improved access to courts, legal aid, victim support, and ADR
- Improved awareness of rights and the promotion of equal opportunity
- Improved access to services for culturally and linguistically diverse Victorians

Assessing Government and Citizen Demand for ODR

In 2002, the Department of Justice Victoria commissioned the International Conflict Resolution Centre at the University of Melbourne to undertake research evaluating current ODR practice, assessing likely demand for ODR, and recommending whether the government should proceed with ODR. The needs assessment was conducted through online and hard-copy surveys, focus groups, and public and stakeholder consultation (Conley Tyler, Bretherton, & Bastian, 2003) and may be the first time a government has conducted a detailed study of public demand for ODR.

Survey and focus group participants represented a broad cross-section of the community, including people who had never used computers, rural and regional participants, people from a non-English speaking background, people from a range of age groups, and a person with hearing impairment. Government agencies consulted included a court, an administrative tribunal, a consumer complaints agency, an industry regulator, and a neighborhood mediation service.

These provided a range of dispute resolution services including complaint handling, mediation, investigation, and adjudication. The main communication methods currently used by these agencies were telephone, mail, and face-to-face contact, with only one agency conducting a large part of its communication online.

Results

Surveys, focus groups, and expert consultation revealed overwhelming public interest in ODR services (Conley Tyler, Bretherton, & Bastian, 2003).

More than 70% of respondents reported that they would be willing to consider ODR both for general disputes and for disputes with an online company. Daily and weekly computer users and people who use banking and auction sites were more likely to consider ODR. The major factors influencing choice of process were cost, speed, and convenience. Dissatisfaction with existing methods of dispute resolution was a factor in motivating participants to consider online options. A number of participants were fairly fatalistic about disputes and might currently end up seeking no redress because of dissatisfaction with existing methods. This suggests that ODR may have a role in promoting access to justice.

However both focus groups and surveys revealed a smaller but significant group of people who are uncomfortable with online communication and are unlikely to use ODR in any circumstance. Given this, ODR should be considered as an addition rather than as a substitute for any current dispute resolution service.

Consultation also revealed considerable interest in ODR from government institutions. Five of the agencies consulted saw a fit between their current strategies and some form of ODR. Agencies consulted identified a number of important advantages to ODR, including the abil-

ity to bridge distance, to improve transfer and storage of data, to improve access to justice for some groups, and offer a number of efficiency benefits. Some concerns were also identified, including reduced communication cues, user impatience, privacy, security, accessibility, and equity.

The majority of agencies consulted saw the benefits of ODR and were interested in introducing some ODR techniques as an additional service. ODR was not viewed as a substitute for existing services or as suitable for every case. One of the major drivers was the belief that ODR was inevitable given changing community expectations of service delivery.

The process undertaken by the Department of Justice can serve as a model for other governments and institutions in considering whether to introduce ODR.

FUTURE TRENDS

The demonstrated high level of interest in ODR among both government agencies and the general public suggests that the future is likely to bring increased adoption of ODR by governments and other governance institutions in order to deal with the inevitable conflicts that occur in any community.

An important lesson from the experience of ODR to date is not to underestimate the speed at which online technology develops (Rule, 2003). Sites created as recently as 2000 can now appear out of date while the technology of 1997 is obsolete. The future may see the imaginative use of images, graphics, shapes, and symbols and greater use of video and audio streams and video conferencing. This will have implications for dispute resolution practitioners' skills (Conley Tyler & Bornstein, 2006; Conley Tyler & Raines, 2006; Syme, 2006) and the adoption of technology by government and e-governance institutions.

CONCLUSION

ODR has developed rapidly and is now offered by more than 115 dispute resolution agencies around the world, including government providers. ODR encompasses a diverse range of dispute resolution processes using a range of communication tools and is potentially applicable to most disputes. It should now be considered as a standard tool for government and governance online.

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NOTE

A full bibliography of research in ODR is available at Conley Tyler, M., & Allen, E. (2005). Online dispute resolution library index, launched 4 April 2005. Retrieved December 9, 2005, from www.odr.info. Thanks to Rose Balian for her assistance in preparing this entry.

KEY TERMS

ADR: Refers to processes other than judicial determination in which an impartial person

assists those in a dispute to resolve the issues between them (NADRAC, 1997). Processes can be divided into determinative, advisory and facilitative types.

Arbitration: The main determinative process in which the parties to a dispute present arguments and evidence to a neutral third party who makes a determination that is binding on parties.

Case Appraisal and Mock Trial: These are advisory ADR processes. In each process, an ADR practitioner considers and appraises the dispute and provides nonbinding advice as to the facts, law, and possible outcomes.

Conciliation, Mediation, and Facilitated Negotiation: These are facilitative processes. In each case the parties to a dispute, with the assistance of a neutral third party, identify the issues in dispute, develop options, consider alternatives, and endeavor to reach an agreement.

ODR: Term used in this chapter for ADR processes conducted with the assistance of information technology, particularly the Internet. Other terms used are "Online ADR," "eADR," "iADR," "virtual ADR," and "cyber mediation/arbitration." Simply providing information about ADR on a Web site is not online ADR.

Online: A colloquial term that refers to communication through an electronic medium, especially the Internet. Online communication includes:

- **E-Mail:** A virtually instantaneous transfer of text messages.
- **Instant Messaging:** A variant of e-mail that can be used asynchronously and also allows synchronous online chat.
- **Online Chat:** A synchronous, text-based exchange of information.
- **Threaded Discussion (also known as bulletin boards):** An asynchronous, textual

- **Virtual Learning Environments:** exchange of information organized into specific topics.
- **Videoconferencing:** Asynchronous transfer of video information

Off-Line Disputes: Any disputes that arise in the “real world” outside of cyberspace. These include family, neighborhood, and employment disputes.

Online Disputes: Any disputes that arise through or because of online communication methods, including disputes within online communities.

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Section II
**Experiences of E-Justice
in the World**

E-Justice: Information and Communication Technologies in the Court System

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Chapter VII

E-Justice in Spain

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ABSTRACT

Administration of justice is adding information and communication technologies in its internal operations and its relations both with judicial operators and citizens in Spain. The chapter describes the Spanish institutional framework characterized by the plurality of actors with competences in the administration of justice and the lack of mechanisms of coordination among them. Then, it sets out the different applications of ICTs within administration of justice, classified into four categories: treatment of information, management of judicial files, relations between judicial operators, and decision making. The analysis of such applications focuses on Spanish administration of justice. The chapter finally shows the impact of Spanish institutional framework of justice in the development of e-justice.

ADMINISTRATION OF JUSTICE IN SPAIN

In recent years, public authorities have begun to incorporate information and communication technologies into everyday tasks to improve internal management and make dealing with citizens easier. Administration of justice is no exception to this process, despite perhaps doing so more slowly than, for instance, public administration, and it has not attracted as much attention on a political or academic level as the

development of e-government in Spain (Delgado García & Oliver Cuello, 2006; Jiménez Asensio, 2005). Here can also be found confirmation of “the palpable and obvious age-old backwardness shown in this sector of the administration compared to the rest of the public sector” (Jiménez Asensio, 2005, p. 66).

E-justice, that is, the use of information and communication technologies in administration of justice, can provide important benefits for the administration of justice’s operations: professionals in administration of justice can save time

and work; the government and administration of justice can obtain more information and transparency about how justice operates and provide more effective and efficient justice; those in the process of being judged can deal directly with justice which can facilitate their access to this; users of justice can mean greater efficiency in the way cases are dealt with, saving time, lowering costs, and providing better access to and greater quality in justice. Furthermore, e-justice can make it easier for citizens by having justice brought closer to them and can also help bring certain groups closer to justice (immigrants, people with low cultural levels, the disabled, etc.).

We can thus deal with the main defect blamed on justice: its slowness. According to the General Council of the Judiciary's (Consejo General del Poder Judicial) External Opinion Polls in 2005, despite slight improvements in recent years, three out of four Spaniards still thought that "Justice is so slow that whenever possible it is worth avoiding it" (Toharia Cortés & García de la Cruz Herrero, 2005). Three out of four judges also considered that delays were mostly or often caused due to a lack of every type of means.

E-justice implies using a wide variety of technological instruments and channels, ranging from personal computers to television, to fax or Internet. Furthermore, electronic media currently have numerous applications in administration of justice. Despite the fact there have been pilot schemes in Spain which aim to introduce state-of-the-art electronic media into administration of justice, reality shows us how the main technical media currently used in the administration of justice continue to be telephones, faxes, and gradually the use of Internet. Furthermore, electronic media are being used to handle and spread data and also to manage courts, but there are still few electronic media applications to facilitate the

relations between professionals in the field of justice and courts.

In the following pages, we will see how electronic media can be used in the administration of justice and also the challenges faced to improve the development of e-justice. Our approach will focus on schemes conducted so far in Spain, illustrating the explanations with a number of examples which show good practices already detected in various areas of e-justice in Spain. Prior to this, institutional precedents will be described on which development in Spain's e-justice is based.

INSTITUTIONAL PRECEDENTS OF E-JUSTICE IN SPAIN

The development of e-justice does not simply imply modernising administration of justice and the use of information and communication technologies to link judicial operators (judges, lawyers, prosecutors, etc.). To boost e-justice, it is necessary to both incorporate and spread the use of technology in administration of justice, and this should also be accompanied by innovation in the organisation and changes in the law.¹

In the following pages, institutional precedents of e-justice in Spain will be described which, as we shall see, are based on a complex institutional system characterised by the involvement of a wide range of people and agencies (General Council of the Judiciary, Ministry of Justice, and Autonomous Communities with competences in matters of justice) and legislation which has gradually evolved over the years to support the use of electronic media in the administration of justice.

As a starting point, it is worth mentioning the principles included in the Spanish Constitution of 1978. In accordance with article 117 of the Constitution, "the principle of jurisdictional

unity is the basis of the Courts' organization and operations." Despite this emphatic declaration in the Constitution, the way power is distributed in different areas of Spain has also had an impact on the administration of justice. Article 149.1.5 of the Constitution establishes that the state holds exclusive powers over the administration of justice.

However, the Charters of Autonomy in Spain's Autonomous Communities have already included devolved powers on this matter. Spain's Autonomous Communities have taken up these powers based on an interpretation made by the Constitutional Court of article 149.1.5 in the Spanish Constitution in judgement 56/1990, 29 March. The Constitutional Court's judgement 56/1990 specified in detail the limits to distributing powers established in the Constitution, and later developed in the Organic Law of Judicial Power, by introducing the distinction between jurisdictional duties (administration of justice) which are state powers and management duties (managing the way justice is administered) a power controlled by those Autonomous Communities which have this responsibility in their respective Charters of autonomy. As the Constitutional Court has stated, article 149.1.5 of the Spanish Constitution reserves:

The administration of justice as an exclusive power for the State. Firstly this implies, and no one doubts this, that Judicial Power is unique, has the duty to judge and enforce what has been judged, as can be gathered from article 117.5 of the Constitution. Secondly, governing this Judicial Power is also unique, and corresponds to the General Council of the Judiciary (Consejo General del Poder Judicial) (article 122.2 in the Constitution). The power reserved exclusively for the State in pursuance of article 149.1.5 ends just there. But it cannot be denied that, before the essential core of what must be understood as Administration of justice, there lie a series of persons and material means that, although not included in this core, are placed

there, as specifically stated in article 122.1 in which it refers to personnel 'at the service of the Administration of justice', i.e., not strictly included in it. When these are not an essential feature for jurisdictional operations and self-government of Judicial Power, it should be accepted that the Autonomous Communities take on responsibilities over personnel and material means. (Fundamental point of Law 6)

Art.18 of the 1979 Catalan Charter of Autonomy already laid down that it was the duty of the Regional Government to exercise all the powers recognised by or attributed to the Central Government in Organic Laws on Judicial Power and the General Council of the Judiciary (Consejo General del Poder Judicial). The new 2006 Catalan Charter of Autonomy attributes numerous powers to the Regional Government of Catalonia in matters of administration of justice among which worthy of mention, since they refer to material means of administration of justice in Catalonia; are "the configuration, introduction and maintenance of computer technology and communication systems, without affecting the State's powers over coordination and endorsement which guarantee the compatibility of the system."

This distribution of powers in matters of justice is shown in Law 6/1985, 1 July, Organic Law of Judicial Power. These rules particularly regulate the role of the various persons or institutions involved in administering justice: the General Council of the Judiciary (Consejo General del Poder Judicial), Ministry of Justice and Autonomous Communities with powers over matters of administration of justice. The Organic Law of Judicial Power provides a predominant role to the Ministry of Justice over the General Council of the Judiciary (Consejo General del Poder Judicial), practically ignoring the Autonomous Communities (Jiménez Asensio, 2005, p. 70).

When first passed in 1985, the Organic Law of Judicial Power hardly mentioned the use

of information and communication technologies in administration of justice. In fact, these regulations suffered a lack of concern for the organisational and instrumental aspects (Jiménez Asensio, 2005, p. 66). Mention of these aspects was only found in article 230 which established that “any technical documentation and copying media may be used in the process provided these have the necessary guarantees of authenticity. The law shall regulate the requirements and forms of its use.” As can be seen, the rule was not at all ambitious as regards the use of electronic media in administration of justice. Unfortunately, furthermore, the rules that were to regulate the use of electronic media took several years to arrive.

Jiménez Asensio finds a basis for the late arrival of technology in administration of justice in the slow process of institutional adaptation as a result of poor constitutional and legal designs included in the rules mentioned above, and also due to the huge weight carried by a organisational structure anchored in nineteenth century criteria and a very strong corporate presence (Jiménez Asensio, 2005, pp. 68, 70). However, as time passed, various amendments were made on an institutional, organisational, and regulation level which have promoted the spread of electronic media in administration of justice. So, the amendment made to the Organic Law of Judicial Power through Organic Law 16/1994, 8 November had a significant impact on the area analysed herein. Particularly the aforementioned article 230 was amended to include:

- Courts may use electronic media to perform their activities and exercise their duties with the limits provided for in current legislation, particularly, regarding the protection of personal data;
- Documents issued by electronic media, whatever the media, shall enjoy validity and efficacy provided the authenticity, security, and also compliance with the

requirements established in procedural laws are guaranteed;

- The agency performing processes with computer media shall guarantee identification and that jurisdictional duties are exercised, together with confidentiality, privacy, and security of the personal data contained therein in the terms laid down by Law;
- Citizens may contact the justice Administration via electronic media when these are compatible with the ones used by Courts and the guarantees and requirements established in each particular procedure are respected.

The aforementioned article provides the General Council of the Judiciary (*Consejo General del Poder Judicial*) with the power to decide the requirements and other conditions which affect the establishment and management of computerised files which are the responsibility of the judicial authorities so as to ensure compliance with the guarantees and rights established in legislation concerning data protection. Furthermore, it also establishes that computer programs and applications used by the Justice Administration must be previously approved by the General Council of the Judiciary (*Consejo General del Poder Judicial*), who shall guarantee their compatibility.² The computer systems used in the Administration of justice shall be compatible with one another to facilitate communication and integration in compliance with the terms decided by the General Council of the Judiciary (*Consejo General del Poder Judicial*).

Based on the reformed article 230 of the Organic Law on Judicial Power, the General Council of the Judiciary (*Consejo General del Poder Judicial*) passed Act 5/1995, 7 June concerning the accessory aspects of judicial acts³ which, for example, regulate the creation and management of automated files containing

personal data under the responsibility of judicial authorities (courts, tribunals, and the General Council of the Judiciary (*Consejo General del Poder Judicial*)) and also the procedure to approve the administration of justice's computer programs, applications, and systems.

As regards the procedure for approving computer programs and applications, Act 5/1995 lay down that the plenary session of the General Council of the Judiciary (*Consejo General del Poder Judicial*) shall approve computer programs and applications and also set the conditions for computer systems to achieve the necessary degree of compatibility for communication and integration and the necessary security conditions proposed by the Committee of Judicial Computer Technology. This Committee shall comprise a member representing the courts and four magistrates, one for each jurisdictional order.

Despite this progress, in the 1990s the only region to set up an ambitious plan to computerise administration of justice was the Basque Region. However, before the end of the 1990s another decision was taken which included seeking to increase the use of electronic media in the administration of justice.

The *White Paper on Justice*, approved in 1997, is based on the conception of justice as a public service and faces the challenge to improve the quality of this by including for example, several, but few, references to computerising the administration of justice: "We do not believe that anyone will raise any doubts as to whether the improvements in the organization of Justice lie, almost at the turn of the 21st century, in introducing a comprehensive computer system."

The *White Paper on Justice* started by observing that computerised courts only existed in the Basque Region at that time and established it as a priority and urgent task. It supports "real, comprehensive, linked computerisation" with the aim of duly solving many of the bad points in justice. The *White Paper on Justice* insisted

on the need to make a *serious, coordinated, urgent* effort by calling on the various public authorities with powers over it to support the effort through funding. Finally, in the *White Paper on Justice*, the General Council of the Judiciary (*Consejo General del Poder Judicial*) recalled its mission to approve applications and establish criteria over compatibility.⁴

Reforming the administration of justice did not arrive on the political agenda until the mid-1990s having kept its own organisational structure which dated back to other moments in history and did not enable justice to face the challenges of the late 20th century by any means. From that moment, a period began in which the use of computers in the administration of justice was greatly promoted both in regulations and organisation.

First, Law 1/2000, 7 January, on Civil Proceedings was passed. These rules considered the use of electronic media in several precepts of civil proceedings (accepting electronic documents as a means of proof, documents for judicial activities via electronic media, the use of systems to record and reproduce images and sound, and to communicate the proceedings by electronic media).

Second, the *State Agreement for Reforming Justice* was signed between the government of the People's Party (Partido Popular) and the Socialist Party (Partido Socialista Obrero Español) in 2001.⁵ The *State Agreement for Reforming Justice* basically included a new design of courts and general introduction of electronic media. It particularly included making tasks in courts uniform, optimising databases, introducing management techniques for personnel and tasks, generally introducing the use of electronic media and improving material means provided for this purpose. It also proposed amending article 230 of the Organic Law of Judicial Power and drafting a *Strategic Plan on New Technologies* passing from the possibility of using electronic media to making this mandatory in all jurisdic-

tional authorities and among those professionally related with the administration of justice, contributing to modernising the techniques used in courts, speeding up the procedures and lowering costs of communication and legal notifications. Finally the *State Agreement for Reforming Justice* recalled that computerising the Administration of justice would be carried out closely with the General Council of the Judiciary (*Consejo General del Poder Judicial*) and the Autonomous Communities.

Third, in 2002 the *Charter of Citizens before the Justice* also included in the *State Agreement for Reforming Justice* was passed unanimously by all the political parties in the Spanish Parliament. The *Charter of Citizens before the Justice* provides for, among other things, citizens' rights: the right to have their cases processed quickly; the right to not have to provide documents already held by the public authorities; the right to correspond with the administration of justice via electronic media (e-mails, video conferences, and other media in pursuance of procedural laws). Also, the *Charter of Citizens before the Justice* provides that public authorities shall promote the use and application of electronic media and recognises that electronic documents shall be completely valid and effective provided that their security and authenticity can be proved.

Fourth, the reform of Criminal Law Proceedings was approved (Organic Law 13/2003, 24 October) introducing electronic media into criminal procedures and particularly facilitating the use of video conferences or other similar systems which would enable simultaneous two-way communications of image and sound in appearances made by prosecutors and the accused, witnesses, or expert witnesses.

Finally, Organic Law 19/2003, 23 December was approved whereby the *State Agreement for Reforming Justice* passed into legislation. However, from the viewpoint of the use of electronic media, references are hard to come by since these

have focused on the use of electronic media in the newer courts and other administrative units, official announcements of judgements, judicial resolutions, and statistics related to justice.

To conclude on this approach to institutions, mention must be made of how e-justice has developed in the Autonomous Communities. To start with, it must be highlighted that almost all Autonomous Communities in Spain have currently taken on the powers in matters of justice. Only Cantabria, Murcia, and Extremadura have not done so.

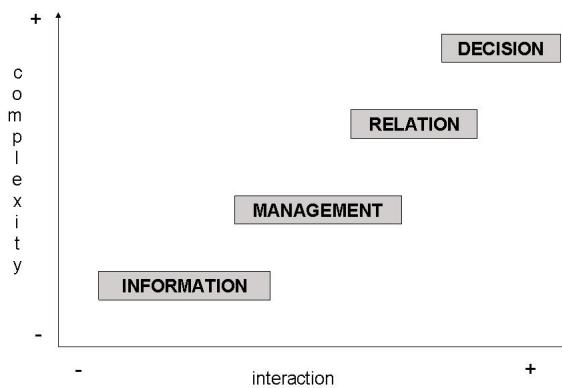
Despite all this, development of e-justice varies widely among the Autonomous Communities according to the period of time elapsed since powers in matters of administration of justice were transferred to them. Thus, Autonomous Communities such as the Basque Region or Catalonia are much more advanced in this area than others. Regarding this, we must not only bear in mind the development of applications to manage proceedings (Autonomous Communities that have recently received these powers were provided with support from the Ministry of Justice) but of the many other electronic media applications in justice administration (from creating Web pages to computerising registers).

The various levels of e-justice development and in general of justice administration in the various Autonomous Communities can also be seen in the organisation structure which the Autonomous Communities have been provided with to perform the powers in this area. Some Autonomous Communities have thus set up agencies specifically responsible for promoting e-justice policies (Catalonia, Basque Region).

THE USES OF ICT IN SPAIN'S ADMINISTRATION OF JUSTICE

Information and communication technologies currently have very diverse applications in

Figure 1. Uses of e-justice



Spain's administration of justice (Dorrego, 2003). Two criteria may be used to classify them: the degree of the application's technical complexity and the level of interaction that each application allows between the various judicial operators (judges, lawyers, prosecutors, etc.).

Applying these criteria to the various existing applications enables us to limit the following uses of information and communication technologies in administration of justice to: treatment of information (information), management of judicial files (managing), relations between administration of justice and other judicial operators (lawyers, prosecutors, experts, witness, etc.) (relations), and decision making (decision).

In addition to the applications that can be classified according to the aforementioned criteria and which will be commented on below, it must be seen how other uses with transversal features exist which seek to shape the area where these applications are used (intranet, extranet, training platforms, work tools for collaboration or communication channels). Thus, setting up extranets facilitates the exchange of knowledge and experience among judicial operators (judges, lawyers, prosecutors, experts, etc.) and

enables them to be joined and linked to the various professionals in the field of justice. This is the case of the General Council of the Judiciary (*Consejo General del Poder Judicial*) in Spain which provides judges and magistrates with data together with virtual training programs.⁶

Indeed, information and communication technologies are also used as a platform to train judges and civil servants in administration of justice. One good example of this is the training provided by the General Council of the Judiciary (*Consejo General del Poder Judicial*) via a virtual campus from the section of lifelong learning to both those aspiring to become judges and practising judges.⁷

Information and communication technologies also enable collaborative work which seeks to favour the exchange of information among people involved in justice processes and also work in common in a community of users. Collaborative work tools enable tasks to be managed in common, setting up discussion forums, drafting distribution lists or preparing common documents. To quote one example, it is worth mentioning the Latin American Network of Judicial Information and Documentation (IBERIUS) available to all the members of the

judicial power in Latin America established as a community of cooperation, agreement, and reciprocal support.⁸ Another example can be found in the e-justice project supported by the Latin America Summit on Justice.⁹

Finally, also with transversal features, reference must be made to security and the possibility of operations being made between applications. As regards this worthy of mention is the Code of Conduct for users of equipment and computer technology systems available to the Administration of Justice whose aim is to make users aware of security in computer and communication systems,¹⁰ the use of the electronic signature¹¹ or the *Compatibility of Applications Test*.¹² In this field, there has also been an interest to take mechanisms to protect personal data.¹³

Before beginning to elaborate on the various applications, it is worth highlighting that various public administrations responsible for developing e-justice have drawn up loosely specific plans aimed at establishing objectives, strategies, and actions to implement electronic media in justice administration. In the case of Catalonia, the Green book on Justice Administration includes various recommendations on this subject, among which worthy of mention are “integrating information and communication technologies into the processes of reviewing and improving the public service of Justice Administration, not only as an auxiliary part of the organisation.”¹⁴ In other cases, determining the strategies and actions on this subject has been linked to developing the new virtual court.¹⁵

Treatment of Information

As regards the level of e-justice development in Spain, managing data is currently the main use given to electronic media in the administration of justice. Despite this implying a low level of Spain’s development of e-justice, the importance lies in the fact that this establishes the basis upon

which the remaining complementary uses will later rest and these matters will be commented below. The use of electronic media when dealing with data increases the transparency of justice, brings justice closer to the people, and keeps corruption out of courts. It is also a necessary instrument to improve the efficiency of justice as it speeds up data transmission among judicial operators (judges, lawyers, prosecutors, experts, etc.) and from these to the citizens. This finally contributes to improving the quality of justice.

Several computer and data transmission applications have currently been developed to handle, manage, and spread data in administration of justice. Probably the most common and best known electronic media are those used to spread information on justice administration. The Charter of Citizens’ Rights before the Justice calls for principles of transparency, information, and adequate attention for users of justice to be applied specifying that “citizens have the right to receive transparent information on the present stage, activity, and affairs processed and pending in all jurisdictional authorities in Spain. Furthermore it also establishes that “the Ministry of Justice and the Autonomous Communities with powers over justice administration as well as the General Council of the Judiciary (*Consejo General del Poder Judicial*) shall channel this information to facilitate consultation in the framework of a transparency plan.”

The information spread on Internet can be quite varied. In fact, visiting the Web pages of the bodies responsible for administration of justice enables one to view two types of pages operating of the contents published:

- Web pages which divulge only information regarding the powers of the agency responsible for administration of justice and the name of the title holder. In fact, the

- vast majority of existing Web pages could currently be included in this type.¹⁶
- Web pages in which a wide variety of information is divulged (information on the organisation of judicial power, legislation and jurisprudence, information on the various types of processes or legal proceedings or information on the various services rendered by the justice administration, latest news, jurisprudence, etc.). In the case of Catalonia's Regional Government (Generalitat de Catalunya) and the Regional Government of the Basque Region the information divulged could be included in this group.¹⁷ A visit to the General Council of the Judiciary (*Consejo General del Poder Judicial*)'s Web page is also proof of the use of electronic media to divulge information on the organization and how Spain's justice system works, news items, and also services provided for citizens. The Icaro Project from Andalucía is a Web with educational contents addressed to young offenders.

The information divulged through this Web page is largely aimed at general citizens. However, the information can also be aimed at specific groups involved in judicial processes (judges, prosecutors, lawyers, civil servants employed by the justice administration). The General Council of the Judiciary (*Consejo General del Poder Judicial*)'s Web page divulges information specifically aimed at judges and magistrates via extranet¹⁸ and in the Basque Region specific information is provided for those taking part in competitive exams.¹⁹

In cases where there is greater development of services to disseminate information on justice via Internet, information can be divulged via Web pages or tools such as *push* and via information bulletins or short text messages (SMS) so that the data can be focused according to final

users²⁰ so they can remain constantly informed on updates via news syndication.²¹

Dissemination of legal information via Internet can be included in public awareness or general campaigns. One example worthy of mention is the campaign on domestic violence,²² and campaigns aimed at bringing justice closer to children.²³ Also, though this does not use electronic media, reference must be made to the e-justice forum promoted by the General Council of the Judiciary (*Consejo General del Poder Judicial*) where the use of electronic media in administration of justice is discussed annually.

Information and communication technologies are also important for managing and storing information in databases. Furthermore, databases must enable legal information to be recovered to be useful for judicial operators, to facilitate information for processing a case or managing a file easier. Through the use of databases, one may process the information regarding rules and jurisprudence while also being linked to academic opinions. Furthermore, databases may be used to manage information created or received by the courts. Databases may be found in various media (CD-ROM, DVD), although lately Internet databases have begun to acquire greater importance.

In Spain, databases for jurisprudence have evolved in recent years, starting from the principle of making judgements public, which for many years was limited to the Supreme Court and certain minor collections on jurisprudence and the predominant role of private initiative. Since 1997, the General Council of the Judiciary (*Consejo General del Poder Judicial*)'s Judicial Document Centre (Centro de Documentación Judicial) (CENDOJ)²⁴ has been responsible for disseminating and distributing jurisprudence emanating from Spain's judicial authorities while also being divulged by private publishing companies (Aranzadi, La Ley, or El Derecho).²⁵ Jurisprudence from the Supreme Court is cur-

rently published completely on the Internet with open and free access. Furthermore, judges and magistrates may access jurisprudence via a restricted area at all associated agencies in Spain.

In recent years the application of information and communication technology has gradually spread to disseminate specific information on the present stage of lawsuits. Through these applications, the judicial operators (judges, lawyers, prosecutors, etc.) may be informed at all times of the current stage of the judicial procedures where they form part. The fact that access to this information requires the user to be identified together with proof of his legitimate right to access such information is hindering the spread of this. Despite the interest and practical usefulness of this application, it is still not generally applied in Spain.²⁶ From a general viewpoint, knowledge on activities performed by courts is a measure which, as mentioned in the Plan of Judicial Transparency, may further facilitate judicial transparency.

Finally, regarding the use of information and communication technologies to handle information, the possibility of exchanging information among judicial operators (judges, lawyers, prosecutors, etc.) (within a administrative bodies, between administrative bodies, between these and public authorities or also with lawyers and solicitors) should be mentioned. Data transmission or computerised exchange of information or data among judicial operators speeds up the management of court procedures and makes it more efficient. However, this faces technical barriers, since security measures must be established to guarantee access to the information only for those authorised to do so; rules introduced due to the limitations established by data protection regulations regarding the exchange of personal data; or organizational ones, for example, because many organisations are wary of sharing data which may also come in different formats.

Due to this, in some cases only the possibility of requesting access to data via data transmission is foreseen, and it is the authority or the holder of the information or data which make these available to the applicant and in other cases the possibility is established for the authority concerned to access databases where the information is held.²⁷

Despite the limitations which still exist, mention may now be made of the *Punto Neutro Judicial* promoted by the General Council of the Judiciary (*Consejo General del Poder Judicial*) in Spain.²⁸ The *Punto Neutro Judicial* is a private secure communications network which enables access for legal agencies to databases held by the various public authorities.

Over 20 agencies are currently registered in the *Punto Neutro Judicial* among which, worthy of mention, are the Register of Criminals and Defaulters (*Registro de Penados y Rebeldes*), the Social Security, Police (*Dirección General de la Policía*), Tax Authorities (*Agencia Española de la Administración Tributaria*) or Traffic Authorities (*Dirección General de Tráfico*), to quote some examples.²⁹ Furthermore all Autonomous Communities have access to the *Punto Neutro Judicial* either directly (Andalusia, Canary Islands, Catalonia, Galicia, Madrid, Navarre, Basque Region and Valencia) or through the Ministry of Justice. The use of the *Punto Neutro Judicial* is quite significant since over 5 million visits were registered in 2005. Linked to the *Punto Neutro Judicial* is the *Inter-ius* application, a system for exchanging legal documents which enables all courts to exchange information and obtain fast secure communications aimed at speeding up processing procedures. *Inter-ius* was also widely used receiving some 25,000 visits in 2005.

Management of Judicial Files

The use of information and communication technologies of management of judicial files

must generally enable a considerable improvement in the courts' operations and eventually, an improvement in the efficacy and efficiency of justice administration. The most common computer applications in justice administration are probably those which facilitate managing the courts (personnel, budgets, assets, etc.) as in fact they are doing in other areas of public or private sectors. The spread of ICT in managing courts often lies in wider processes of modernizing courts such as creating the new judicial office which envisages completely eliminating paper from all legal processes.³⁰

ICTs have also been used to manage documents. Through these applications, a vast number of documents originating or included in processing legal files can be managed. Document management tools allow documents to be handled without the need for hard copies. In line with this, both digitizing hard copies and the use of electronic documents provide important advantages both for filing, recovering, and transmitting documents among the various judicial operators.

Directly related to managing documents are the applications for managing cases which enable each legal file to be managed. Thanks to these applications, one may gain knowledge of the parties involved in a case, the stage of proceedings, files, and also all the documents associated with the case. Several lines have been developed in this area. Management applications for procedural law intended for internal use have been created and in some cases these applications are available to judicial operators outside the justice administration. Among the first, worthy of mention are the procedural law management systems developed by the Ministry of Justice (Minerva and Libra)³¹ and those by Spain's Autonomous Communities (Adriano, Atlante, Themis, Cicerone).

Among the latter worthy of mention is the *LexNET* project.³² *LexNET* is a secure data transmission medium which, by using a recog-

nised electronic signature, allows electronic communication of documents between courts and other judicial operators.

Furthermore mention may be made of the judicial agenda as an instrument for scheduling notifications, setting dates, evictions or seizures via a Web space accessible to those involved in applying justice (judges, prosecutors, forensic scientists). The judicial agenda enables courts to be consulted in real time as well as the times of trials, and so forth.

Information and communication technologies can make accountability or monitoring legal duties easier. In fact, based on the existing information in applications for managing cases, one may discover the length of legal procedures, the resources used, how judgements have been made, and compile judicial statistics (rates of resolutions, compliance rates and delays, the rate of judicial backlogs, etc.). With this information, those in charge of justice administration can learn of the courts' performance, evaluate it, and plan any necessary changes. Judicial statistics are a subject of concern to the General Council of the Judiciary (*Consejo General del Poder Judicial*).³³ Regarding this, the Judicial Transparency Plan provides for establishing new judicial statistics by setting up the National Committee of Judicial Statistics and also improving how data are gathered and used.³⁴

The computerisation of registers implies a specific step for managing information contained in a judicial or administrative register with the added advantage that it even enables consultations to be made by different judicial operators by data transmission. Furthermore, it enables registers to be linked thus facilitating data exchange among them as mentioned earlier. In recent years, there has been great progress made in these areas in Spain. In this respect, mention can be made of the Central Register of Criminal Records (Delgado García & Oliver Cuello, 2005), the Domestic Violence Register³⁵ and even the Civil Register.³⁶ Spain is also par-

ticipating with other European countries such as Germany, Belgium, and France, in a European Project called *Network Judicial Register* which is an area of collaboration among European judicial registers to facilitate data transmission of criminal police records.

One last application of information and communication technologies in managing judicial files is to manage hearings. Electronic media can particularly be used in this area to record hearings³⁷ or hold them via video conference making recording declarations easier without one having to travel to courts; record and later transcribe or translate hearings or, one may even present judicial evidence electronically or via data transmission.³⁸ Yet we have still to reach the level of Singapore where lawyers can participate in court hearings from their private firms via a system of Internet videoconferences.³⁹ In 2002 the Ministry of Justice presented a plan with the aim of providing all large courts and prosecuting authorities with video conference equipment.

Relations Among Judicial Operators

One of the areas where information and communication technologies in justice administration can potentially develop further is by facilitating and improving the relations between judicial operators and, particularly, among the courts, citizens, and professionals who defend and represent their interests before the courts. Headway can thus be made in bringing administration of justice closer to the citizens and improve the efficiency and efficacy of justice. Despite the possibilities offered by ICT in this field, there are still few existing applications and much less in Spain's justice administration.

ITC can facilitate downloading legal forms and writs. Citizens can therefore complete forms in their computers though later they will have to make a trip to the court or legal register to file it (as occurs, for example, when one requests

criminal police record certificates)⁴⁰ as there is no proof in Spain of the existence of an experiment such as the Supreme Court of California's *EZLegalFile* which allows one to automatically complete forms with data provided by citizens via the Web page.⁴¹

Furthermore, through information and communication technologies, the public can request certificates and, in some cases, these can be issued using the aforementioned media. For example, in the Basque Region, citizens can request birth certificates via Internet.⁴² The Ministry of Justice is encouraging this to spread to the other Autonomous Communities in Spain.⁴³

Filing writs online allows citizens or their legal representatives to send writs to courts. Spreading this application provides indubitable advantages from various viewpoints. On the one hand, this implies savings in time and money as it avoids the necessary trip to courts to file any document. It also makes it easier to later manage documents in digital format since these may be included directly in applications for managing documents and cases. However, this application does not yet exist in Spain. However, Spanish law permits to use electronic evidences in civil and criminal trials (Medrano, 2003).

One step further in the use of information technologies and knowledge to facilitate interaction between administration of justice and the public are electronic lawsuits. These applications allow all those involved in a case to interact by sending and receiving all the documents and writs which comprise the legal file. The use of electronic lawsuits can be accompanied by complementary programs which seek to facilitate the access to justice for certain groups who require specific applications (the disabled, immigrants, etc.) (de Hoyos, 2003; Magro, 2004).

However, as highlighted at the start of this section, we are faced with a field of potential development of e-justice which still has not

materialised in Spain. This is not the case in other places such as America or Australia where one can now find Web pages which offer on-line legal assistance to draft claims,⁴⁴ calculate maintenance allocated to children in cases of separation,⁴⁵ online legal assistance to draft claims aimed at all citizens⁴⁶ or specifically those who lack resources,⁴⁷ or online payment of pecuniary sanctions.⁴⁸ Finally, in this field worthy of mention is the setting up of electronic forums as a means to channel the participation of people in administering justice and promoting an exchange of opinions and viewpoints both relative to the administration of justice and on specific matters of how this works.

Decision Making

The most complex application of information and communication technologies in the administration of justice are decision-making support tools. Regarding this, currently not highly developed in Spain, two different applications may be included:

First, decision-making assistants, which are tools to support jurisdictional duties performed by the judge. Decision-making assistants may provide the judge with relevant information and documents regarding the facts or applicable rules in certain cases, and also to suggest decisions that can stem from these. On another matter, decision-making assistants may provide templates and forms for each process, automating the filling in of certain fields in legal writs according to the information available in the databases at the court or automatically creating legal documents based on the information the judge has available or that provided by the judge himself.

Second, electronic trials, which are meant to substitute the role of the judge for decisions made by a computer according to criteria established in accordance with the legal system and precedents in other cases. For example,

artificial intelligence applications may substitute certain decision-making actions and in some cases when there is no legal discretion at all to adopt a final resolution.

Again, there are no similar experiments in Spain to which reference can be made. Despite the above, to highlight these, other countries' experiences can be mentioned. Worthy of mention is *Money Claim Online* which is a virtual legal service used to claim amounts up to €150,000 in England and Wales.⁴⁹ Another interesting experience is the Supreme Court of Michigan's virtual court in which a virtual file is created where writs and proof sent by data transmission are gradually added on.⁵⁰ Also, the *Family Winner* application is based on game theory to help the judge and parties involved in cases of separation and divorce find a rational solution to their disputes. As an assistant in decision-making processes, the *JTZ* tool can also be mentioned which is used in New Zealand to manage the judge's information in certain cases and enables links to be found among the data and for these to be used and recovered more easily.

CONCLUSION

The analysis of the uses of information and communication technologies in the administration of justice in Spain shows the level of development of e-justice in our country. Although there are several applications of information and communication technologies, it is not possible to follow a judicial proceeding fully electronic yet. Furthermore, we have observed that there has not been a significant change in the organizational model of administration of justice and, therefore, in its operations. Although there are several reasons that can help us to explain this situation, the main ones are resistance to change and the lack of coordination among different actors with competences in this field.

In relation with the resistance to change, we have already said that traditionally administration of justice has been characterised by an age-old backwardness compared to the rest of the public sector. The implementation of the new judicial offices in Spain represents a good opportunity to overcome the resistances often evident. Different regional administrations of justice have developed specific plans to go from old judicial offices to new ones that among others incorporate the use of information and communication technologies and the suppression of paper from administration of justice.

With regard to the lack of coordination, it is obvious that the participation of several public administrations and governing bodies of the judicial power in the administration of justice has been a brake in the development of e-justice. We can often use different applications, based on different standards and criteria, in each Autonomous Community without mechanisms to make interrelation easier.

Little by little, administration of justice has incorporated mechanisms to make interoperability easier, among applications developed by the General Council of the Judiciary (Consejo General del Poder Judicial), the Ministry of Justice and the Autonomous Communities. The Compatibility of Applications Test that has been recently revised or the Punto Neutro Judicial are good experiences though it should be analyzed carefully if the coordination mechanisms set by the General Council of the Judiciary (Consejo General del Poder Judicial) make the integration of different applications and visions from the Autonomous Communities in relation with e-justice easier.

Diversity cannot be seen as a problem itself when some standards or criteria can be ensured that not only make easy interoperability among different applications developed but also make easy efficiency of administration of justice. Furthermore, benchmarking of e-justice may be promoted. In relation to it, the creation of a col-

laboration forum in 2006 among all those with responsibilities in the field of justice promoted by the General Council of the Judiciary (Consejo General del Poder Judicial) is a good practice. This collaboration forum has been working on judicial files and digital archive.

All we have said points to some concluding remarks. To make progress in the development of e-justice in Spain is necessary to improve technological infrastructures. The extending of e-justice is closely tied to the incorporation of new infrastructures not only in administration of justice but also in all judicial operators offices. In this field, we can consider plans like IUSCAT promoted by Generalitat de Catalunya. This plan has meant to give laptops to all judges, magistrates, and public prosecutors and the spread of the use of e-mail and access to Internet to all people working in the administration of justice.

Linked to infrastructures, we can consider security matters both from information systems and personal data in administration of justice. General Council of the Judiciary (Consejo General del Poder Judicial) sensitive to security matters have taken criteria to guarantee security of applications and information systems and is going to take general criteria on security of process management systems. E-justice development is also linked to learning of all judicial operators. On the other side, digital divide can be an important brake to the extension of e-justice. Then, learning on the use of information and communication technologies is a prerequisite for e-justice.

A clear institutional framework is also necessary to guarantee e-justice development where different actors have a clear delimitation of their competences and coordination mechanisms respecting the autonomy of different actors also exist. The regulation of the use of information and communication technologies must also be clear enough to give legal certainty. We can consider that some of the laws

passed recently in Spain in this field can give enough legal certainty. Finally, we have to consider that changes cannot be improvised. The extension of information and communication technologies in administration of justice may be based on midterm and long objectives that allow to establish an strategy on e-justice development. Some Autonomous Communities (i.e., Catalonia, Basque Region, Madrid) while creating new judicial office have planed e-justice development.

FUTURE TRENDS

The analysis of e-justice in Spain is still in an incipient stage from all points of view. There is not enough analysis on the regulation of the use of information and communication technologies in the administration of justice yet. There are neither sociological studies on this field nor extended learning programs addressed to juridical operators. One of the reasons for the lack of analysis and studies is the difficulty to get relevant information on these matters.

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ENDNOTES

¹ This is one of the main considerations made in the field of e-government which can be perfectly transferred, in our opinion, to the field of e-justice. See Communication by the European Commission dated 26 September 2006, the Council, the European Parliament, the European Social and Economic Committee and the Committee of Regions, The Role of Electronic Administration in the Future of Europe [COM (2003) 567 final].

² Act 1/2005, about accessory elements of judicial proceedings.

³ BOE (Official State Bulletin), no.166, 13 July 1995.

⁴ Regarding this, on 8 September 1999 the Plenary Session of the General Council of Judicial Power (CGPJ) approved the *Compatibility Test of Computer Technology Systems for Managing Proceedings*. This *Test* serves as a parameter to rate the compatibility of the various systems for them to be approved by the General Council of Judicial Power. The Compatibility Test was revised and updated in 2006.

⁵ As stated by Jiménez Asensio, the *State Agreement for Justice Reform* was reached on the basis of a work document conducted by the Ministry of Justice and published in March 2001. In this document were set the following lines of action: to draw up a Strategic Plan with the aim of achieving “On-line Justice” and to create a comprehensive intercommunicated system throughout the whole of the administration of justice.

⁶ <https://www.poderjudicial.es/eversuite/GetRecords?Template=cgpj/cgpj/acceso.htm>

⁷ <http://www.poderjudicial.es/eversuite/GetRecords?Template=cgpj/cgpj/pjge->

- nerica.html&TableName=PJINFODOCS &DocName=fcCampusvirtual&Content Name=campusvir.html&nivel1=&nivel2 =&nivel3=&nivel4=
- ⁸ <http://www.iberius.org/>
- ⁹ <http://www.ejusticia.org/>
- ¹⁰ Act 2/2003, 26 February, at the Plenary Session of the General Council of Judicial Power on the Code of Conduct for users of computer equipment and systems serving the Administration of Justice (BOE, no. 59 10 March 2003).
- ¹¹ Collaboration Agreement between the Fábrica Nacional de Moneda y Timbre (The Royal Mint)-Real Casa de la Moneda and the General Council of Judicial Power to provide certification services concerning electronic signatures signed on 9 December 2003 (Plenary Session Agreement of 3 December 2005).
- ¹² The Compatibility Test is a framework of references which seeks to link information systems applications providing services to courts and boost the implantation of indispensable measures to guarantee information security. It was approved by the General Council of Judicial Power in 1999. Currently under review. Interoperability is important.
- ¹³ Bauza has studied the identification, integrity, and confidentiality requirement of judicial communications [Bauza, Felio J. Medios técnicos en el procedimiento judicial. Diario La Ley. 2002; 7(5674)].
- ¹⁴ http://www.gencat.net/justicia/temes/adjudicat/adm_justicia/modernitzacio_admin/livre_verd/index.html.
- ¹⁵ The Ministry of Justice has developed the Introduction Plan of the New Court Office.
- ¹⁶ Andalusia, Asturias, Canary Islands, Cantabria, Castilla-León, Castilla-La Mancha, Madrid Region, Valencia Region, Balearic Islands, and Galicia.
- ¹⁷ Catalonia (<http://www.gencat.net/justicia/>) and Basque Region (<http://www.justizia.net/>).
- ¹⁸ <https://www.poderjudicial.es/eversuite/GetRecords?Template=cgpj/cgpj/acceso.htm>
- ¹⁹ <http://www.justizia.net/Ropositor/Default.asp?Idioma=sp>
- ²⁰ <http://www.gencat.net/justicia/ejusticia/index.html>
- ²¹ <http://www.gencat.net/justicia/rss/index.html>
- ²² http://www.gencat.net/justicia/temes/adjudicat/serveis/violencia_domestica/index.html
- ²³ http://www.justizia.net/JustinaWeb/Juegos/index_home_sp.htm
- ²⁴ <http://www.poderjudicial.es/jurisprudencia/>. See Rules 1/1997, 7 May, on the Centre of Judicial Documentation.
- ²⁵ <http://www.aranzadi.es/>; <http://www.laley.es/>; <http://www.elderecho.com/>.
- ²⁶ In the General Council of Judicial Power's plenary session on 15 December 2006 approved the private system for consulting information on proceedings developed by the Government of Andalusia.
- ²⁷ It is important to work on interoperability of information systems (Garcia Mas, 2002).
- ²⁸ The Plenary session of the General Council of Judicial Power dated 20 February 2002, agreed to authorise the establishment of the *Punto Neutro Judicial* as "a Communications Network, whose central core would be supported by the General Council of Judicial Power which would allow communications among the various Judicial Networks in the Autonomous Communities, Ministry of Justice and General Council of Judicial Power, and also to facilitate access for courts to services provided by further institutions in the interest of a better functioning of the Administration of justice."

- ²⁹ <http://www.pnj.cgpj.es>. To facilitate the use of the *Punto Neutro Judicial* in 2005 the Centre for User Information (Centro de Atención a Usuarios) (C.A.U.) was set up.
- ³⁰ Regarding this, see the programme for the creation of the new judicial office in Catalonia: http://www.gencat.net/justicia/doc/doc_25376268_1.pdf.
- ³¹ Minerva and Libra are a system for managing affairs in legal agencies (receiving, registering, distributing, processing affairs and managing procedural documents and schemes for processing). Currently the former has substituted the latter. Minerva is connected to the CENDOJ for waiving verdicts. It can also be connected to Lexnet to send and receive documents among legal agencies.
- ³² Royal Decree 84/2007, 26 January, introducing the Lexnet computer technology telecommunications system into Administration of Justice to present writs and documents, transferring copies and performing activities to communicate proceedings by data transmission methods. There is a brief description of this application in Caballero, Manuel. Lexnet: Un sistema de información para la notificación telemática y la cooperación; Tecnimap, Murcia. 2004.
- ³³ Regarding this, mention should be made of the Judicial Transparency Plan (Resolution 28 October 2005 by the State Justice Department which provides for the publication of the agreement reached by the Cabinet of Ministers on 21 October 2005 through which was approved the Judicial Transparency Plan). This plan includes providing adequate statistics media among its fundamental points which will enable valid data on judicial activities and quality to be obtained. Later Agreement of 9 July 2003 was approved at the Plenary Session of the General Council of Judicial Power whereby Rules 1/2003 on Judicial Statistics were approved. These regulations aim to systematically regulate and programme how statistics are drawn up which will enable compliance with the functions which the General Council of Judicial Power has been entrusted with, particularly drafting a Report on the conditions, operations, needs, and activities of the Council and the Courts of Justice. Judicial Statistics also enable planning, developing, and executing public policies related with Administration of justice in other public agencies with powers on this matter.
- ³⁴ Regarding this, see Royal Decree 1184/2006, 13 October, whereby the structure, composition, and duties of the National Judicial Statistics Committee are regulated and finally set up in May 2007.
- ³⁵ Royal Decree 660/2007, 25 May, whereby Royal Decree 355/2004, 5 March was amended which regulates the central Register for the protection of victims of domestic violence, regarding access to the data contained in the central Register.
- ³⁶ Regarding this, the *Inforeg* project, a computer technology system to manage the registration of events (births, marriages, deaths, etc.) must be mentioned. It also allows certificates to be issued.
- ³⁷ In pursuance to the LOPJ, there is an increasing number of digitally recorded hearings.
- ³⁸ Regarding this, it is worth mentioning the amendments introduced into criminal proceedings legislation in 2003.
- ³⁹ <http://www.justiceonline.com.sg/>
- ⁴⁰ <http://www.mjusticia.es/>
- ⁴¹ <http://www.ezlegalfile.com/go.jsp?act=actShowHome>
- ⁴² <http://www.legalfile.com/go.jsp?act=actShowHome>

⁴³ Regarding this, see Preliminary investigation dated 20 March, from the General Agency of Registers and Notaries on matters of receiving and sending requests for certificates in Civil Registers by data transmission.

⁴⁴ <http://www.sanmateocourt.org/director.php?filename=./smallclaims/general.html>

⁴⁵ <http://www.utcourts.gov/ocap/>

⁴⁶ <http://www.in.gov/judiciary/selfservice/>

⁴⁷ <http://legalaid-ga.org/GA/index.cfm>

⁴⁸ <http://www.fru.nt.gov.au/>

⁴⁹ <https://www.moneyclaim.gov.uk/csmco2/index.jsp>

⁵⁰ <http://www.courts.michigan.gov/supremecourt/>

E-Justice: Information and Communication Technologies in the Court System

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Chapter VIII

Italian Justice System and ICT: Matches and Mismatches Between Technology and Organisation¹

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ABSTRACT

The Italian judiciary is characterised by a weak system of governance, consequence of institutional and cultural factors. In this framework, the deployment of ICT policies has been mainly conceived as tools to improve the management, the operational efficiency, and the consistent application of rules so to strength the governance of the system. This approach to the ICT can easily be conceived as an attempt that aims to tightly couple the elements of a system that is by nature (constitutionally defined) loose coupled. In this framework, technology has been considered as, if not the instrument to govern, strengthening the liaisons in the organisation, judicial offices, where other “traditional” tools have failed due to institutional and constitutional constraints. Matching and mismatching between institutional and technological constraints are analysed, providing a framework to discusses how these policies have been deployed and the consequence that the nature of the organisational liaisons is playing while the deployment of information systems is concerned.

INTRODUCTION

The crisis in the performances of the Italian justice system is well known to practitioners, policy makers, and scholars all over Europe. Almost every day, the news report on the effects of such a crisis on the protection of legal rights, on the

real life of citizens, and on the business activities. The annual reports of the apexes of courts and prosecutor's offices regularly announce that a new negative record has been reached in the length of civil and criminal proceedings, or in the number of criminal cases dismissed as they reached the statutory of limitations.²

In this scenario, the Italian Ministry of Justice has made growing efforts to develop and deploy information systems. ICT policies have been mainly characterised as means to improve the management, the operational efficiency, and the consistent application of procedural rules to make uniform the way in which daily activities are performed (Contini & Cordella, 2007). The main goal has been, and still is, the improvement of performances and the reduction of times of proceedings. Not less important, however, has been the attempt of using ICT to improve the standardisation of justice procedures within and across the different offices.

As many researches point out (see for example the contribution of Marco Fabri in this volume), this effort has not been very successful so far. The gap between goals and results is broad. The applications running in judicial offices are often outdated, while many complex and expensive projects are still stuck in a never ending piloting stage, revealing their substantial failure. Grounding upon this background and confronting illustrative ICT projects promoted by the Italian Ministry of Justice, this chapter illustrates how the institutional context deeply affects the deployment of ICT in the judiciary. We argue that the organisation of judicial offices, based on mix of independent actors (judges and prosecutors) and bureaucratic staffs (clerks, administrative people, etc.) creates a context with conflicting organisational dynamics, negatively affecting the innovation processes.

While judges and prosecutors act as independent and autonomous actors, the “administrative staff” operates following a typical bureaucratic schema. As a consequence, judicial offices show an intricate mix of logic of actions that makes extremely challenging the development of ICT policies. This is particularly true for systems that aim at supporting organisational activities shared by judges, prosecutors, and administrative staff such as the writing of judicial acts. The concepts of loose and tight coupled organisa-

tions, proposed by Weick (1976) will be used to understand these organisational dynamics and their effects on the innovation process. This will help to investigate the question of how to deal with the developments of ICT in courts and prosecutor’s offices, and, more in general, in organisation in which outcomes are the results of the combination of the action of administrative-bureaucratic staff and of autonomous or even quasi-anarchic actors. The chapter discusses these challenges and argues that the nature of the coupling in the organisational relations is a fundamental dimension to be considered while choosing information systems to support organisational activities.

To discuss these points, we will first introduce the concepts of tight and loose coupling (Weick, 1976) and their application in the field organisational theory. This creates the theoretical framework to analyse the organisation of courts and prosecutor’s office and isolate key variables affecting the process of innovation. The chapter will then focus on two illustrative cases of the Italian judiciary. The first one considers the deployment of a criminal case management system called ReGe adopted statewide by the administrative staff of courts and prosecutor’s offices in the 1990s. This application has been the platform for the development of a number of local bottom-up applications promoted by judges and prosecutors to support their tasks. These applications have never been supported by the Ministry who, against them, launched a number of projects that have never been successfully adopted.

The second case covers the area of civil procedures. It moves from an analyses of the failure of Polis, a standardised system to support judicial drafting developed by the Ministry of Justice, and to show how the infrastructure built for this application has been reused for creating a public access to the court’s case management system.

These cases have been selected between the plethora of applications developed by the Italian Ministry of Justice (Augusto, 2003; Carnevali & Di Cocco, 2001; Fabri, 2003) for two reasons. The cases show the interplay between technological innovations and the different organisational couplings of justice organisations cutting across and linking the activity of judges and prosecutors with those carried out by the administrative staff. In addition, these two systems are pivotal for the operation of Italian courts and prosecutors offices and have been at the centre of the research on innovation in the Italian judiciary.

TIGHT AND LOOSE COUPLINGS: FROM ORGANISATIONAL ANALYSIS TO SYSTEM DEVELOPMENT

Organisation studies have largely discussed the relationships between the nature of organisation structures, interdependences, and flexibility and the environment the organisation is dealing with (Emery & Trist, 1965; Galbraith, 1977; Thompson, 1967; Woodward, 1965). Weick (1976) proposes to study the nature of the coupling of organisation functions and actions to better understand how organisation can successfully deal with the surrounding environment. Accordingly, organisations can be described as loose or tight coupled in their action and functional interdependences. While the prevailing representation of formal organizations point out the tight, clear, and pre-established relations between units, tasks, actions, and so forth, the concept of loosely coupled offers a different perspective. Loose coupling is an organisational arrangement that enables the flexibility requisite for decisions to be made in high uncertainty situations. Loose coupling is defined as a state where the organisation is able to deal with variegated, nonhomogeneous responses providing

ad hoc answers independently forged by the different actors, departments, and functions involved in the processes. The organisation's response is thus unstructured, reflecting the different interests, rationalities, and goals driving the action of the different actors involved. In this case, the organisation is able to produce responses that, even if they all come from the same organisation, also preserve evidence of their own separateness (Weick, 1976). Tight coupled organisations are instead formalising and homogenising the responses the different actors, departments, and functions can give to the environment. Typical is the case of bureaucracies. Here it is very difficult for actors, departments, and functions to provide ad hoc answers to the environment. These organisations are designed and programmed to provide stable, routine based answers to problems. Everyone knows what the response will be, facilitating the coordination of common programs of action that will result in coherent, homogeneous set of responses given by the organisation. In this case, it is not possible to depict separateness in the organisation and in the action of the single actor, department, or function.

Given the structure of the tasks and the environment the Italian judiciary is dealing with, the notions of loose and tight coupled organisation actions seem to be very useful to study the way in which the judicial and the related administrative actions are undertaken. Judicial offices are hyper-regulated organisations, where every single procedure has to be pre-established by laws or regulations. In effect, looking at the administrative staff of courts and prosecutors office, this representation is correct. The organisational setting is hierarchical, and each unit tends to perform homogeneous functions in a standardised way. In this case, it is relatively clear how things have to be handled and what kind of organisational responses are needed when specific circumstances occur. In this case, we can refer to a classical bureaucratic

organisation that prescribes and homogenises the organisation's conduct. We are hence in front of a tight couple organisation that attempt to act in a consistent way. This picture changes if we look at the actions of judges and prosecutors. Also investigations and judgements are normatively regulated by codes and procedural norms. However, given the nature of the function and the constitutional norms that state judges (and prosecutors) are independent in their function, they have a great level of freedom in the administration of their function. So, every judge does what he or she think is better and more suitable to handle the case they are dealing with. This means that there is not a homogenised approach to the organisation of their work. They are hence, by nature, constituting a loosed couple organisational network. Their actions are independently coordinated, producing a set of organisational responses that, even if they all come from the same organisation, also preserve evidence of their own separateness. So, judges and prosecutors are loosely coupled linked to the other actors of the judiciary. The judiciary can therefore be represented as a conglomeration of activities, structured around specific organisational units. The outcome of this conglomeration is a set of documents and actions that are not completely integrated. These documents, events, and actions still preserve the identity and traces of the physical or logical separateness of the individual organisational units that produced them. Cooperation among the different offices and functions of the judiciary to produce homogeneous outcomes is very rare. While judges and prosecutors seem to accept if not to foster this status, the administrative staff struggle to survive in this environment. They work following a more rigid and bureaucratic organisational logic. They operate according to specific formal rules, transformed in stable work practices so that they cannot really adapt, anticipate, and respond to a dynamic environment. This mix of discretionary action and rule

based routines challenges the everyday operations of the Italian judiciary.

TIGHT AND LOOSE COUPLING IN ITALIAN COURTS AND PROSECUTORS' OFFICES

The governance of the Italian justice system is highly centralised and, at the same time, very weak. The Ministry of Justice and the Judicial Council have overall responsibility for the organisation and the functioning of courts and prosecutor's offices. The main functions of the Ministry of Justice concern the areas of management and provision of services, in particular the recruitment and management of administrative and technical personnel, as well as the provision of buildings and organisational tools, including the development and the deployment of ICT, and the allocation of the budget for each judicial office. Recruitment, assignment, transfer, career advancement, and disciplinary measures affecting judges and prosecutors are managed at a central level by the Judicial Council.

A single judicial agency, such as a court or a prosecutor's office, must therefore operate within a framework that is strictly defined by the resources allocated and the policies established by these two central agencies. In practice, budget, ICT, and organisational functions are assigned by the Ministry to each office, while judges and prosecutors, along with the policies for case assignment, are under the control and supervision of the Judicial Council. From this perspective, very little autonomy is left to one single judicial office.

No less crucial than resources is the role of formal regulations and statutes. In the Italian case, as stated by the Constitution, judicial authority can only be exercised in accordance with laws enacted by Parliament. This is designed to guarantee the equal treatment of the citizen before the law and to safeguard citizens

against arbitrary rulings in individual cases (art. 3 Constitution). To enforce this constitutional setting, judicial procedures are strictly defined by laws, such as the codes of procedures, and by formal rules dictated by the Ministry of Justice and by the Judicial Council. The aim of these codes is to regulate, up to a very high level of detail, the structure and the functioning of both courts and prosecutors' offices. Despite this well defined set of rules and regulations, the internal organisation of courts and prosecutor's office share many of the features of loosely coupled organisations. The different organisational rationalities of judicial offices, and the resulting internal fragmentation, are the main factors that define this status.

The organisation of courts is in fact based on the coexistence of the two main functions undertaken by judges and the administrative staff. While judges instruct and decide on cases and draft the legal reasoning to support their decisions, the administrative staff performs a large number of activities which serve to support, record, and certify the judicial procedures. A very similar division of labour, and the courts dynamics described below, also apply to Italian prosecutors' offices (Carnevali, Contini, & Fabri, 1994). So, if judicial decisions are taken by professionals operating within a strictly defined procedural framework, this does not prevent a very high level of independence and autonomy in the action of judges.

From an organisational perspective, the work of an individual judge does not need to be closely coordinated with that of colleagues. Once a case has been assigned to a judge on the basis of an automatic criteria (Contini, Fabri, & Sigismondi, 2004), judges work in a context of pooled interdependence with their colleagues (Thompson, 1967). While handling individual cases, the judge works and decides alone, using the knowledge that has been acquired during the period of legal training and internship. Therefore, the level of interdependence and the

requirements for coordination among judges are low, and each judge can act independently. For several reasons that cannot be discussed in this chapter, the judicial hierarchy within the courts has been progressively dismantled (Di Federico, 2005) and, at the time of writing, is extremely weak (if non-existent). The independence of each judge is further enforced by the constitutional principle of the independence of the judiciary. Introduced to protect judge and prosecutor decision making from external pressures, the everyday consequences of this principle extend far beyond its primary purpose. In practice, this principle does not just affect the judges' decisional sphere but extends its influence to the everyday working practices of judges and prosecutors. We refer to the so called "*autonomia funzionale*" (functional autonomy), a rule that provides each judge with a great deal of autonomy in establishing the basic organisational tools such as detailed procedures, working tools (electronic or paper forms, software applications), as well as the office hours he or she wants to use. This freedom allows each judge (or prosecutor) to define his/her personal code of working practices. As a consequence, each judge is likely to develop idiosyncratic routines, often ignoring the need for coordination and hence compatibility with action and routines of colleagues who are, in turn, acting autonomously. Functional autonomy may also result in working practices which ignore the demands imposed by administrative procedures alone, as when a judge fixes a hearing date inconsistent with the procedural times required by the administrative staff for the notification. In this, as in many other cases, the sequential interdependence between judges and staff is challenged by these practices developed on the ground of the functional autonomy. As a consequence, interdependence becomes higher (e.g., reciprocal) with an increase of coordination costs.

Therefore, despite the rigid framework established by the centralized regulations, judges operate within a network of loosely coupled relations. This loosely coupled system concerns the relations existing among judges, the coordination of the duties performed, the way these duties are carried out, and relations with the functional hierarchy of the court (Orton & Weick, 1990). This is the consequence of the high level of discretionality that is guaranteed to judges by the principle of functional autonomy. This organisational setting is a perfect ground for the emergence of idiosyncratic (judge based) routines and working methods. As will be investigated below, it deeply influences the way in which ICT is used in the Italian judiciary, and the consequent dynamics of organisational change.

The institutional and organisational setting in which the administrative staff works is quite different. Administrative units are engaged in typical bureaucratic tasks such as handling courts dockets, writing certificates testifying the state of proceedings, certifying or drafting court records, and, more generally, supporting judges and prosecutors in their work. This set of activities is repetitive, highly formalised, standardised, and performed by a number of organisational units which are highly interdependent and organised as a classical rigid and tightly coupled public bureaucracy. Hierarchy still works as coordinating mechanism to resolve organisational or procedural exceptions not covered by the standard procedures.

The outcome of this organisation structure is that the Italian courts and prosecutor's offices represent a complex network of relationships in which both tightly coupled and loosely coupled relationships coexist. On the one hand, we have a loosely coupled system characterized by decentralised operations (each judge works alone, developing idiosyncratic methods and routines), an absence of performance standards, and flexible control mechanisms, which

is typical of the organisation of the activities and actions of judges. On the other hand, the administrative unit is a tightly coupled system, highly centralised and rigid. Subunits are interdependent, and procedural sequences must be strictly followed. As a consequence of this rigidity, the effects of changes (or mistakes) are visible throughout the various branches of the administrative system of the court (Perrow, 1984).

The conflicting organisational logics arising from the coexistence of a tightly coupled unit and a loosely coupled (and even pseudo anarchic) one is the basis of a further source of loose coupling: that associated with the relations between these two units. In a very simplified way, this causes a number of problems and costs of coordination due to the extremely large number of exceptions that regularly challenge the standard procedures, the need to create and maintain buffers, lack of resources, and organisational *relè* in order to integrate the two units and keep the system up and running. It goes without saying that operational efficiency is undermined by these circumstances.

Accordingly, the management of the judiciary is increasingly becoming the management of a loosely coupled system of interaction characterised by a large number of independent elements which hold a very specialised knowledge on their specific area of action. They know their environment, the procedures, and the responses needed to keep the system up and running. They are able to handle this complex task and the associated uncertainty better than a tightly coupled system that has a more structured approach to the organisation of work and problem solving, but a less sensitive understanding of the local environment (Weick, 1976). This is also confirmed by the more general theoretical framework provided by complex adaptive systems. These systems are characterised by a large number of active elements that in their interaction produce emergent collective prop-

erties that are not present at the level of the single elements. The collective properties are the outcome of the combined effects of their interaction. A well-studied example of such emergent collective properties is Hutchins' (1995) study of the navigation of a sailing ship. Hutchins' analysis shows that successful navigation does not require the formulation of a panoptic scenario against which the action of the crew is scheduled once and forever. Successful navigation is instead the result of adaptive action: when a member of the crew detects a failure in the organization, he/she gets support from the closest competent person. This person puts into motion corrective action, which has a consequence in the further chain of interactions. In this manner, a collective behaviour emerges through a history of local adaptations to a common environment (Hutchins, 1995). The way in which the judiciary acts is very similar to the way in which a sailing ship is sailed.

As we have seen, despite the high level of formalisation, which should lead to perfectly standardised and rigid procedures, the everyday practices of courts and prosecutor's offices are full of exceptions that must be dealt with. During hearings, it is not uncommon to hear judges, clerks, and lawyers discussing how to get hold of a copy of a document which has disappeared from the trial folder. At the court counter, lawyers (or practicing lawyers) frequently address to court staff legal advices, or other questions that should not be asked because of the limits imposed by procedural rules, or because that information has already been communicated to the parties. In many stages of civil and criminal procedures, lawyers, judges, and court staff have to fill the gap between the information that is available and information that should be available but that is not to hand due to errors, inaccuracy, or lack of care in the handling of the case or lack of procedural standardisation (Galbraith, 1977; Perrow, 1984). In many other cases, detours from prescribed procedures are

accepted in order to allow a faster processing of the case through the offices. In these cases, coordination is obtained by mutual adjustment between those involved. In this way, judicial procedures emerge in many cases as the result of local adaptation and problem solving rather than through well established standardised procedures as one might have expected, given the level of formalisation of the judiciary and the democratic principles that the institution should uphold.

Furthermore, to make the picture more complex, we have also to consider the overall structure of governance underpinning the process of reform and reorganisation of the judicial offices. If the Ministry of Justice, in charge of organisation and ICT policies, has some authority to change working procedures and technologies underpinning the work of the administrative and technical personnel (i.e., to use a new application or a different procedure), it has no power to change the way in which judges and prosecutors work. On top of this, we have to recall that judges and prosecutors do not have any incentives to accommodate the changes requested by the ministry. Judges and prosecutor careers are exclusively based on seniority and the Judicial Council in charge of evaluation and career of judges and prosecutors has never implemented a policy to push them to accommodate the innovations fostered by the Ministry. In addition, the Ministry has also little voice in the appointment and the instructing of the apexes of the judicial offices. So, also the weak judicial hierarchy or even the moral suasion that could be played by "wise apexes" plays, in practice, a very little role. Therefore, the use of ICT remains absolutely voluntary for judges and prosecutors.

The presence of loose coupling, and also of a "fabric" of loose and tight coupling, is common in professional bureaucracies, such as hospitals or consulting firms, where the outcomes are the result of a combination of

professional, technical, and administrative staffs (Lutz, 1982) or where peer groups (such as judges) have key organisational functions (Grandori, 1987). Other works have pointed out that loose couplings are typical organisational features of justice systems and agree that loose coupling is a key feature of Italian justice (Zan, 2006). What makes the Italian case peculiar is that, given the background we have outlined, the Ministry of Justice is trying to use ICT as a normative tool to solve the problems of coordination and cooperation in the judiciary. As we have outlined, the relationships between administrative units, judges, and prosecutors are a loose coupled system that cannot be tightened up by the Ministry of Justice.

MATCHES AND MISMATCHES OF ICT AND JUDICIAL ORGANISATIONS

Since the 1990s, the Italian Ministry of Justice has been working to develop ICT solutions that can help to improve the efficiency of the system and to standardise the functioning of the judiciary, so as to increase control over the processes and procedures that govern the relationships among and between the judicial offices. ICT systems are in fact an ideal control technology because they can foster standardization, streamlining and integration of business processes. However, as already discussed in assessing the role of ERP systems as an instrument of control in the private industry, this is not always true (Ciborra, 2000; Hanseth & Braa, 2000; Perrow, 1984). Implementing ICT in order to enhance control over a loosely coupled organisation may in fact deliver the opposite result, that is, lead to a reduction in control. Control will in fact increase where the ICT can automate pre-existing working methods and routines, providing better means of executing them, without requiring changes in the organisation

of working practices and routines (Contini & Cordella, 2007). But these same efforts can be jeopardised when actors with a high degree of independence are involved. Our cases clearly illustrate these points.

Bottom-up Judge's Applications Rooted in Standardised Case Management Systems

Since the end of the 1980s, the development of case tracking or case management system has been the main technological battleground of the Italian justice system (Carnevali, 2006). In criminal procedures, the case management system developed by the Ministry of Justice and currently used by the Italian Courts and Prosecutors' Offices is called ReGe. It automates tasks related to the handling of the old paper dockets and collects some key data related to criminal proceeding such as personal data, summary description of the crime, the case status, and so forth.

Despite the bureaucratic norms that regulate the work of the administrative staff that has to use the application, the lack of training and of experiences with ICT, ReGe has been successfully adopted by a growing number of courts and prosecutors offices. The analogies between the system and the old paper dockets eased the adoption. Routines and work practices were transferred from the old to the new system (Contini, 2000). Automating the administrative tasks of judicial offices, the new technology acts as an extra layer over a pre-existing, tightly coupled system, where procedures and working tools (such as paper registries) are highly standardised. Furthermore, the tension between the characteristics of the technological tools and the characteristics of the receiving context is relatively low, mainly because these systems can be and have been designed to automate the existing workflow. ReGe allows the administrative staff to keep track of the procedural workflow

using an “automated,” digital docket instead of the old paper dockets. No radical change in the procedures, routines, and workflow is required. The new system allows the same old tasks quicker and easier. For these reasons, the data and procedural standardisation imposed by the information technology is not really changing the context within which the administrative function works. ReGe fits the organisational features of the receiving context and the implementation, and use of this system has taken place without major problems (Contini & Cordella, 2007; Cordella & Simon, 2000). From this point of view ReGe can be considered an initial success by the Italian Ministry of Justice.

Things become more complex when judges and prosecutors considered the opportunity of using some of the functionalities embedded in the system, developing ad hoc systems to support their own judicial writing. These systems had been designed to upload data from ReGe to be inserted on Microsoft Word templates developed by individual judges to facilitate their paper works. These local developments, a typical bricolage, are simple and locally customised attempt to automate judges’ workflow. These solutions have been often able to speed up court operations. These initiatives took place in several offices as the result of the personal efforts of one or a few judges (or prosecutors) and with the help of ICT specialists collaborating with the courts. The aim of these bottom-up solutions was limited and local, reflecting the loose coupling nature of judges’ activities. These systems had been designed to support the needs and tasks of specific judges in a specific office.

Quickly, the success of these polygenetic initiatives became a serious challenge for the Ministry. Many courts asked the Ministry for support to implement and maintain these independently made systems. Contextually, the local bottom-up applications were challenging all the efforts of the Ministry to design a centralised top-down approach for the ICT policy. Gradu-

ally, the Ministry reduced the support granted to these local initiatives, which consequently failed and, in the meantime, launched a number of top down projects. The most important was Minerva, aimed at developing a standard application to support prosecutors and judges workflow in criminal procedures. At the time of writing, after more than 10 years of testing, the result of Minerva is not yet known, and the prototype seems still to be under a never ending testing phase.

The Public Access to CMS Rooted in the Failure of Standardised Judges’ Applications

Polis was developed at the end of the 1990s to support and automate the work undertaken by judges within civil procedures. The system supports the judges’ writing of judicial documents such as judgements, orders, and so forth. Based on the Microsoft Word interface, the application allows each judge to build her/his own forms, in an attempt to allow an adequate level of flexibility. Once the forms have been created, the system can upload automatically the data available on the court’s case management system (names of the parties, number of registries, etc.) and add the same information in the judge’s form in order to speed up the process of writing up the judgement and to reduce any potential errors during the execution of this task. On top of that, the system also supports judges’ making available to them a glossary. All the judgements written using Polis are archived in a database that is open to judges and lawyers. To reach the full usefulness, the database needs to be constantly updated so that all the judgments are available to lawyers and judges (Licciano, 2000). This means that to be fully functional, the system needs to be adopted by the vast majority of the judges of a court, a status that has never been achieved, not even in the pilot court. Despite the effort and the train-

ing sessions organised by the Ministry, a large number of judges involved in the pilot project found it difficult to adopt the working practices embedded in Polis, and the new application has been accepted as standard working tool only by few of them. Since one of the goals of Polis was the creation of an updated judgements database, the administrative staff was forced to supply the information that was not provided by judges. This means that the administrative staff had to write in the Polis-format the judgements received by judges in different formats. The Ministry has thus lead administrative staff to use the application developed for the judges in order to upload the judgements in the database (Carnevali, 2006). As we have above described, the Ministry used some power to enforce new routines to change and make mandatory the use of a specific application by the administrative staff. The Judicial Council took a different position: presented the technology as a key step for having faster and better judgements, but never promoted its use not even through moral persuasion to judges.

As was to be expected, given the loosely coupled system that characterises the working practices which were involved in the innovation process, judges rejected the technology and the standard procedures designed by the Ministry of Justice, even though, by a large extent, they were designed to be customised to judges' needs. Polis was designed to rationalise and logically reorganise the data flow and management in the work of judges. The requirement analysis mainly took into consideration the normative requirements provided by the code of procedure and the inefficiencies that occurred in the paper-based data flow in the old information management system, but did not adequately considered the nature of the loose coupling context involved in this process. The weakness of the governance structure did the rest.

Even if the system is a failure when analysed in terms of adoption rates by judges, the vast

majority did not use Polis to write and publish their decisions on the court Web site; it has instead become a successful platform to allow lawyers to get access to the data collected in the case management systems called "SICC" handled by the administrative staff. As already mentioned, the administrative staff represents the tightly coupled side of the court organisation. These organisation agents, acting as public bureaucrats, diligently update the case management systems of the courts (e.g., the databases already developed by the Ministry of Justice) collecting data that lawyers need to know in order to work on their cases. During the piloting of Polis, it became clear that the infrastructure built to allow access to the judgement database could also be used to access data stored in the case management system. Once this shift was undertaken, the project, which seemed to have reached a dead-end, found new users and became quite successful in terms of number of lawyers that use it. At the same time, Polis, as far as concerns the support of judges' tasks, has been abandoned.

CONCLUSION: ORGANISATIONAL LOOSE COUPLING AND ICT

Several lessons can be deemed from these case studies. The administrative staff that works as a tight couple systems has successfully adopted the ReGe case management systems because it supported the existing workflow along the line of the normative, standardised procedural flow that defines their daily work. Judges and prosecutors, on the contrary, have tried to developed bottom-up and "homemade" applications that support their independent work. These systems fulfil the need to support the loose couple system that tights their activities. In these two cases, the right match between the nature of the coupling in the organisation activities and procedures and the nature of the information

systems has made it possible to have an easy and smooth implementation and adoption of the systems. Different is the case that Minerva and Polis point out: judges and prosecutors tend to reject the standard applications developed by the Ministry of Justice to support their tasks. The Ministry of Justice lost in the attempt to impose a standardised system to judges and prosecutors because it tried to impose a tight information system to a loose organisation structure. Interesting is the case of drift (Ciborra, 2002) of the Polis information infrastructure that has been developed to facilitate the writing of judges summons and their collection and that as turned to be used by lawyers to access the data provided by the administrative staff more than the sentences of judges.

The approach to ICT deployment described above can be conceived as an attempt of the Ministry of Justice to tightly couple the elements of a system that is institutionally and organisationally ambivalent. The professional tasks of judges and prosecutors, enforced by the principle of judicial independence, create loose coupling, while the bureaucratic settings of the administrative staff enforce a tight coupled structure. Independent actors and units work in a setting where *procedures* are strictly regulated by codes of practice (laid down by legislation) and detailed regulations passed by

the Ministry of Justice, the Judicial Council, and other public agencies. As said, these rules describe and prescribe in detail when, what, and how a certain action has to be taken by a specific party. In this framework, the Ministry of Justice considered technology the instrument to better regulate judicial offices. ICT has been designed to enforce other “traditional” tools (mainly normative regulated procedures) that have failed as a result of institutional and constitutional constraints. ICT has been conceived as a superior means of enforcing procedural uniformity. The role of ICT has thus been conceived as a means of standardisation which is able to enforce working practices and procedures in accordance with normative requirements. As described elsewhere (Contini & Cordella, 2007), this approach has been successful only where the “*mise en place*” of technology does not necessarily require organizational change or adaptation. This explains the unproblematic adoption of CMS as ReGe by the administrative staff of courts and prosecutor’s offices. The standardisation features imposed by ReGe, such as procedural locks inscribed in the systems, contributed to homogenise and make more consistent the administrative procedures and the data management related with criminal procedures around the country. The CMS contributed to further tighten some of the couplings

Table 1. Matching and mismatching between organisation and information systems

		Information systems	
		Tight	Lose
Organisation	Tight (Administrative staff)	Case Management Systems: ReGe, SICC (Matching)	Ad hoc applications* developed locally by administrative staff (Mismatching)
	Loose (judges prosecutors)	Judges support: Polis, Minerva (Mismatching)	Ad hoc applications: Decise, ReGe Word (Matching)

* Some of these applications were in place before the deployment of ReGe. They were used for having a simple electronic registry of the names of the indicted persons. They have been abandoned with the deployment of ReGe and therefore not considered in this chapter.

of the justice system that were already tight (see Table 1).

On the other side, Polis acted on loosely coupled relations and work practices of judges that were inconsistent with the standardised procedures inscribed in the application. Its adoption requires the standardisation of individual practices of judges and therefore changes in the working practices followed by each judge. Such standardisation did not take place even in the same office in which the application was originally developed. Indeed, judges simply ignored the application, continuing to use their customised system. Therefore, Polis did not touch the plethora of different procedures (based on paper or on word processors) already in place. As admitted by the same project leader, Polis has never taken off (Liccardo, 2004).

Loosely coupled organisations in fact manage information flow at two distinct levels, the local unit and the relational level. A system that is implemented to standardise the communication flow among the different units requires that the communication flow at unit level matches the standards and requirements of the one at relational level. In this case, it is necessary that the units adapt their information flow to the one of the relational level, clearly contradicting the logic and nature of loosely coupled organisations, organisations whose sub-units have few variables in common or share weak ones. A typical characteristic of loosely coupled systems is in fact that it is hard to introduce organisational innovation. Weick (1976) warns that independent loosely coupled sub-units are highly resistant to change because the sub-units are prized, trained, and employed to be so, as is the case with the judges in the Italian judiciary. This is in fact one of the strengths of a loosely coupled system. It should come as no surprise that actively redrafting or dismantling sub-units will be difficult and will not be easily achieved. The sub-units are programmed and organised to "maintain their empires" and their indepen-

dence. What appears as resistance to change is the immediate consequence of the institutional and organisational setting of the system. Given these characteristics, it is very difficult, if not impossible, to plan the deployment of an information system which in effect dissolves the loose coupling nature of the same system.

All these arguments are consistent with the hypothesis that the rejection of Polis is the result of a mismatch between the tight coupling imposed by the systems and the loose coupling relationships of judges within the overall Italian judiciary system (see Table 1). The independence of the action of the individual judge makes it very difficult (impossible until now) to design applications or information infrastructures that standardises the action of judges. Their functional autonomy in fact prevents them from being able to adopt standardised ways of working or of organising the work. Once more, we are faced with the problem described here as the conflicting organisational logic of courts and prosecutors' offices. This conflicting logic is not only in the normative, procedural, and practical way of organising the working activities. It is also reflected in the way in which the implementation of information systems designed to support the different functions of the justice system impacts on the way different offices work and organise their work.

The logic of loose coupling explains also another finding of the research: the paradox of judges and prosecutors that, while resisting to top down innovations brought in by the Ministry of Justice, are acting as "inventors of innovations" (Kimberly, 1986). As a matter of fact, many judges and prosecutors succeeded to develop locally ad hoc plug-in to support their own personal procedures. In many cases, failures are not due to the lack of training, or the lack of ICT practice of judges and prosecutors as usually affirmed. The mismatches and the consequent failures are foremost the

consequence of conflicting logics between organisational loose coupling and ICT imposed tight coupling.

If Polis and Minerva epitomise the failure of the Ministry of Justice ICT strategy, the development of public access to the case management system of the civil procedures, organised around Polis, represent, along with the deployment of ReGe, two unexpected successful achievements. Both are the results of tight coupled information systems built to support tight coupled organisational setting of the administrative staff.

Considering the attempt of the Ministry of Justice to introduce ICT to standardise the working practices of the courts, ICT seems to have further tightened the couplings that were already tight, while its effect on the loosely coupled activity systems has been weak. On the other hand, we can observe local success when individual judges have been able to develop local applications to support their own work with an approach that is perfectly in line with the loose couplings of the system.

Local autonomy acts as a guarantee for judges (and prosecutors), and the consequent loose coupling among judges as well as with the other actors involved in judicial proceedings can dramatically increase the complexity of the organisational context. This complexity has to be taken into consideration when the design of new information systems is undertaken. These characteristics can, in particular, lead to failure or to a very slow uptake of IS projects that attempt to support the jurisdictional function (i.e., the functions performed by judges) in the organisation, while on the other hand, it is relatively easy to automate the already standardized procedures of the administrative staff. This clearly emerges in the analysis of the ICT deployment in the Italian judiciary that reflects similar situations in many other countries (Fabri & Contini, 2003). While the Ministry of

Justice has been able to deploy automated case management systems used by the administrative staff in a large number of judicial offices, the development of systems aimed at supporting the work of judges can only be described with a long list of failures (Carnevali, 2006). Reconsidered from this perspective, the strategy of the Ministry of Justice to force and standardise judges and prosecutors behaviour by ICT has been absolutely unrealistic.

Many European justice systems are now attempting to integrate existing databases, as well as exploring (and exploiting) the possible uses of ICT, to improve the exchange of information within the whole judicial sector. This requires the development of systems that cut across the borders of the individual organisation, and that link different organisations: prosecutors' offices, courts, and lawyers. This will have the effect of changing the existing information infrastructure and the nature of the *liaisons* between the different offices involved in the network of the judiciary. This goal is reached by redesigning the shared "resources" in the large and nonhomogeneous, user community of the judicial sector. The aim of these projects is to standardise the infrastructure underlying the communication exchange within judicial proceedings. This involves a radical change in a well established communication infrastructure characterised by a complex, intertwined, and interdependent set of shared functionalities which are typical characteristics of information infrastructures (Hanseth, 2003).

Also in these cases, by far more complex than those considered in this chapter, the analysis of the matching between organisational systems (tight or loose) and technological constraints (degree of task standardisation requested by the technology) can be useful to understand the possible dynamics of change. Each organisation of the system such as a court, a prosecutor's office as well as a law firm has a large sphere of organisational independence, even larger than

those of single judge or prosecutor. As many authors agree, the network of organisation representing the justice system is certainly a loosely coupled system (Hagan, Hewitt, & Alwin, 1979; Singer, 1998). Therefore, we expect the development of systems imposing highly standardised tasks and procedure should face additional problems in respect to those already discussed for Polis or Minerva.

The project of the Italian Ministry of Justice to establish the full “civil trial online” requires to judges and lawyers the adoption of new, more complex, and highly standardised and regulated procedures (see Fabri and Villecco in this book). Following our analysis this project appears as a new and more expensive attempt to follow the same old strategy: impose a tight ICT system over a loose coupled organisational network. Our expectation is that when it will be in place, it will clash with the organisational and institutional logics embedded into the loosely coupled inter-organisational network that is supposed to adopt the new infrastructure. The analysis of this project will represent a new empirical test of our argument.

FUTURE RESEARCH DIRECTIONS

The cases discussed in this chapter present a proper ground to further discuss the dynamics that take place while implementing information systems in organisations and hence increase our knowledge on how to deal with the challenging emerging out of these dynamics. What discussed so far seems to support the argument that once introduced in the organisation, ICTs are not simply part of a straightforward process that enhances predefined ways of working. ICTs are in fact involved in the continuous interplay between human beings, formal rules, and technologies. ICTs are not stable tools which automate and enforce the predictability of procedural law, but interact in, by and throughout these rela-

tions (Cordella, 2004). Therefore, their effects do not define the way in which organisational procedures are performed but rather emerge as a result of their interplay with organisational elements. They bring forth agency and hence directly participate in the construction of a new frame of action and of the context within which this action takes place.

As a consequence, ICT can increase the complexity and the unpredictability of judicial activities, organisation, and regulation, instead of reducing it, as is often expected while investing in ICT solutions. The consequences of these implementations can be unpredictable, so it is self-defeating to consider technology as an instrument which will tighten up loosely coupled organisations. The effects of their adoption and use can in fact make the regulation of organisational activities more difficult (Ciborra, 2000) and hence increase the looseness of organisational relations. While the implementation of information systems, whose aim is to automate existing procedures, seems to have positive effects on the management of tightly coupled systems, loosely coupled systems are better supported through the implementation of independent, ad hoc developments of IS that emerge as a result of projects starting from the bottom up. Top-down implementation and centralised regulation are only compatible with organisational structures that are tightly coupled. As clearly emerges from the cases analysed here, the attempt to regulate from the centre, and hence to couple loosely coupled organisations through the introduction of centralised information systems often leads to failure and to an increased level of complexity of the overall organisational settings. While the adoption of information systems that support the automation of existing rules and routines that provide the *liaisons* in tightly coupled systems produce positive effects in terms of organisational regulation and efficiency, as in the case of ReGe, the introduction of the same

systems to support and reduce the looseness of the structures in loosely coupled organisations can have outcomes which are opposite to those that were expected, as is the case with Polis. If the analysis of projects like the Italian civil trial online can represent a new empirical test of our arguments, it is also critical to face the problem of ICT development for loosely coupled organisations. Here, more applied research should be carried out in the future, to understand how to integrate the loose coupling of judges and prosecutors with the tight coupling of the administrative staff.

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ENDNOTES

¹ The work presented in this chapter is the outcome of a joint effort of the two authors. Even so, Francesco Contini has contributed with the first, third, and fourth paragraphs, and Antonio Cordella with the remaining paragraphs.

² See the official reports on the administration of justice available at http://www.giustizia.it/uffici/inaug_ag/ag2007/relaz_index2007.htm

E-Justice: Information and Communication Technologies in the Court System

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Chapter IX

Electronic Justice in Brazil

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ABSTRACT

It has become commonplace to talk about a silent revolution in the Brazilian Judiciary for which the widespread use of ICT has been of great impact. In this chapter, we examine how ICT made its way through and is shaping the future of the Brazilian Judiciary. The first part is dedicated to a brief description of the Brazilian judicial system. The second part is divided in three different moments, always related to the use of ICT in the courts. Initially, we exam the earlier experiences, mostly related to electoral matters. Then, we investigate the debate over the national PKI system and electronic process statutes. Finally, we take a look at different ICT initiatives, focusing especially on labor courts. In the final part, we draw some conclusions, trying to sketch a future agenda of research and listing some references for those willing to go further on the matter.

INTRODUCTION

In recent years, it has become commonplace to talk about a silent revolution in the Brazilian Judiciary (Centro Justiça e Sociedade, 2006). The production of reliable statistics, the formation of its judges, and the implementation of a managerial reform, which includes a great amount of informatization, would be, among

others (Dakolias, 1996, 1999) its components. As a matter of fact, the first element alters substantially the lack of a quantitative analysis of the judicial system workload and allows the grasp of a consistent knowledge about what is really going on in the judiciary system. On the other hand, the concern with a judge's formation contributes to modify a perception that the comprehension of the law, as certified in a

system of recruitment by public exams, would be enough to be a judge. Finally, the managerial reform, which emphasizes the impact of new practices, contributes to the growth of transparency and accountability for the judicial system. This particular last component has been robustly improved by the use of information and communication technologies (ICTs). Although the importance of the first two aspects cannot be neglected, it is the third one that generates the most interesting consequences and concerns us.

The key to understand the changes in the Brazilian judicial system is the merging of new technologies with managerial arrangements consolidated with law-based standards. As a management process, they are built after a critical observance of everlasting problems, which places the Brazilian system simultaneously under a variety of complex issues. They range from political and moral issues such as accountability challenges to structural ones to support the recent demand increase. In such a scenario, ICT is perceived as a possibility that allows dealing with that large array of issues. But it cannot solve the problems just by its integration in the judicial process. It has to be rooted in the daily practices of the courts and of its users.

In this chapter, we want to discuss the impact created by the widespread use of ICT, which is actually perceived as an inexorable development for the judicial system. Nonetheless, even an “inevitable” future scenario admits free-willing choices and the elaboration of public policies. How these choices are shaping an electronic justice in Brazil is what we want here to explore in three different moments. The first part is dedicated to a brief description of the Brazilian judicial system. The second part is divided in three different moments, always related to the use of ICT in the courts. Initially, we exam the earlier experiences, mostly related to electoral matters. Then, we investigate the debate over

the national PKI system and electronic process statutes. Finally, we take a look at different ICT initiatives focusing specially on labor courts. In the third and final part, we draw some conclusions, trying to sketch a future agenda of research and listing some references for those willing to go further on the matter.

THE BRAZILIAN JUSTICE SYSTEM: A BRIEF DESCRIPTION

Brazil is a federative republic with three different levels of government: the union, the states, and the municipalities. The judicial branch, although composed of federal and states' courts, form a national system on its own. As a matter of fact, the *Supremo Tribunal Federal* (Federal Supreme Tribunal), after a few constitutional direct class actions, has consolidated its position: the autonomy of the different Brazilian courts does not eliminate their insertion in a national judicial system, which is split between a federal branch and a pulverized state system. The former is divided in five regions, each one with a federal regional tribunal (appellate courts) at its top. These tribunals are also responsible in their regions for the organization of the different federal judiciary sections, which constitute the first level of jurisdiction. There are, also, other federal structures related to labor, military and electoral courts, which are organized in a similar way to the federal regional tribunals. Nonetheless, the existence of a national appellate court to each specialized theme—the *Tribunal Superior Eleitoral* (Superior Electoral Tribunal) for electoral matters, the *Tribunal Superior do Trabalho* (Superior Labor Tribunal) for labor subjects and the *Superior Tribunal Militar* (Superior Military Tribunal) for military issues—is a peculiarity of the specialized branch of the federal judicial system.

The states' systems are organized within its borders, with an appellate court in charge of its

administration. Both the general federal system and the states' courts systems are submitted to the federal law empire granted by a possible review of the decisions by a federal established high court, named *Superior Tribunal de Justiça* (Superior Justice Tribunal). The constitutional judicial review is made in a tribunal that operates partly in the way of a constitutional court, named *Supremo Tribunal Federal* (Federal Supreme Tribunal). In its agenda, it operates also as the last review court, when any suit has a constitutional consequence. Unfortunately, as it cannot choose the lawsuits or claims that are eligible to its appreciation, it is overwhelmed by an enormous workload.

It is very important to mention that the judicial branch is nowadays under guidance and control by the recently created *Conselho Nacional de Justiça* (Justice National Council), which has the competence to establish a resources and management planning and is also responsible for the administrative prosecution of the Brazilian judges, state and federal alike. In its first two years of existence, the Council has been dragged into different controversies such as the legality of relatives' appointments as officials of the courts and the limitations imposed on judges' salaries at the expense of a more focused discussion on the reforms that the Brazilian Judiciary is currently undergoing.

Certainty and predictability have been presented as major reasons for undergoing reforms (Fachada, Figueiredo & Lundberg, 2003; Faria, 2004; Ministério da Justiça, n.d.). They are hardly obtained in a system that deals annually with millions of lawsuits. If one takes the *Supremo Tribunal Federal* eleven judges as a reference, one will necessarily be astonished by their workload. In fact, as the tribunal has been averaging, in the last seven years, a workload of more than 110,000 new cases every year, each one of its members has to decide every year more than 10,000 lawsuits. In 2006, the *Superior Tribunal de Justiça* received a little

bit more of 250,000 new cases, which averages almost 7,600 new cases for each one of its 33 members. A little bit lower is the average of new cases received by each member of the *Tribunal Superior do Trabalho*: circa 5.700. The data are available at the various tribunals' Web sites, which can be accessed from the superior courts' sites (<http://www.stf.gov.br>, <http://www.stj.gov.br>, and <http://www.tst.gov.br>).

In fact, the Brazilian Judiciary's idiosyncrasy is that as one moves up on the jurisdiction level, the workload seems to continuously increase. However, that does not mean that Brazilian judges on lower levels do not work. On the contrary, as they average more than 2,000 new cases every year. Examining these numbers, it becomes clear that certainty and predictability are also related to the development of a judicial system that is less porous from the bottom to the top. In order to reduce such porosity, the reforms legally constrain the lower courts to strictly follow superior courts' decisions. As a consequence, a more rigid system is being put into place where dissent is more unlikely to be produced.

Furthermore, the reforms indicate that is not just a matter of certainty and predictability but it is also an issue of time, that is, providing judicial answers in a reasonable time delay and, from that point of view, ICT is extremely important as it can make possible a faster sentencing and a more effective jurisdiction. How is that so? How has ICT made its way through the judicial system? How has it become so associated with the judicial reforms? And what is the agenda that its use draws for the future? These are some of the questions that we intend to explore in the following section of this chapter.

ICT AND THE COURTS

ICT has definitely made its way through the courts, not just in Brazil but also throughout

the world (Fabri & Contini, 2001; Oskamp, Lodder, & Apistola, 2004). As it proposes new solutions to old problems, it also raises new and different ones. Hesitation, disbelief, and dismay are some of the various reactions offered by its traditional users. In this part of the chapter, we would like to explore the courts' use of ICT. We intend to do so in three different moments. Initially, we will look at the Brazilian Courts' efforts to integrate ICT on its daily routines. It is already a decade long process, whose initial efforts focused on electoral matters. Henceforth, many efforts have been made in order to offer a whole set of different services related to the use of ICT. That is exactly what we explore in the first section. The following section is dedicated to the development of a public key infrastructure (PKI) for the judicial branch and the problems which have arisen. The Bar Association vigorously offered strong criticism, which we will try to describe and explain in the corresponding section. Finally, we will explore some ICT initiatives focusing on the labor courts. Such choice can be explained by the impossibility of a thorough description and analysis of all courts' projects. Also, it is justified by a peculiar administrative characteristic that distinguishes the labor system from the other ones. In fact, its administrative origins have shaped a complete judicial system, from the bottom to the top, which does not mix state and federal jurisdictions. Such unity is probably the reason that has made possible its recent leading edge on the matter and what makes it more interesting to take a close look at its initiatives.

TECHNOLOGY MAKES ITS WAY: THE EFFORTS OF THE COURTS

Rewriting of the past allows very arbitrary choices and, in such a perspective, if one wants

to do so, one can retrace the use of ICT back to the typewriter. The reader may be reassured: we do not want to do so. Actually, we want to sum up the different efforts made by Brazilian Courts over the last decade from the initial steps made on electoral matters to the different web services that are actually offered by them. Both aspects are here explored as the subtopics of this item.

The Early Efforts: The “Electronic Ballot Box”

The first successful widespread information system used by the courts was the “electronic ballot box,” which was for the first time implemented in the commune with more than 200,000 voters in the 1996 communal elections. Two years later, it was used in every commune with more than 40,500 voters. Finally, as Table 1 indicates, only four years after its debut, the “electronic ballot box” had become a reality for the whole Brazilian electorate. Nonetheless, it was put into service, though not without strong criticism, mainly from politicians. In fact, the reliability of the system was questioned from the beginning, and in response to it, the *Tribunal Superior Eleitoral* (Electoral Superior Court) has financed a research project (Unicamp, 2002) carried on by the State University of Campinas (São Paulo), which certified the system's security and reliability and made several recommendations in order to improve the respect to the vote's secrecy and the respect of the electorate desires. Actually, it goes without saying that these are actually major concerns related to the electronic vote *tout court* (Andrade, 2005).

As the electronic system becomes more common and used by more of the 126 million voters, the criticism over its use has greatly weakened, almost disappeared. Actually, the electoral courts are pushing further its efforts

Table 1.

Electronic ballot evolution

Elections	1996	1998	2000
Communes	5,507	5,513	5,559
Communes with electronic ballots	57	537	5,559
Electorate	32,478,153	61,111,922	109,780,071
Electorate percentage in electronic ballot	32.07%	57.62%	100%
Electronic ballot box used	77,469	152,370	353,780

Source: <http://www.tre-sp.gov.br/urna/historico.htm>. Retrieved June 10, 2007

on the use of technology and, by the 2008 elections, they will be testing “electronic ballots box” with digital fingertips readers. It is still very experimental and depends on legislative authorization, but it clearly indicates what the future of elections can be in Brazil. Besides trustworthiness, the informational system is pushing further to assure certainty as to the identity of the voter and the speed in disclosing the electoral results. As a matter of fact, in the last presidential election, in October 2006, by midnight on Election Day, 95% of the polls had been counted. In contrast, back in 1989, it took 45 days to confirm the election of President Collor de Mello.

The successful electoral experience has contaminated different courts, which have invested up to almost 5.5% of their annual budget on different moments. That is the case, for instance in 2003, when the State Tribunals of Bahia, Ceará, Santa Catarina, Amapá, and Rio Grande do Sul spent between 4.3% and 5.5% of their annual budget in informational technology. Two years later, the State Tribunals of São Paulo and Paraíba spent around 4.7% on the same grounds. Due to such efforts, the users’ ratio by workstations has increased in state courts from 0.6 to 0.72 (as shown in Table 6). In labor courts in 2004, the ratio was one workstation *per user*. And in federal courts in 2005, the ratio was at 0.97. As these figures indicate, a great

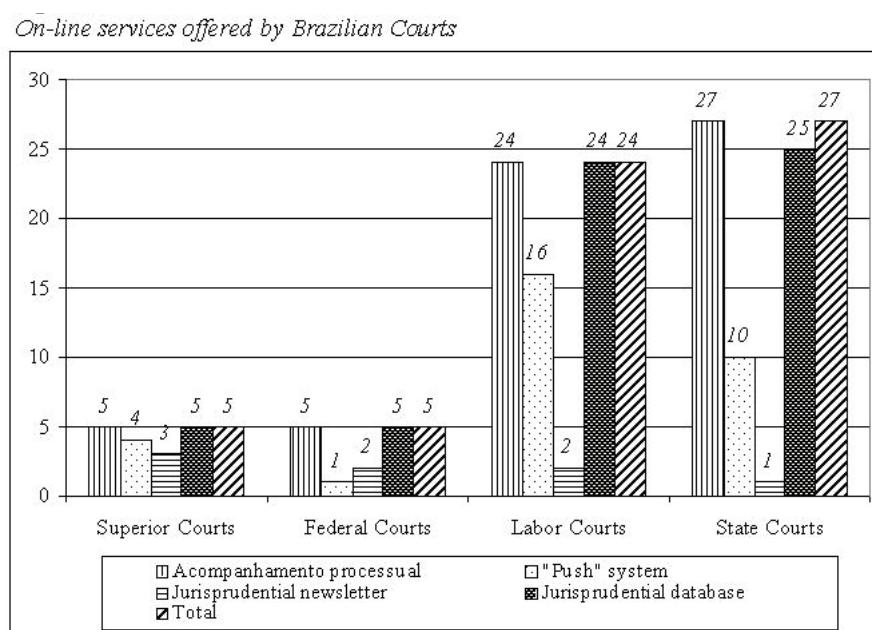
effort has been put on Brazilian courts to keep up with the latest technology.

Such efforts have raised two important issues: (a) accessibility to the external users, mostly lawyers and parties, and (b) data communicability among the different courts in the country. The latter has been confronted by two different although related actions: (a) the establishment of a compulsory and centralized planning by the *Conselho Nacional de Justiça* and (b) the adoption of the standards defined by the electronic patterns of governmental interoperability (e-ping). Even though there is, of course, some resistance by the courts as they see it as a break of their autonomy, most of them have already joined the collective effort to have a more homogeneous ICT policy.

The Growing Efforts: Bringing New Technologies to the Courts

From the “electoral ballot box” to judicial daily routines, ICT has spread out and has “invaded” Brazilian courts. Actually, most courts have developed a great deal of Web services for public use (Veronese, Fontainha, & Fragale Filho, 2006). The basic service is the so-called *acompanhamento processual*, which corresponds to an online lawsuit follow-up. It allows any user to obtain the latest information on any judicial case, requiring for such the use of any one of

Figure 1.



Source: Brazilian Courts web sites. Retrieved March 25, 2004

three different data: the bar registration number from the lawyers involved, the name of either one of the litigants, or the number of the law suit itself. Another basic service is the solved cases database. These data are indexed from a thesaurus and can be accessed from simple and more refined queries. One interesting database is provided by the *Conselho de Justiça Federal* (Federal Justice Council: <http://www.cjf.gov.br>), which operates in the *Superior Tribunal de Justiça*, at Brasília. Its database can be reached through its Web site, and it offers a great deal of data on finished judicial cases from the five federal appellate courts (*Tribunais Regionais Federais*) and of the Supreme Court and the Superior Courts as well. Although the *acompanhamento processual* service is available in almost every court, other services such as the

“push system” and jurisprudential newsletters, that is, the e-mail sending of information related respectively to a single and specific law suit and to the release of the courts various opinions on different legal matters, are still rare.

The most needed system in the Brazilian Judiciary is an electronic petition. The facsimile plea, which is authorized by the federal law can be perceived as a historical base to this kind of system. It consists of the opportunity of doing a procedural act in a lawsuit by sending it to a specified facsimile in the court. Its major problem was the need to replace the facsimiled text in five days. In other words, the system was conceived as a way to help lawyers to not miss their deadlines. It was not built up to be the base of an electronic system. Later on, the federal courts sustained that the eventual use of e-mail to send a petition was

just a technological update of the facsimile legal authorization. The analogy was clear, and the five days delay for the replacement for the “original” copy was maintained. To overcome such scenario, in which e-petition does not represent the forgery of a new paradigm but the upgrade of old procedures related to litigation, the Brazilian Judiciary needs to finally complete the building of a PKI. Such a task has raised more problems as the lawyer’s corporation has put a strong opposition to the courts’ projects, and even further, it has challenged legislative initiatives. The recent efforts in such directions as well as the opposition they have raised will be explored in the next topic.

SUPPLYING THE LACK OF A LAW-BASED STANDARD: NATIONAL PKI SYSTEM AND ELECTRONIC PROCESS STATUTES

Back in 2001, the Brazilian government built a federal policy to establish a national digital certification system. Originally, it was rooted in an academic product, which was transformed by the Republic’s Presidency into the *Instituto Nacional de Tecnologia da Informação* (National Institute of Information Technology). Along with that institute, the Brazilian government made efforts to approve laws to guarantee Internet commerce and e-government initiatives in the way of the UNCITRAL model laws to e-commerce and PKIs.

After a while, the Brazilian executive branch approved a decree that formally established the institute and all the technical requirements for its daily operation. The decree gave a lot of legal competences to the new institution along with the resources to promote them. A PKI system is used to both encrypt and digitally sign electronic documents. It is a complex system, which requires a lot of investment to build it up and maintain. It grants the emission of audited digital

certificates that can answer the need of reliable digital identification standards to electronic and administrative e-process. Nowadays, the National PKI system is largely used by some federal government agencies, such as the *Receita Federal* (Brazilian Federal Revenue Agency). Actually, the majority of the federal tax revenue declarations from citizens and companies are now made through the Internet. The use of digital certificates for fiscal matters is today mandatory for all enterprises and optional only for citizens. But, the plan is to make it compulsory for all users in the next years. Also, the Brazilian banking system uses the national PKI system in its daily operations.

There were, nonetheless, a lot of reactions against the new governmental PKI and the idea of spreading it to e-justice activities. The hardest one was made by the *Ordem dos Advogados do Brasil*, that is, the Brazilian Bar Association. In the name of lawyers, it has produced a large opposition against the system, basing some of its attacks in technical opinions. But, the harsh ones were political and directly intended to avoid the Brazilian Judiciary from being technically subordinated to a system based on an executive initiative. Also, the bar had been working on its own PKI for judicial use in a few years. Due to the executive’s action, those investments were on the verge of become lost resources. But the real problem was that the Judiciary was not so concerned with those critics and joined the national PKI system in 2004. The bar continued with its opposition and still refuses to share data of the lawyers’ national registers. This type of database is necessary to the courts to guarantee a 100% net-based e-petition process. Of course, the courts can manage the problem of establishing its own databank. But, it will impose additional costs, and it will be compelled to rely on users, as it cannot use the databank from the bar, which is by law charged with such a duty.

The Federal Legal Procedures Infomatization Act (number 11,419, December 20, 2006) was recently approved in the National Congress. It modifies a few legal dispositions in the Civil Procedure Code. The most important alteration was the recognition of the National PKI, under technical direction of the *Instituto Nacional de Tecnologia da Informação*, as the only system accepted in the whole judicial system, state, and federal courts included. The bar made a cautious move to accept the result. Apparently, the bar decided to give up on the controversy and seemed to desire the establishment of new cooperative environment. But, as a few members of the bar remain convinced of its impugnation, the corporation decided to put up a fight against the law itself. Due to that opinion, a lawsuit arguing the unconstitutionality of the Federal Legal Procedures Infomatization Act and the reform it implemented on the Civil Procedure Code was filed in the *Supremo Tribunal Federal*. Although the result is still pending, the technological demand continues its growing pace. Various courts are already moving to implement their e-petition systems with their own user's database. Thus, due to the bar's political position, dialogue has been aborted, but it has not been able to stop the growing use of ICT on Brazilian courts.

VARIOUS PROJECTS USED BY THE COURTS: THE MOST RECENT PRACTICES

Over the last 10 years, courts have been extremely imaginative in enhancing the use of technology in their daily work. In fact, it would be impossible to sum up all their practices in the scope of this chapter. As a consequence, we have limited the range of our analysis to the labor courts, which have the leading edge on the matter. Probably due to their unity as a judicial structure, labor courts have been able

to push forward the daily use of ICT more than any other Brazilian courts. Actually, ICT is perceived by the labor courts as a powerful tool to face their biggest problem: an extremely heavy workload.

In fact, since 1994, labor courts have received over 2,000,000 cases every year. Since 2000, when statistics efforts made possible to account for what was left unresolved for the following year, the workload residue has been growing steadily. Between 2000 and 2006, it increased from 1,131,046 to 1,391,769 cases unsolved. As so, the general widespread perception is that judicial procedures are extremely long. The reach of a judicial decision in a social and economical time is a goal that has become, due to the overflow of the Brazilian labor courts, extremely difficult to achieve. Due to all the expectations involved, how to establish what should be a reasonable delay for a judicial procedure is nowadays a key issue for the judicial branch. Because a precise time delay cannot be fixed, the focus of the debate has turned to the different possibilities to shorten the duration of judicial procedures, and for that matter, the widespread use of ICT has been perceived as a good strategy to achieve such goal. In another words, ICT has been forwarded as an important strategy to reduce the system's flaws, improving the courts' effectiveness. For the purposes of this chapter, we would like to quickly explore three different measures: courtroom automation, dis-trainment online, and electronic petition.

Courtroom Automation

As an initiative from the *Tribunal Superior do Trabalho* (TST: <http://www.tst.gov.br>), all labor courtrooms should be equipped with a workstation branched with three monitors: one for the judge, another for the clerk, and a third one for the lawyers. This equipment can be used to improve the possibility of reaching conciliation between the parties. As a matter of fact,

each workstation is equipped with a version of *Cálculo Rápido Trabalhista*, software that can be downloaded from the TST Web page. Such software makes it possible, in a very simplified way, to elaborate decisions that are already given in a monetary expression, including eventual interest that has to be accounted for due to the time delay. As a consequence, the litigants do not conciliate over generic expectations, but on a very precise financial basis. As they negotiate, the software can be used to provide new calculations. If the parties reach an agreement, the software can also provide the fiscal and welfare taxes that have to be collected by everyone involved. It simplifies tremendously the liquidation procedures, saving time and energy on litigation.

Furthermore, the automation also provides a greater deal of transparency as it provides live monitoring of the judgment notes. Besides that, judges and lawyers alike monitor the transcription of testimony. Even the parties themselves can follow all the case notes as they have actually been taken. Many courts have already linked the automation system of the courtroom to their Webpage and publish in an open virtual environment an o-line copy of every major decision on the different cases tried before them. Another innovation was made possible by a partnership with the *Junta Comercial* (Business Registration Office) which allows the judge through

an online consultation to obtain all the data concerning the companies' social registers, that is, its actual social composition as well as the admittance or release of partners and the eventual changing of addresses. All these new ICT tools provide what could be called an "informed decision" (Feinblatt & Berman, 1999). No doubt, it speeds up the process and affords greater satisfaction to its users, especially as it may contribute to the reaching of a solution already in the first hearing.

Distrainment Online

As an early settlement may not be reached, the parties may continue litigation for years, leading to a court order to seize money from a bank account. Actually, Brazilian courts have been doing this for a long period of time, and they usually face two kinds of problems: the ignorance of the bank account references (does the debtor have a bank account?) and the extremely long period of time that it takes from the expedition of the order to the court's acknowledgment of its result. Besides that, growth of seizure orders dispatched on paper would render it impossible for the *Banco Central do Brasil* (Brazilian Central Bank—BCB) to deal with it. This is why a partnership was established in 2002 among the BCB, the Brazilian Superior Courts, and the different entities of the national financial

Table 2.

Seizure orders in 2006

Orders	Quantity
Total	1,515,378
Electronic	1,381,262
Paper	134,116

Source: *Banco Central do Brasil*. Retrieved June 4, 2007

Table 3.

Electronic orders in 2006

	Bacenjud 1.0	Bacenjud 2.0	Total
Total	60,973	1,320,289	1,381,262
State courts	22,623	316,791	339,414
Federal courts	2,965	29,382	32,347
Labor courts	35,362	974,115	1,009,477
Superior courts	23	1	24

Source: *Banco Central do Brasil*. Retrieved June 4, 2007

Table 4.

Electronic orders in the first trimester of 2007

	Bacenjud 1.0	Bacenjud 2.0	Total
Total	16,916	508,736	525,652
State courts	10,889	188,143	199,032
Federal courts	644	17,124	17,768
Labor courts	5,377	303,468	308,845
Superior courts	6	1	7

Source: *Banco Central do Brasil*. Retrieved June 4, 2007

system, to establish a computerized system to respond to the judicial orders of distraintment in the bank accounts and financial applications, to provide financial information and to register bankruptcy episodes. As a consequence, the software “Bacenjud 1.0” was created, and in less than a year, the computerized orders added up to more than the double of the paper ones.

In a very short period of time, the news was of the widespread use made by labor judges of such technology, which drew attention from the Congress. Although strong criticism based on an alleged breach of financial records confidentiality and on a violation of privacy was made, public debate and the extreme positive results obtained by the system made possible its transformation from a judicial partnership

to a legal disposition. As a matter of fact, after the implementation of the “Bacenjud” system, Congress approved a bill introducing a disposition on the Civil Procedure Code establishing the legality of the online seizure, which was also introduced on the National Fiscal Code.

By the end of 2005, once the debate over its legality was overcome, the BCB released a new version of the system, that is, the software “Bacenjud 2.0,” which had many new functionalities, the most important of them being the direct routing of the banks’ answers to the courts. Although “Bacenjud 2.0” is available to the entire judicial system, there are still some courts that use either “Bacenjud 1.0” or seizure orders in paper, as shown on Table 2.

Actually, Table 2 indicates that 91.15% of all orders are electronic, while 8.85% are still done on paper. A quick glance at Table 3 corroborates that, as mentioned before, labor courts are the biggest user of the system, being responsible for 73.08% of all electronic orders.

Table 3 also indicates that the migration from the first to the second version of the software was done without major problems. One year after the release of "Bacenjud 2.0," the use of the first version was very much residual and corresponded to only 4.41% of all electronic orders. It can also be seen that the labor courts were the ones which better dealt with the new version, as their use of "Bacenjud 2.0" corresponded to 73.78% of all electronic orders done by such version. Certainly, this is why the "Bacenjud" system was generally perceived as technological tool almost exclusively used by labor courts.

But the statistics available for the first trimester of 2007 indicate that such a perception can no longer be considered to be true. In fact, in a short period of time, mostly due to an increase of the participation of state courts, labor courts are no longer responsible for almost three quarters of all electronic orders. As shown in Table 4, their contribution to the "Bacenjud" system has declined to 58.75%. Another important detail is that the use of "Bacenjud 1.0" has become even more residual as it declined to 3.21% of all electronic orders.

One can then conclude that, on one hand, electronic seizure orders are becoming a general characteristic of Brazilian courts and, on the other hand, it has contributed as an extremely important tool for the judicial quickness and effectiveness.

Electronic Petition (E-Doc)

The labor courts provide another example of the advancement made on the way to an e-justice system: the electronic petition. As it became

clear that the bar would not collaborate to integrate its database with the courts, the *Tribunal Superior do Trabalho* built a system, in the range of the National PKI to provide digital certificates to lawyers. The solution has the same level of security of others audited and robust systems, like the ones provided by the *Receita Federal* (Brazilian Federal Revenue Agency). It is widely used without perceived problems and from a range of 24 it congregates 15 labor courts, whose jurisdictions cover the States of Acre, Alagoas, Bahia, Ceará, Espírito Santo, Goiás, Maranhão, Minas Gerais, Paraíba, Pernambuco, Piauí, Rio Grande do Sul, Rondônia, Sergipe, and Tocantins. The Federal District (Brasília) and the interior of the State of São Paulo are also covered.

The digital certificate used could be issued by any agency or company audited by the *Instituto Nacional de Tecnologia da Informação*. The system works accordingly to the *Medida Provisória* (a federal provisory act that has to be ratified by Congress) nº 2,200, issued on August 24th, 2001, that built the National PKI system and also according to the recent laws that regulate the electronic process. Even though the system only accepts certificates from citizens (companies are not accepted as electronic petitioners), what contradicts the trajectory observed on fiscal matters, e-petition seems to be fully integrated within the National PKI system. Some particular characteristics must be highlighted: the system does not accept petitions by e-mail, as it must be sent from the *Tribunal Superior do Trabalho* home page, and it has to be done in a portable document format. A receipt is issued to the lawyer after every successful sending and the court is always informed that a petition will be received as well as the date and time it has been transmitted.

Thus, it seems that a paper-free lawsuit is no longer inconceivable. Yet, there are many difficulties to overcome, and it will probably take a very long time before one can describe

Table 5.

<i>Expenses on informatization</i>					
Region	North and Center (1)	Southwest (Rio de Janeiro) (2)	Southwest (São Paulo) (3)	South (4)	Northwest (5)
2003					
Federal	11,160,912.00	7,474,608.00	9,866,594.00	15,171,721.00	9,694,494.00
State	81,135,187.00	35,437,236.00	2,281,058.00	51,939,242.00	26,065,270.00
Labor	9,327,709.00	10,905,474.00	5,865,587.00	8,712,349.00	6,376,182.00
2004					
Federal	11,596,899.00	7,985,590.00	23,445,410.00	17,027,149.00	5,694,458.00
State	66,988,502.00	51,018,374.00	56,632,013.00	45,118,289.00	18,875,903.00
Labor	7,052,090.00	5,997,601.00	9,297,238.00	13,286,584.00	7,456,621.00
2005					
Federal	14,263,794.00	10,468,709.00	17,663,525.00	23,823,277.00	6,647,184.00
State	85,872,241.00	42,941,191.00	162,380,143.00	37,712,381.00	29,766,914.00
Labor	18,148,182.95.00	14,414,029.92	12,685,253.89	20,167,412.76	8,548,491.51

Note: values expressed in Brazilian currency ("reais": R\$) (US\$ 1 = R\$ 1.80)

what actually a paper-free judicial process is. But, technological difficulties should not be seen as an insurmountable obstacle. Actually, the pursuit of such a goal is no longer inconceivable and relies much more on the development of a cooperative environment, such as the ones observed between labor courts and their many other partners: the *Banco Central do Brasil*, the *Instituto Nacional do Seguro Social* (Social Security National Institute), and the *Junta Comercial*. It has already been done with a very positive result as demonstrated by the distraintment online, and most certainly, it will be in the public agenda in the coming years.

TRANSFORMING RESOURCES INTO PRACTICES

If one could travel back in time just a decade, one would be surprised by the changes that have been produced in this period. In fact, the use of ICT in the legal procedures has created a major change in the way courts and tribunals

work. Electronic acts, suits, and distraintment are a reality in the Brazilian Judiciary system. The idea of a virtual procedure—justice without paper—is no longer inconceivable. Actually, if one thinks that, for instance, the annual workload in the Brazilian labor courts is over two million suits, the idea of a virtual procedure becomes a proper strategy to deal with a real case of mass litigation explosion. ICT is thus perceived as a very reasonable strategy to deal with such scenario, and the place it occupies on courts' budgets is a very important sign of it.

At the state courts system, the amount of resources expended on informatics, as shown in Table 5, is lightly increasing in the period analyzed by the *Conselho Nacional de Justiça*. It is important to notice that the states, which add up to 26 plus the nation's capital state (*Conselho Nacional de Justiça*, 2007), vary a lot in terms of the extent of their judicial systems. There are huge states like São Paulo and Minas Gerais and very small ones like Alagoas and Espírito Santo.

Table 6.

Ratio computer/user

Region	North and center (1)	Southwest (Rio de Janeiro) (2)	Southwest (São Paulo) (3)	South (4)	Northwest (5)
2003					
Federal	0.79	0.73	1.03	1.07	0.83
State	0.57	0.90	0.47	0.76	0.57
Labor	0.48	1.03	0.73	0.95	0.61
2004					
Federal	0.65	0.71	1.26	1.12	1.08
State	0.66	0.99	0.91	0.75	0.71
Labor	0.48	0.58	0.89	0.73	0.69
2005					
Federal	0.97	0.83	1.15	1.09	0.82
State	0.68	0.84	0.74	0.92	0.73
Labor	0.63	0.82	0.85	0.90	0.72

Source: Organized with data from the *Justiça em números* ("Justice in numbers") from the *Conselho Nacional de Justiça*. Retrieved April 10, 2007 from <http://www.cnj.gov.br>.

One simple way to view the expenditures is to consider the total amount *per* federal region, grouping the three major types of judicial systems (Federal, Labor, and State). For analytical purposes, we divided the country in five regions identical to the five federal circuits. The courts within these regions, which have different forms of organization, were integrated to draw numbers that can be easily viewed. At north and center region, the number (1) sums the expenditures of the state courts of Acre, Amazonas, Amapá, Bahia, Distrito Federal, Goiás, Maranhão, Mato Grosso, Minas Gerais, Pará, Piauí, and Tocantins; also, it sums up the federal labor courts: III (Minas Gerais), V (Bahia), VIII (Pará and Amapá), X (Distrito Federal and Tocatins), XI (Amazonas and Roraima), XIV (Rondônia and Acre), XVI (Maranhão), XVIII (Goiás), XXII (Piauí), and XXIII (Mato Grosso). In the same way, the number (2) sums the expenditures of the state courts of Rio de Janeiro and Espírito Santo; and also, it sums up

the federal labor courts: I (Rio de Janeiro) and XVII (Espírito Santo). The number (3) sums up the expenditures of the state courts of São Paulo and Mato Grosso do Sul; plus, it sums up the federal labor courts: II (São Paulo, capital), XV (São Paulo, countryside), and XXIV (Mato Grosso do Sul). The number (4) relates to the expenditures of state courts of Paraná, Santa Catarina, and Rio Grande do Sul; and also, sums the federal labour courts: IV (Rio Grande do Sul), XII (Santa Catarina), and IX (Paraná). Finally, the number (5) sums the expenditures of the state courts of Alagoas, Ceará, Paraíba, Pernambuco, Rio Grande do Norte, and Sergipe; and also, it sums the federal labor courts: VI (Pernambuco), VII (Ceará), XIII (Paraíba), XIX (Alagoas), XX (Sergipe), and XXI (Rio Grande do Norte).

The daily use of computers is growing intensely in the courts. As Table 6 shows, the *ratio* is nearly one workstation per user in the different courts. As one can see, technology's

availability is not so much an issue as it is the debate over how to use all of these services.

More money, computers, and technology...is it not the dream of every technological entrepreneur, no matter his age? All three of them have become available in an environment where competition is extremely strong and keeping up with the latest technology is not an easy task. New revolutionary technological tools do not last even a year as they evolve in a very competitive and highly changeable environment. Courts are still learning to deal with such a new reality, and it is not only through quantitative references that the technological impact on them can be interpreted. There are major qualitative changes that are shaping a new system of justice, which still has to link the use of ICT to a democratic improvement of the courts (Santos, 2005). Therefore, free access, speediness, and information availability become very important expressions of an agenda that still has to face a quite impressive digital divide. *Briefly*, these axes are extremely important to think of what can be (and probably will be) the Brazilian Judicial system in the future.

FUTURE RESEARCH DIRECTIONS

Social studies, normative and theoretical studies, and technology studies gather three different lines of research that can be prospected to the near future. The social and political studies will need to focus on the diffusion of ICT and its impact on political choices and trends. The spreading of informatics in the Brazilian courts is linked to the dynamics of a still recent judicial reform process. As these reforms are happening all over in Latin America, an increasing interest in comparative studies of the Latin American e-justice scene could be expected. The expansion of e-petition systems probably will show the existence of a professional digital divide between lawyers and among different Brazilian regions.

Most likely, the professional use of Internet, in the law scene, is a complex question that will require surveys and qualitative research.

The normative and theoretical studies are incipient in Brazil. They can evolve into comparative (and harmonization) studies, as well as institutional research. A lot of initiatives can be produced in the comparative diffusion of ICT in Latin America. It is important to keep in mind the need to compare them with other regions such as Europe. The legal framework will probably need improvements in the next few years. A deep study of those different national solutions can be rewarding. There are a lot of classic themes that will need further study, like access to justice and procedural justice regarding the new ICT. Also, the integration of judicial decisions day by day is forming a new kind of law source. A lot of efforts by fields like information science and communications studies will be needed to deal with those new trends.

There are also a lot of technological issues. The open source issue is clearly one of the main problems. There are also questions like the merging of technologies that might need to reframe the systems to reflect a new communications paradigm, that is, digital convergence. The Brazilian judicial system is very unequal in terms of diffusion of the ICT. There are very different databank systems operating, and it will be necessary to work on its integration. The e-ping project is being conducted by the *Instituto Nacional de Tecnologia da Informação*, and its purpose consists of establishing common patterns in the data exchange among the various governmental fields. There are efforts directed also toward the integration within the Mercosul, which unites Argentina, Brazil, Paraguay, and Uruguay. Finally, the great problem in Latin America and Brazil is the expansion of the communications infrastructure as detected by the International Telecommunications Union (ITU).

Briefly, the research agenda related to the three fields and their interface with the law debate can be summed up as follows: (a) for the social and political fields, research will mostly likely evolve around the social use of Internet and ICT in the judicial daily routines (both in surveys and in qualitative studies) and the political debates about the administrative choices between systems and models; (b) for the normative and theoretical studies, comparison, and harmonization between Brazil and the Latin American scene (and its contrast to the rest of the world) and new theoretical trends with other areas like information science and communications studies will mostly likely be major issues; and (c) for the technological area, it seems that themes such as electronic government systems (like e-ping) integration, technological convergence, infrastructure development in poor countries, and the open sources themes and its impact on software design and options will be on the research agenda.

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E-Justice: Information and Communication Technologies in the Court System

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Chapter X

Digital Government and Criminal Justice

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ABSTRACT

This chapter outlines the history of digital government in criminal justice, starting with the Johnson Administration's findings concerning automation in its report, "The Challenge of Crime in a Free Society," the development of the national criminal justice network, and the creation of SEARCH Group, a consortium of states that led the effort to create computerized criminal histories of individual offenders. A brief discussion of the issues these efforts attempted to solve will be developed. The narrative will describe how these initial activities created the basic parameters for all subsequent developments in the area of criminal justice automation. Several major problems and controversies of criminal justice automation will be described and placed in their historical context. Examples of criminal justice initiatives will be provided and their success in solving some of the problems discussed will be described. The chapter concludes that it is time to rethink the older criminal justice digital government paradigm from the 1960s and create a new model more in tune with today's developments in a highly mobile, digital and integrated society. Questions about the impact of this new model on traditional constitutional safeguards, including individual liberty and privacy will be raised.

DIGITAL GOVERNMENT AND CRIMINAL JUSTICE

Criminal justice has been one of the public sectors in the forefront of the move toward automation and digital government. By digital government, it is implied that the use of automated systems assists governmental entities

to perform their legally mandated duties and responsibilities. The current e-government focus on citizen access is a vital part, but only a part of the larger digital government story within criminal justice. The effect of computerization on American criminal justice has been profound and it has transformed the criminal justice process in many fundamental ways. The

major literature tracking this entire process is mainly found in task force reports, government publications, reports from state initiatives, and a few secondary source books mainly related to legal issues. Perhaps the best sources for information on the large-scale trends in this field are the various reports and analyses developed by SEARCH Group for the U.S. Department of Justice. A major factor in criminal justice systems since the beginning, SEARCH through its documents addresses the entire range of criminal justice systems and issues. Rereading many of these documents reminds one of the many miles we have traveled since 1967. This chapter is designed to cover those miles; to relate how criminal justice automation began, how it has evolved, its major controversies, problems, and issues, how solutions for these difficulties were devised and implemented, and what problems remain today. The chapter concludes with a brief set of suggestions for the future development of digital government in criminal justice.

To understand the current state of digital government in American criminal justice, we have to go back in time. Back beyond the Internet, local area networks, even back beyond the advent of personal computers in the 1980s. We must seek the origins of our current justice systems in a world of a few massive and costly computer systems of limited capacity with primitive networking capabilities. This world did not know of Bill Gates, Microsoft or CNN. Television, dominated by the big three networks, carried nightly vistas of death and destruction from far off Vietnam and from the streets of America's major cities. The assassination of President John Kennedy was still a recent scar, Lyndon Johnson was President and many Americans still hoped that Robert Kennedy would soon occupy the Oval Office.

Clearly, this era, known to historians as the Sixties, was one of turmoil and violence. It was also, however, an era of many sweeping reforms. The Civil Rights Movement, War on Poverty, and the Great Society shared the stage with emerging

issues of feminism and environmentalism. Many Americans still believed that large-scale governmental intervention could solve the nation's social problems. Chief among those social problems was the issue of urban violence and crime. Therefore, it was natural that the Johnson Administration turned to a national solution for what had traditionally been seen as a local problem; the prevalence of crime and violence in the American society (Dallek, 1998, pp. 405-407, 409-411).

The Johnson answer was a large government commission with numerous task forces, charged with ascertaining the causes and nature of crime, the state of the American criminal justice system, and the needed reforms, programs, and policies required to meet the threat. The commission's recommendations were contained in a lengthy series of reports listed under the long official title of *The Challenge of Crime in a Free Society: A Report by the President's Commission on Law Enforcement and the Administration of Justice*. A major component of this effort was a separate task force report focused on science and technology, specifically on the information needs of the criminal justice system and the computer systems to meet those demands. At a time when computerization was minimal throughout the criminal justice system, these task force members developed the blueprint for today's multilayered automated criminal justice environment. Remarkably, their recommendations still govern developments within criminal justice information systems today. It is, therefore, critical that we understand what they recommended and how their vision happened. For it is in large measure true that the very success of this early effort contains the germs for today's problems and difficulties in criminal justice systems (Dallek, 1998, pp. 405-407, 409-411; *Challenge of Crime in a Free Society*, 1967, pp. 268-271).

Among the major recommendations of the commission were the creation of a national directory of offenders' criminal records, what came to be known as Computerized Criminal

History (CCH) and the development of similar directories at the state level. The commission also called for the creation of national assistance programs for research and development to assist states, and Federal coordination of standards for criminal justice information and sharing. Finally, the report urged that a study of fingerprint classification techniques be undertaken with a view to automating much of the fingerprint search and identification effort and that work be intensified to create a national linkage of files on wanted persons and stolen vehicles under the name of the National Crime Information Center (NCIC) (*Challenge of Crime in a Free Society*, 1967, pp. 255, 268-271; *Task Force Report on Science and Technology*, 1967, p. 69).

Structurally, the report and the associated task force report envisioned a nationwide system organized around a state-Federal nexus. The Federal component would contain summaries of the states' detailed information on individual offenders and their criminal records. This decentralized approach took advantage of the distributed nature of criminal justice and the Federal structure of the American system of government. While the concept revealed a clear preference for some decentralization of data, it still relied heavily upon a hierarchical organization of systems wherein local jurisdictions were linked through their respective state entities to the national center. Moreover, despite the focus on state and local development, the report clearly set aside a significant command and control function for the national level (*Task Force Report*, 1967, p. 70).

Still for its day, the report was visionary. The description of an integrated justice system written in 1967 could well have been penned in 2002:

Since the administration of criminal justice is primarily a local and state function, a national criminal justice information system must be geared to their requirements. Fundamentally, the information system must be directly accessible to them and they must specify the information

they need from other jurisdictions. This leads to a concept of a hierarchy of information interchange and information files. This approach leaves with the local implementing agencies the greatest amount of design flexibility in tailoring their own system to their unique requirements. Information to be exchanged with other jurisdictions must, however, meet minimum standards of content and format. Furthermore, reporting jurisdictions must be responsible for updating their portion of a common information pool. Only that way can the files be kept current and complete and the system not saturated with useless information (*Task Force Report*, 1967, p. 70).

The authors of the report also recognized the difficulty of developing such systems from a cost standpoint. The computer industry was still in its infancy; development and support costs for systems were high. With large private sector markets coalescing, there was little incentive for computer firms to move aggressively into what was widely regarded as a fragmented and marginal public market in criminal justice. In addition, the available pool of skilled computer systems personnel was fairly small and expensive to retain; too expensive for criminal justice agencies facing significant funding constraints. Even if adequate funds had been available, the structure of public budgeting with its emphasis on yearly budgets, individual generic budgetary line items and little means of allocating monies to long term multiyear funding initiatives damped political support. The only viable solution, they concluded, was to assign to the Federal government the dominant role in funding and research efforts to assist the state and local governments with these initiatives (*Task Force Report*, 1967, p. 1; *Use and Management of Criminal History Record Information: A Comprehensive Report, 2001 Update*, 2001, p. 26).

One of the earliest responses to this report was the creation of the Law Enforcement Assis-

tance Administration (LEAA) within the United States Department of Justice (DOJ). An organization devoted to the award and administration of Federal grant monies for state and local law enforcement agencies, LEAA was the forerunner of the multi-faceted justice grant program of today's Department of Justice. In 1969, LEAA funded Project SEARCH to create a nationwide computerized criminal history system. From this initial effort, SEARCH quickly evolved into an independent consortium of states with the mission of demonstrating a computerized system for the electronic exchange of criminal history information. On the national level, the United States Attorney General assigned management responsibility for the interstate and national portion of this system to the Federal Bureau of Investigation. The states also formed the National Law Enforcement Telecommunications System (NLETS) electronically linking the states as well as the FBI and the Royal Canadian Mounted Police. In 1972, LEAA created the Comprehensive Data Systems (CDS) program to provide funds to states to develop criminal justice systems meeting state and national needs. By 1976, 26 states had used CDS funding to create state level central repositories for computerized criminal history information. With these developments, the major groups involved in automated criminal justice had emerged. DOJ grant programs were created to fund development, SEARCH was created to serve as the clearinghouse for development of model systems and policies, the FBI was the manager of the interstate component of the system, state level repositories began to support state development of criminal justice information systems, and NLETS to provide the telecommunications linkage among the states (*Use and Management of Criminal History*, 2001, p. 26).

It became apparent during the last half of the 1970s, however, that greater decentralization of the nation's criminal history systems was urgently needed. The Federal file was incomplete, missing many arrests and reports of final dispositions and

it was generally recognized that state criminal histories were more complete and accurate. Furthermore, in the post-Watergate era, there were concerns about threats to personal liberties posed by a national file of criminal histories managed by the FBI. To respond to these issues and concerns, the various states, FBI and SEARCH created the Interstate Identification Index or Triple I (III) concept in 1980 (*Use and Management of Criminal History*, 2001, pp. 26-27, 76-82, 88).

Designed to replace a centralized national criminal history file, III was an index of criminal offenders that pointed to the state or states where detailed criminal history information could be found. Offenders were listed as either single state, meaning their criminal offenses occurred in one state, or multi-state, meaning their criminal offenses occurred in multiple states. The goal was to free the FBI from maintaining detailed criminal histories on all offenders, allowing it to focus on maintaining this fingerprint based national index of offenders. There was widespread acceptance of III for criminal justice purposes. By 2001, 43 states participated. Legal restrictions and concerns, however, limited use of III for noncriminal justice use and weakened any effort to achieve a truly decentralized criminal history system. Consequently, the FBI continued to maintain criminal histories on individuals to meet interstate noncriminal justice needs (*Use and Management of Criminal History*, 2001, pp. 76-82).

Issues surrounding release of criminal history information, its security and privacy, had been entangled with the development of criminal justice information systems since the 1960s. Initially, in an atmosphere of government mistrust fueled by the Vietnam War and climaxed by the furor surrounding the Watergate scandal and its aftermath in the 1970s, the American public viewed the government as the primary threat to its liberties. To redress this fear, lawmakers placed greater restrictions on the release of an individual's criminal history information, making it difficult to obtain such information for employment, licensing and

public service purposes. In the 1980s, as memories of the 60's and 70's faded and "horror" stories about child molesters teaching children, violent criminals obtaining firearms, and drunken drivers driving school buses emerged in the media; an angry public demanded greater availability of criminal history information. As a result, noncriminal justice access to this information was broadened. Some states, such as Florida, adopted open record laws that allowed the states, upon payment of a fee, to give all criminal history information to anyone requesting it. Many states only made felony convictions available to the public and others remained very restrictive in their access policies (*Public Attitudes Toward Uses of Criminal History Information*, 2001, p. 7; *National Task Force on Privacy*, 2001, pp. 1, 53-54).

As the states liberalized their access to criminal histories, the demand among noncriminal justice users intensified. But this growth hid a major problem. Disparities among various states' laws and regulations on release of criminal histories for noncriminal justice purposes hampered the interstate sharing of this information. To rectify this gap, Federal and state representatives in the late 90's crafted an interstate compact governing noncriminal justice access to criminal history information through the FBI's III system. Signatories to the compact agreed to provide criminal history data not legally sealed by law to all authorized interstate requestors. Under the terms of the compact, the requesting state's laws and regulations on dissemination of criminal history data determined release of the information to the requestor. A council of signatories to the compact was created to oversee its terms and conditions. Many states, however, objected to release of their information being controlled by the laws of another state and refused to ratify the compact (*Use and Management of Criminal History*, 2001, p. 90; *Task Force on Privacy*, 2001, pp. 53-54).

Another factor that prevented the decentralization of criminal history information was the vast

effort required in the time-consuming fingerprint identification process. Since an individual's criminal history file was based upon identification of the individual by fingerprints, this problem had to be solved. The first initiative to address this issue, the National Fingerprint File (NFF) program of 1990, outlined a system where the first arrest fingerprint card of an individual within a state would be sent to the FBI's national fingerprint file. All subsequent arrest fingerprint cards for that individual would be retained at the state level and the state would assume the burden of providing criminal history information on the individual to any authorized requestor. Full implementation proved difficult. One of the main obstacles was the lack of automation in the fingerprint identification process (*Use and Management of Criminal History*, 2001, pp. 84-85, 88-89).

Before the late 80's, fingerprint capture, classification, and identification was a labor-intensive, time consuming, tedious, error prone, and costly process. Paper bound, it relied upon manual efforts and painstaking searching and comparing of large manual files of prints. The time involved to identify a current arrestee with a previous arrest event and confirm an identity often took weeks or even months in large state and national files. This, of course, delayed the addition of current criminal arrest information to criminal history files, reducing the completeness and accuracy of those files. Furthermore, the long time involved to identify arrestees meant that serious felons or wanted persons were often released before their identity could be determined. The situation was even worse for comparisons of fingerprints left at crime scenes; latent fingerprints to the law enforcement community. These prints, typically individual partial or smudged fingerprints, did not contain enough data to reduce the fingerprint search for any given print. Consequently, a search of prints of unknown suspects against a large, manual, fingerprint card file was virtually impossible. Only after a suspect was determined could

a true comparison of latent prints to the suspect's prints be conducted.

The problem was that the technology was not available to automate the fingerprint processing and identification effort. Without such automation, a truly decentralized fingerprint and criminal history file was unrealistic. In the original *Challenge of Crime in a Free Society*, its authors had recognized this weakness and advocated some sort of semi-automated classification and search scheme for fingerprints. The result, a new classification system called the NCIC classification, was simpler to learn and lent itself to use as a semi-automated screening device to reduce the number of prints an individual fingerprint expert had to compare. It was, however, not very selective in the number of potential match candidates it produced and it did nothing to speed up the actual identification process (*Challenge of Crime in a Free Society*, 1967, p. 255; *Task Force Report*, 1967, p. 16; Ms. Shirley Andrews, personal communication, September 9, 2002).

During the mid 1980s, new technological solutions for fingerprint processing and identification emerged on the market. These systems, called automated fingerprint identification systems (AFIS), significantly reduced the manual tasks needed to search a fingerprint and made true searching of latent crime scene fingerprints possible. By the close of the 1980s, many states and a few local agencies had purchased these systems. Most were stand-alone systems dedicated to the fingerprint input, search and presentation of potential candidates for human comparison. As such, they increased the speed of fingerprint identification but did little to reduce the overall delays in criminal history processing. A few states attempted to expand the capabilities of these systems and link them to other criminal history processes. For example, in 1989, the state of Georgia implemented an AFIS to improve statewide identification efforts. In addition to supporting the standard fingerprint and latent fingerprint searching, Georgia's system also linked the AFIS on-line

to its state criminal history system for automatic updates of the criminal history files. Results of this system were dramatic; overall, criminal history processing time was reduced from two months to eight hours. When combined with the proven effectiveness of the AFIS latent search capability, the new technology contained the potential to transform criminal justice systems (*Task Force on Privacy*, 2001, pp. 43-44; *Use and Management of Criminal History*, 2001, pp. 61-63).

Such improvements, however, were limited to the state central processing centers or repositories. Interaction with arresting agencies still relied upon use of the U.S. Mail. This, at a minimum, added three days to the initial receipt of the arrest card, one day for processing, and another three days for the return of the response to the arresting agency. In total, it took seven days from the date of arrest until the arresting agency received a response to the arrest and this was the ideal situation. If a state experienced backlogs in processing or still maintained an extensive manual criminal history file, the actual end-to-end processing time was far greater. Moreover, this did not include the additional weeks required to obtain a response from the national file at the FBI. Of course, by the time an arresting agency received a response the arrested individual had usually been released. In essence, the overall processing time was still too long to aid local jurisdictions booking offenders into jails and confronting vital decisions on bail and release (*Use and Management of Criminal History*, 2001, p. 62).

To eliminate this critical bottleneck in the development of a national criminal justice system, an electronic means of capturing and transmitting fingerprint, personal descriptor, and arrest data had to be developed. A small number of electronic fingerprint capture devices, called live scan machines, were already available. These machines, however, were primarily designed to electronically print fingerprint cards at the booking site, reducing the need for repeated ink based printing of individuals. They had no capability

for electronic transmission of fingerprint images and data over telecommunications lines. Even worse, there was no agreed upon standard for electronic transmission of fingerprint, descriptor and arrest data.

In the early 1990s, efforts were made through the National Institute of Standards and Technology (NIST) to devise such a national standard; an effort spearheaded by the FBI. Deeply involved in a massive effort to streamline its own fingerprint identification process called the Integrated Automated Fingerprint Identification project, the Bureau recognized that electronic submission of fingerprints offered the only viable solution to its problem of long processing delays. In 1993, a national standard for the electronic interchange of fingerprint information was approved by NIST that became the basis for the electronic linkage of local jurisdictions to state criminal history bureaus and the FBI. Subsequently updated in 1997 and 2000 to include standards for transmission of photographs of faces, scars, marks and tattoos, it formed the basis for the emerging national network of real-time identification and criminal history systems. By 2000, for example, Georgia received over 75 percent of its criminal fingerprint cards electronically, identified the individual, updated the individual's criminal history, electronically notified the submitting agency and transmitted the electronic fingerprint to the FBI for national searches within 30 minutes of booking of the arrestee. Further, at the national level, the FBI processed all electronic submissions and returned responses on a national fingerprint search within two hours of receipt of the record. (See *Data Format for the Interchange of Fingerprint, Facial, and SMT Information*, originally issued in 1993, amended in 1997 and further amended in 2000; *Use and Management of Criminal History*, 2001, pp. 61-63.)

In conjunction with these activities in fingerprint and criminal history automation, emphasis within state and national criminal justice circles shifted to the need to share information, what

came to be known as integrated criminal justice. Before this, funds and efforts had been diverted to creating individual criminal justice systems designed to serve specific functions. With the rare exception of efforts such as Georgia's to integrate AFIS and criminal history information, most initiatives created single function systems or "stovepipes" with little or no linkage to other systems. With the explosion of the Internet and simultaneous cost limitations on criminal justice system development, both Federal and state funding entities in the late 90's began requiring that new criminal justice system developments build in the concept of information sharing, realignment of processing functions, and greater involvement of all criminal justice parties in individual systems development. The goal of this new focus was to eliminate duplicate entry of the same information and increase the overall completeness and accuracy of criminal justice information (*Use and Management of Criminal History*, 2001, pp. 63-65; Harris, 2000, pp. 7, 14, 18-20, 41; *Task Force on Privacy*, 2001, pp. 47-48, 50; *Planning the Integration of Justice Information Systems*, 2002, pp. 2-3).

Two separate approaches to integration of criminal justice information emerged. The first, based upon merger of the various data bases into a super data base or data warehouse, required extensive rewrite of existing systems, abandonment of essential operational systems in favor of a large new super system, and raised serious concern among various agencies about the security and confidentiality of highly sensitive agency specific data. Furthermore, it became apparent that any effort to merge all kinds of data into one database posed specific technical and definitional problems because various criminal justice agencies defined specific information and relationships differently. The second approach, transmission of specified information among the various criminal justice systems at key decision points appeared to be more plausible. It had the advantage of minimizing the disruption to mission critical criminal

justice systems, eliminating concerns about confidentiality of agency-specific data and allowing separate information systems to exchange data already shared in a manual environment. At the same time, through this sharing of data, duplicate entry of information would be eliminated and the various criminal justice agencies could tie their systems into an integrated criminal justice process. With the advent of new software tools and capabilities for information sharing, the cost of linking these systems would also be reduced. As a result, this second approach quickly became the favored method for developing integrated justice applications (Harris, 2000, pp. 7-11; *Use and Management of Criminal History*, 2001, pp. 67-68; *Task Force on Privacy*, 2001, p. 49).

Yet, there were also problems with this approach. Integral to this strategy was the need to create a governance method that crossed agency and constitutional separation-of-powers boundaries. Integration of justice systems and sharing of data demanded that agencies work more closely together, sharing objectives and plans, than had been done in the past. To make this happen meant criminal justice executives had to become involved in the planning and governance of these complex integration activities. Plans for such involvement assumed that all involved agency leaders had realized that sharing of critical information was a key management responsibility. Obviously, some criminal justice executives were quicker to adopt this concept than others, a fact that hampered these initiatives. A true integrated justice governance model also required the involvement of management from various levels of government: local, state and Federal. While there were many groups with representation from these three levels of government, integration was not always their primary focus (Harris, 2000, pp. 12-13, 21-25; *Task Force on Privacy*, 2001, pp. 1, 49; *Use and Management of Criminal History*, 2001, pp. 71-72).

Integrated justice efforts also resurrected older worries about privacy of such information and merged them with new concerns about greater

linkage of criminal justice and noncriminal justice information on individuals. Questions about release of integrated information were linked to serious questions about the accuracy of the information released. These fears were intensified as private companies began to demand access to criminal history information, gathered at public expense, to market to customers for profit. In many jurisdictions, the old line between public and private responsibilities and authority began to fade as private companies assumed many of the traditional criminal justice information systems functions (*Task Force on Privacy*, 2001, pp. 2-3, 27-28, 50; *Public Attitudes Toward Uses of Criminal History*, 2001, pp. 8, 12; *Planning the Integration of Justice Information Systems*, 2002, p. 5).

Still, despite these concerns and the obvious weaknesses in criminal justice automation, the initiatives of the last 34 years have transformed the landscape of American criminal justice. Thirty-four years ago, it would have been inconceivable that offenders could be booked into local facilities and within minutes have the local agency receive notification of their identity and criminal history. The idea of wanted person, drivers license, stolen vehicle and other roadside checks has become so routine that it is impossible for today's law enforcement to remember a time without them. Even today's television crime shows routinely have their actors talk about NCIC and AFIS. Citizens of today are beginning to take for granted that people in a position of trust have been checked on a nationwide basis to ensure that they pose no threat to the community. Web pages with public access to prisoner information, sex offender status, criminal histories and other public safety and justice information are coming into existence. To gain a better understanding of how such events have happened, following are two brief case studies of specific initiatives in states that transformed the way criminal justice did business.

In 1980, the state of Georgia faced a crisis in its criminal justice information system. An earlier

string of murders of elderly women in Columbus, Georgia had left the state's Bureau of Investigation frustrated at its inability to identify fingerprints left at the crime scenes of the murders. At the same time, the failure of the state's Crime Information Center, a division of the Bureau of Investigation, to maintain a complete and accurate fingerprint and criminal history system called into question the viability of the state's efforts since 1972 to create such a system. Backlogs were in excess of four months and the accuracy levels of the old manual fingerprint identification system were unacceptable. To rectify this situation, agency leadership in 1985 embarked upon a plan to modernize and enhance the center's operations in fingerprint and criminal history processing.

By 1987, the Georgia Bureau of Investigation (GBI) issued a competitive Request for Proposal for the development and implementation of an automated fingerprint identification system (AFIS). Unlike other such procurements, GBI specified that the AFIS be integrated with the state's criminal history system and that the vast majority of the then current manual functions be automated. Also included in the requirements were a complete crime scene fingerprint search capability and a capability to search arrest and applicant fingerprints against those crime scene prints that were not matched to suspects on the original search. In 1989, this system came on-line and immediately proved its value by solving the murder of a relative of the governor of Georgia; a case with no known suspects and totally reliant upon the matching of crime scene prints against a large database of known offenders.

To achieve the system's stated goal of identifying offenders and updating the criminal history file for all submitted criminal fingerprint cards within eight hours of receipt of the card, GBI had to completely redesign its internal processes and eliminate its old manual criminal history files. This "reengineering" effort allowed it to meet its goal in 1989. As mentioned earlier, however, this decrease in internal processing time did not

provide any critical improvement in response times to local arresting agencies. In 1995, using the recently released national standard on electronic transmission of fingerprint information, the GBI initiated an upgrade project to accept electronic fingerprints for processing, return electronic responses to the arresting agency, and submit these electronic prints to the national FBI file when it became available. This capability was prototyped with an Atlanta area county sheriff's office in 1996. The benefits were immediately apparent; fingerprint cards electronically submitted were processed, identified, criminal history files updated, and responses returned to the submitting agency within two hours of the actual booking of the individual. Over the next three years, this capability was expanded to include over 50 percent of all criminal fingerprints received by the GBI and the electronic link to the FBI was implemented. Furthermore, the GBI instituted a skeleton round-the-clock operation to support this new service.

Still not satisfied with the response time or usage levels of electronic fingerprint transmission, the GBI, as part of its year 2000 upgrade efforts, further upgraded its AFIS allowing it to make basic booking identification decisions on over 80 percent of received prints without human intervention. At the same time, it expanded its support to a fully staffed around the clock operation. In 2002, the GBI received over 80 percent of its criminal fingerprint cards electronically, processed, identified, updated its criminal history files and responded to the local agency and the FBI within 15 minutes of the booking of the arrested individual. Moreover, it had developed a capability for noncriminal fingerprint checks to be done electronically within 10 minutes of transmission of the card. Utilizing a phased approach, the state of Georgia reduced its processing and response time from months with labor intensive processing and backlogs to minutes with extremely high levels of automation and no backlogs. The result was a more complete and accurate criminal history

file with much greater use by the criminal justice community and the public.

Like Georgia, Colorado faced difficulties with its criminal justice systems. Those systems contained a high level of duplicate entry of information, little standardization, heavy reliance upon paper transfers of information among agencies, no linkage of criminal incidents and offenders, and no capability to obtain information from the system without numerous separate inquiries. In May 1995, the Colorado legislature passed legislation calling for the creation of an integrated approach to the criminal justice systems of the five major components of the state's criminal justice community; Public Safety, Judiciary, District Attorneys, Corrections, and Youth Corrections. These components would share only their most serious offenses and the sharing and transfer of such information would only involve common information and crucial data required to ensure officer safety. In May of 1998, the first phase of the system involving common sharing of vital information became operational. In June 1999, the second phase using a common inquiry format began testing (*Toward Improved Criminal Justice Information Sharing*, 2000, pp. 97-98, 102, 104, 108).

The operating concept for this system relied upon sharing of critical information among agency systems without major changes to these existing systems. Similarly, the inquiry function rested upon access to the same systems. To achieve these goals, extensive redesign of business processes or reengineering was required. Manual processing tasks and paper transfers of information had to be eliminated and new automated functions created. The actual linkage and integration was accomplished through use of an index specifying which databases contained information on the requested individual as well as middleware that networked these systems together. Due to the scope of the project and potential cost impacts, access to the shared information was restricted to the five par-

ticipating components. This, of course hampered the usefulness of the integrated system (*Toward Improved Criminal Justice Information Sharing*, 2000, pp. 98, 101-102, 104-107, 109-110).

To increase the usefulness of its system and expand access to the Colorado criminal history component of the integrated system, the state launched an Internet-based service called Colorado Criminal History Internet Check on May 28, 2002. The state engaged the services of a specialized contractor to develop and manage this system. Funding for the system relied upon the e-gov financial model wherein users of the system were assessed an access fee for each criminal history check performed. These funds went to pay the cost for the contractor to maintain and operate the system. Colorado provided copies of the public portion of their database to the contractor on an event driven basis and the contractor made that portion available through a web page module. In addition to increasing public access to vital criminal history information, this approach also eliminated five positions formerly involved in the processing of public requests for this information. (See *The ICHC System: An Internet Based Criminal History Check System*, 2002.)

The successful examples from Georgia and Colorado share several common traits. These characteristics form a type of best practices guide for development of criminal justice systems and applications. First, both states clearly specified the problem, requirements and issues they sought to address. Second, both remained focused on their goals and avoided the urge to expand the project's scope well beyond what was achievable. Third, both states used a phased approach that allowed staff to implement the overall initiative in concrete clearly measurable steps with targeted funding. This approach also allowed the projects to have successful components in operation before moving to the next upgrade or enhancement. Consequently, the criminal justice community and the public saw early successes, maintaining

strong support for the overall initiatives. Finally, both states involved cross sections of the criminal justice community and used prototype testing to validate new capabilities. This ensured broad support and allowed for customer participation in the final development of the systems.

As these studies demonstrate, the American criminal justice community can take pride in its achievements in the use of computer systems to transform the way it does business. That community, however, cannot rest on its laurels. As we have seen, much remains to be done. Automation, while widespread, contains glaring gaps and lapses. Criminal history files are incomplete, missing many final dispositions of individual criminal charges. Too many active criminal histories still reside in inaccessible paper files. Missing dispositions and paper criminal records keep these systems from providing proper notification of individuals prohibited from purchasing a firearm, driving a school bus, or working in a position of high trust. These incomplete records also prevent convicted repeat offenders from receiving the proper punishment for their crimes. In addition, many localities throughout the nation still lack automated information and do not have the infrastructure to obtain access to larger automated files on a timely basis. With highly mobile criminals and the heightened awareness of terrorist activity within the nation, areas of disconnected and lightly automated criminal justice agencies present a clear public safety danger as the nation moves deeper into the new century (*Survey of State Criminal History Information Systems*, 1999, p. 2; *Use and Management of Criminal History*, 2001, p. 3).

At the same time, the overall increase in access to criminal justice information over the Internet and the expansion of its availability from non-criminal justice sectors has pushed renewed privacy concerns to the forefront. Even with the events of September 11, 2001 as a backdrop, American citizens remain worried over identity theft, availability of incorrect information about

themselves or their family members, and the potential privacy invasions inherent in growing use of newer technologies such as DNA. Numerous and conflicting state laws governing access to criminal history information have only compounded these fears. Finally, there is a mushrooming awareness of the dangers posed by sophisticated criminals and terrorists to the nation's criminal justice system infrastructure and information systems. Without adequate security of criminal justice assets and information, it is possible for these individuals to eliminate wanted persons checks, terrorist alerts, and records of felony convictions, to dispatch first responders to the wrong address or area, and to eavesdrop on security and public safety planning (*Public Attitudes Toward Uses of Criminal History*, 2001, pp. 4, 12; *Task Force on Privacy*, 2001, pp. 5-7, 45-48, 51-52).

Many of these difficulties are shared by other sectors of the digital society, but solutions to these problems are complicated for criminal justice agencies by the basic concept underlying most criminal justice systems. Specifically, nearly all of the systems and databases developed up to the present time have occurred within the original design parameters and relationship roles specified in the *Challenge of Crime in a Free Society*. Those parameters were developed in a command hierarchy set of network relationships linking local jurisdictions to state and Federal systems. Given the state of telecommunications technology at the time, such structures were essential to transmit and access information in a rapid manner. This was particularly true in the area most affected by rapid communications; wanted person and stolen vehicle checks by roadside officers. Since the explosion of the Internet and the World Wide Web in the 1990s, however, these types of separate telecommunications systems have become increasingly hard to justify in terms of cost and overall access to critical information. At the same time, the belief that separate criminal justice networks provided ample security delayed the installation of the advanced system security

measures needed in the new digital environment. Even now, as current criminal justice telecommunications structures struggle to adopt the newer security standards and Internet based capabilities, questions must be raised about the viability of maintaining costly separate telecommunications entities in an increasingly wired world.

This clamor grows even louder when the issue of data duplication and completeness is added to the agenda. Developed in an era of large expensive mainframe computers with very high storage costs and limited processing power, criminal justice systems relied upon redundant information bases at the state and national level. While many of the larger local criminal justice agencies also developed their own systems, the major focus remained on state development of large repository systems linked to the FBI and to each other through restricted criminal justice telecommunications links. This type of development presented two problems. First, some states were unable to support such systems and were forced to join regional entities such as the Western Identification Network (WIN) to gain access to sufficient computer processing power to support their information needs. Second, states were one step removed from the actual daily operations of the criminal justice system. The vast majority of the arrests, trials and disposition of cases in American criminal justice occur at the local jurisdictional level. Moreover, the first response to crime is nearly always at the local jurisdiction. All too often, local agencies are required to complete additional paperwork to submit copies of arrests and disposition of cases to state level criminal history files. The result, as noted earlier, is that many state criminal history files are incomplete and national files are even worse. Even with large-scale automation of submission, many local agencies retain paper files and processes for their daily work.

The recent initiatives to create integrated justice systems are designed to address some of these problems. Unfortunately, most of these initiatives

are state-centric while the greatest need is at the local jurisdictional level. Under the current criminal justice system environment, with its heavy emphasis on state and national large-scale systems, such focus is unavoidable. These state and national systems have provided much value to the nation's criminal justice system. Nevertheless, a large state and national superstructure is resting on a very weak foundation of local jurisdiction automation. The danger of system collapse is becoming more apparent to criminal justice professionals. Hints can be seen in newspaper accounts of court case backlogs, horror stories of individuals left in local jails and "lost" for weeks or months, accidental release of convicted offenders, and inadequate supervision of released offenders.

The answer cannot be found in further improvement based upon concepts created in the 1960s. What is urgently needed is to rethink the approach to criminal justice automation and digital government. This new vision must place local criminal justice agencies at the center of new initiatives while retaining the current state and national systems. It must move more aggressively into the Internet world of web-hosted systems with multi-level linkages to other agencies. The new era of criminal justice digital government must be multi-dimensional and information must be shared and accessed in a simple and uniform manner. New technologies must be seamlessly interwoven into the system and a completely new outreach to users of the information must be developed. As part of this outreach, new stronger national security and privacy safeguards to protect the information, its access, and use must be enacted. The current fragmented and piecemeal approach to security of and access to this vital information must be discarded.

In 1967, a national commission developed *The Challenge of Crime in a Free Society*, the road-map for today's highly automated but incomplete criminal justice system. This report has served the nation well but it is time to move beyond its confining vistas, time to recognize that dramatic

developments in computer technology and digital government demand new answers to old questions and the formulation of entirely new questions. The events of September 11, 2001 have raised anew questions about lack of information on potential threats to society and posed new questions on how we as a nation can weave together governmental and private computerized information to detect dangerous individuals intent on mass murder without compromising constitutional safeguards and individual liberties. It is time to convene a new national task force charged with the duty to assess the challenge of crime and terror in a free digital society. Only then can criminal justice automation and digital government move forward in a planned and comprehensive way.

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Chapter XI

The E-Court Roadmap: Innovation and Integration – An Australian Case Study

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ABSTRACT

This chapter tracks the response of Australian courts to rapid advances in ICT. It shows how, despite early resistance and a reactive approach to technology, Australian courts have been transformed by the challenges of implementing ICT. It illustrates with case studies the way Australian courts have drawn on each experience to improve their processes, and have come to lead the world in using practice notes and protocols as a control measure for procedural change. It reviews current experiences in Australian jurisdictions, presenting courts who now see ICT as a tool for managing workflows throughout their organisation. The authors foresee the challenge for Australian courts will be keeping this control, and contend that courts who achieve this are more likely to have ICT as the servant, not the master, of the justice process. They anticipate that Australia's success can be seen as a paradigm for other courts facing similar challenges.

INTRODUCTION AND OVERVIEW

The rapid advances in information communication technology (ICT) have fundamentally changed the way we communicate. This has placed pressure on courts to reconsider how

information is handled by judges, lawyers, and parties within the courtroom. In Australia, the introduction of technology into courts has historically been reactive, driven primarily by the immediate needs of individual cases or justice processes.

With experience, Australian courts have learnt to deal with the possibilities and drawbacks of using technology to deliver and exchange information live in the courtroom (the ‘e-court’). They are now highly effective in demonstrating how to deliver comprehensive e-court technology which is easy to use, cost-effective, and broadly adaptable. Australian courts have remained careful to ensure that e-court advances do not compromise access to the justice process. By maintaining this outlook, they have become the drivers of procedural change on an international level.

If Australia is to manage the ongoing introduction of ICT to forums of justice, the strategic planning by its courts and justice institutions must ensure that ICT continues to serve, not drive, the common needs of all parties in the courtroom. In this chapter, we look at the pressures ICT has created on traditional courtroom workflows, and how Australian courts have responded to them. We trace the historical path of ICT into Australian courtrooms, and the effect it has had. From this we analyse how much of the benefits and drawbacks of this experience can be attributed to uniquely Australian factors.

We highlight the leadership of the Supreme Court of Victoria and the Supreme Court of New South Wales through their use of practice notes and protocols as a control measure for ICT. We review the best-case Australian e-court, which delivers integrated ICT through Web-based portals. To conclude, we see what challenges are still to be met, and what the drivers for ongoing ICT innovation in Australia will be.

THE PRESSURES OF ICT

The way we socialise, how we keep in touch with people at work and across our contacts in daily life—these communications are dominated by technology. Communications in particular as

part of commerce and with government bodies have come to be dominated by technology. The fact that these communications are created and retained digitally is the reason for the influence ICT now has on society. As courts are society’s decision makers for the delivery of justice and the resolution of disputes, it is inevitable that ICT now has a real influence in these forums as well. We are now at the stage where this influence is having a direct effect on the courtroom experience itself.

ICT allows us to do many clever things, but one significant difference it makes is how it empowers us to handle massive numbers of documents efficiently, while delivering access to the data they contain in an intuitive way. This means that when faced with demands, our response times have all shortened. The increased pace in communications has affected the pace of most aspects of life. As this pace and the possibilities it realises go on around us, a tension arises: it becomes harder to pursue that fundamental human trait of bending technology to our needs.

INTRODUCING ICT TO THE COURTROOM

It should have been no surprise that this is the tension that has bound courts as they have come to deal with the introduction of technology. Advances out in wide society have now entered courtroom processes. We see litigation over commercial deals where not one piece of paper has been created. We see litigants exchange massive volumes of documents in the discovery process, entirely by electronic means. We see the court administrators looking to have courts become more accessible and efficient, having paper documents converted to electronic format, and introducing electronic filing processes so they can handle every document in a case

electronically. Ultimately, stepping into the courtroom, we see ICT everywhere we look.

This is more than just a change in pace for courts; it could be a threat to the nature of the processes themselves. Courts should reflect the society in which they operate, so it is fundamental that the usual means of communication in society be available in courts as a part of their process and as a part of the information produced to them in delivering justice. Nevertheless, they have to do so in ways that will still fulfil their imperatives:

- a. Independence of thought and of influence
- b. Impartiality: in the administration of courts as an institution; in processes so that all parties come before the courts with equity; and in reasoning
- c. Maintaining dignity and commanding respect
- d. Accessibility to everyone and in an equal manner
- e. Effectiveness: the timely delivery of justice and in the enforceability of decisions
- f. Reliability: allowing society to see the law applied and to operate in this knowledge

With such a heavy agenda, courts are attracted to ways of bending ICT to their needs by using its innovations to further justice. However, culturally lawyers, judges, and courts are conservative institutions, not moving rapidly to adapt to big innovations. The introduction of efficient ways of capturing information, near-instant turnaround to process the information, and the resultant high levels of access to, and analysis of, that information are all things that have not previously been available. In their absence, many legal and court processes have been at a more considered pace. Where higher issues of justice are concerned, time for consideration is warranted.

Will the innovations spawned by ICT still allow time for consideration and reflection? How do the courts respond to the demands of the 'e-world' while maintaining the space and time that ensures justice is served in a fair and equitable manner? The pressure from ICT is one of the most difficult courts can face, and the question is a common one: where do you strike the balance?

Dealing with the New

With so many new concepts to grasp and with such broad innovations and possibilities available, it has been hard for courts to manage effectively the introduction of ICT. Experience has now shown that the best approach is for courts to take the lead, not to be driven by other stakeholders. Where they are the first to control the introduction of processes, all stakeholders can manage the new workflows ICT creates. When courts control the pace of innovation, they retain the opportunity to adapt to it on their own terms.

The challenge is for justice still to be seen to be done. Society sees courts as antiquated, not coping with the pressures that most sectors face in keeping up with technological change. Courts must show they are indeed coming into line with the broader society. The keen pressure from the civil sphere in particular will continue. Large corporate and institutional litigants already have workflows that are highly geared with technology. They have an expectation that the arenas in which their disputes will be resolved will be operating at the same level. With courts having had meagre funding earmarked towards ICT development and training, they run the risk of this class of litigant turning away from them and towards more party-driven (and party-funded) procedures such as private arbitration. Factors like this give Australian courts a new opportunity to reinforce appropriate views

in society that the justice process is accorded dignity and respect.

The Human Element

One common complaint about the prevalence of technology in society is how it has depersonalised many human interactions. Courts are not immune. They have emphasised the importance of the human element in communication remaining part of the courtroom experience. Direct human interaction remains integral to the perception of a fair system of justice, as much as any other factor. The human element must be balanced with the various technological elements brought together to deliver the efficiency gains in the operation of the courts. In raw terms, technology must remain the servant, not the master, in the process.

Unless courts maintain conscious efforts, there are real risks of ICT winning this battle. Judges do not want to be hidden behind screens or to become so distracted by the stream of information in front of them that the people in the court become an aberration in the process. The judge's centralised or elevated position in the courtroom, seeing the demeanour of a witness, hearing the inflection in a barrister's speech, having the face to face debate on a point of law, the barrister's view of the judge's bench, the jury's perception of the dock, perceptions when communicating in person as opposed to a video link, the amount of personal space in the witness box—these are all real parts of the courtroom experience. ICT must augment them, not replace them.

Traditional courtroom layouts themselves present challenges to introducing ICT, at the basic level of installation, delivery, even the judge's sightlines of the bar table and the witness box. A different approach is required when e-courts can be built from the ground up, and the possibilities of benefits to the justice process are enlivened. With planning, the human element

can be made paramount in the physical design as much as in the ICT delivery. However, the ability of ICT to improve processes by managing large amounts of information and having them readily accessible in court is an opportunity for innovation that must be seized. Current applications of ICT present the broadest scope for innovation in case management, legal research and information collection, courtroom procedure, writing decisions, access to justice, and court administration.

Using ICT, parties can collect and assimilate large volumes of critical information and place this at the fingertips of the judge and the practitioners in the courtroom. The creation of such an information conduit in court is a significant step in efficiency. Compare this to the manual review of dozens of hard copy volumes for simple tasks such as finding the next document to be shown to a witness. The International Criminal Tribunal for the former Yugoslavia (or ICTY) recently stated that its e-court system revealed "a potential savings of 26.7 per cent in total court time" compared with its paper-based courts (2005, par. 8).

Australia's Early Experience

The first use of ICT within Australian courtrooms was in the early 1990s for use in criminal prosecutions by prosecution agencies, in particular the Commonwealth Director of Public Prosecutions (DPP) at the federal level. The ICT used was limited to database and display technologies. The driver for its introduction was the desire to undertake the prosecution of complex corporate fraud and tax cases arising out of certain business practices of the late 1980s involving multiple intercompany and cross-border financial transactions.

The need to introduce ICT was twofold. The complex business practices themselves required the analysis of unusually large amounts of information. Following on, in order for prosecu-

tors to explain the criminality of the conduct to a judge and jury, they needed flowcharts, diagrams, and presentation techniques which, although simple to look back upon, had not previously been used.

The software to support these technologies was started as readily available ‘off the shelf’ software products, and then by necessity, it was extensively modified by the DPP’s own in-house programmers. The database software was adapted into exhibit and evidence management systems. The presentation technology presented a central computer screen’s data onto a large projector screen in the court, and fed the same image to monitors for viewing by the judge and bar table. Parallel to this, new software was developed that allowed the distribution and annotation of real-time transcript in the court. Those early programmers built the systems to utilise hyperlinking technology, something quite new then, to link the exhibit references in the transcript directly to the images of the documents. This was innovation indeed—the fact that there was a reduction in paper files in court meant that the process remained dedicated to the human element. Tehcnology aside, the volume the documents occupied in hard copy would have been larger than the courtroom itself.

The ICT allowed for a timely workflow in the hearing. Documents could be located and displayed in a matter of seconds rather than minutes while physical searches were done. Concentration levels could be maintained while the complex transactions were presented. Exhibit management was improved, and timely updating made the flow of information produced in the courtroom easier to follow. Strategic advantages were also created: witnesses could be (and were) cross-examined over a whole document trail at a new pace.

What was Learned

At that stage, the courts had largely a passive role. The DPP brought its own ICT to court and took responsibility for deploying it to others within the courtrooms they used. They did remain conscious of fairness and access issues by providing the defence teams with the ICT and case material (in the form of computers and data on CD-ROMs) at no cost. Indeed, there was some pressure to do this not only as a matter of equality of access (and hence justice), but also to overcome any suggestion that the ICT might be an unfair advantage.

However, the use of ICT in this way had difficulties on many levels. The costs associated with this approach were unsustainably high. The DPP was being funded by public moneys directed at specific civil justice initiatives. The courts did not have any hope of similar funding to introduce this more broadly. Because the courts had no real input on the process, the court staff, especially the judicial staff, derived little benefit in that their exposure to the ICT was restricted to the level of observers.

One major block to development was that the database design had to be created anew for each case the DPP brought to the courts. This was mainly caused by the pace of technology. Each case took at least two years to prepare and present. By the time of the next case, many aspects of the technology had moved on: at a higher level, such as the functionality of database software, but also at a more basic level such as increases in screen resolution. This also meant that many skills developed in working on one case were not usable in subsequent cases, and fresh skills had to be gained with each new system. The same issue arose for judicial staff and the court’s support staff, who could not gain any long term skills in the use of this ICT. Similar database and presentation ICT was soon adopted by other ad-hoc judicial bodies such as Royal Commissions (government-appointed

panels of inquiry), almost on a mandatory basis due to the large amounts of information these inquiries were typically required to collect.

Case Study: The ACT Bushfires Coronial Inquests and Inquiry

The task faced by Australian commissions of inquiry can be demonstrated by some of the statistics captured by the coroner's inquest and inquiry process after the 2003 Australian Capital Territory ("ACT") bushfires. With a hearing that commenced just over 8 months after these fatal bushfires that had devastated parts of Australia's capital city in January 2003, the coroner's report (Doogan, 2006) records that the inquiry sat for 103 hearing days, examined 95 witnesses, and took 10,000 pages of transcript. In terms of records management, it processed 40,000 documents and 88,000 pages, including 20,000 audio files, 1,000 maps, plus photographs, audio transcripts, and video files. In presenting her findings, the coroner drew attention to the benefits to the inquiry of this material being processed onto an internal electronic court book and case management system, and delivered to a paperless courtroom (Chapter 3.1).

Benefits and Challenges of the Early ICT

As the ACT Bushfires case demonstrated, using ICT's capacity for dealing with high volumes, inquiries could get up to speed, even to hearing, relatively quickly. The inquiry's own legal teams had access to the systems and the capacity to cross reference documents and link documents with transcript. Through this, the investigation and hearing phases were managed by the teams in a more collaborative way.

There were still things to be learned. Many inquiries asked for documents to be submitted in hard-copy in the first instance. They

then appointed in-house teams to process the documents into electronic format. This put the cost of processing the documents on the public purse. It also meant that each party had to create electronic versions of the documents for their own use. Timelines became hard to manage by handling the documents this way. Time spent by the in-house team handling the documents could perhaps have been reduced by having all parties preparing their own sets of documents simultaneously.

Some did adopt this approach. For example, the Longford Royal Commission (Dawson & Brooks, 1999) used a standardised protocol for the electronic submission of documents. Perhaps with less foresight, it then created a hard-copy set of the submitted documents for its internal use. Longford demonstrates perhaps best that the speed of adoption of innovations by the parties was quite advanced, but for courts and inquiries it was still ad-hoc.

With in-depth involvement in these developments, Australia gained a small highly specialized group of ICT programmers and justice consultants. Many came from the legal profession itself, and brought front line experience to the task. Throughout the 1990s they developed advanced courtroom support systems featuring new forms of ICT. New transcript analysis technology allowed the distribution and mark-up of transcript in real time on the lawyer's personal computer in court. The ability to hyperlink between documents of different format was a major innovation in this period, and led to the first use of case-specific intranets. As technological innovation made crime more complicated, so the pressure rose on justice agencies to use technology to explain the cases.

Why Australia's Experience Differed

The technology being used to create the solutions was generic, readily available, and not adapted

in any unusual or technically difficult way, yet Australia was uniquely placed to lead with these innovations. As a society and a business culture, Australia was smaller. With lower caseload pressures on courts and justice institutions, funding was able to be used to greater effect. Australian culture is also by nature innovative, with a tradition of creativity in problem solving. Prosecution authorities in particular were more willing to experiment and make room for this creative thinking to occur. Linking real-time transcripts and cross-referenced document databases for legal cases were Australian innovations. Developers were gaining experience of justice processes, and lawyers were entering directly into the development process.

This breadth of experience and level of specialist skill led to the creation of an export market in court-focused ICT products and consulting services, to the USA and elsewhere. Of particular note, in 1998 the National Center of State Courts in Virginia, USA installed a number of Australian sourced technologies into its Courtroom 21 Project on the basis of this practical experience in the Australian justice market.

Around this time, Australia's top law firms independently developed their own ICT applications. The driver for development here was not litigation, but larger commercial transactions requiring legal input, particularly mergers and acquisitions, and initial public offerings (IPOs). Having developed the capacity to handle mass documents in this setting, the same ICT was then passed across to large scale commercial disputes which were also document-heavy.

In the latter part of the 1990s, these firms developed systems to produce electronic court briefs that their own lawyers took with them into court for their own use, regardless of whether the court had such facilities or not. Law firms as the developers of ICT applications were at a strategic advantage in their cases, gaining

the tools for fast retrieval of documents and feeding them into the presentation of complex commercial transactions. This was then used as a competitive advantage in their business development strategies. The development of these systems became a key part of these law firms' success in expanding their services out of Australia and across the Asia-Pacific.

Currently, the Asia-Pacific region is continuing the demand for these services. Governments in Asia have identified the implementation of high-level e-courts as a way of attracting the global business community, which requires an effective and modern justice system as part of its commercial infrastructure. Another approach has been seen by the World Bank funding the development of ICT in the Sri Lankan court system with the intention of using effective and transparent court systems as a systemic weapon against corruption (Sri Lanka improves, 2000).

These individual developments meant that by the late 1990s Australia's legal technology market was quite well established, having introduced ICT to the justice process in many innovative ways. However, some aspects of the available ICT had limited what could have been a much broader use within the Australian justice process. Most applications still had their own data formats and presentation systems, as there were no common standards as yet. This severely restricted the possibilities for communication and data exchange across different applications.

The Justice System Takes a Snapshot

In 1998 the Victorian Parliament's Law Reform Committee looked at the many examples of ICT then in use within the Victorian court system, and commented broadly at how that state's justice system could effectively use the

new technologies of the time. This included use in court processes as well and the courtroom itself, and it predicted (Parliament of Victoria, 1999, par. 10.2) that:

The future will see courtrooms completely computer-integrated with imaging software to capture paper documents and other real evidence. All parties will look at the same information, text or multimedia, at any given time on screens with all information in electronic format. Simultaneously, relevant information will be readily accessible over the Internet to anyone interested in the proceedings.

Interest in the possibilities of using ICT more effectively in courts was also developing from within law reform agencies such as the Australian Law Reform Commission (ALRC). In 1998 it stated (Australian Law, 1998, par. 2.26):

There appears to be few aspects of dispute resolution or the operation of the courts and tribunals that will not be affected by significant changes in technology. Law, in particular, can be seen as a service that can benefit greatly from new technologies because of the need in law for accurate, up to date information (and often also for 'snapshots' of the law at particular points in time) and because of law's frequent cross-referencing and reliance on precedent. It is an information-rich service.

The Commission identified six major areas where technology could have a major impact (par. 2.27):

- a. Case management
- b. Legal research and information collection
- c. The conduct of litigation
- d. Drafting of documents and providing judgments and decisions

- e. Access to the court
- f. Court and tribunal administration

It saw an immediate need to introduce technology more widely through strategic planning, stating (par. 2.50) that:

Successful and innovative technological change generally requires funding, effective planning and informed decision making. Planning for technologies requires identification of objectives and purposes, assessment of current systems and current and future demands, training and motivational needs, a structured implementation process and regular reassessment.

Importantly, it drew attention to the barrier that incompatibility of systems had created, proposing as a solution the development of a protocol and set of standard formats for use across the entire Australian legal system and calling for further debate on how such a protocol could be developed (Question 2.5).

THE COURTS TAKE BACK THE AGENDA

Meanwhile, problems of the diversity of ICT systems had come to a head in the Australian courts. Courts were often the last in line to be consulted or to access the applications. Not yet appreciating how they could regain control of process, they had been forced by the law firms and prosecution agencies appearing before them into dealing with many different technologies, formats, and systems. This was not a position they were comfortable with, nor did they ultimately wish it to continue.

The courts were tackling all of the issues identified by the ALRC, and saw an opportunity to take back control of the use of ICT in court workflows such as the exchange of discovery,

court books, and exhibit management. Their initial plan was to commission the development of a standardised protocol to govern how information would be prepared and presented to courts regardless of the technology used.

In 1999 the Supreme Court of Victoria and the Supreme Court of New South Wales developed the first practice notes for the effective use of technology in civil litigation (Supreme Court of New South Wales, 1999; Supreme Court of Victoria, 1999). These practice notes set out guidelines for parties wishing to use technology effectively in either the preparation or presentation of their cases. A standardised protocol, defining the structure and format of the electronic data required by the court, was set out. This was to be used as a starting point for discussion between the parties (and a default that could be imposed if agreement could not be reached).

Rolling Out the Protocols

Over the following years, other Australian jurisdictions soon introduced similar protocols. The courts then kept on top of their practices so they could match the pace of developments in ICT. As ICT gave the parties more capacity to handle case preparation and presentation, the courts facilitated this with updated practice notes and protocols. Milestones typical of these developments can be seen in Victoria, where the Supreme Court's practice note and protocol was updated in 2002 (Supreme Court of Victoria, 2002) and again in 2007 (Supreme Court of Victoria, 2007).

Practice notes on the effective use of technology in litigation are now also used by the Federal Court of Australia and the courts in South Australia, Queensland, the Northern Territory, and the Australian Capital Territory (which uses the Northern Territory's practice note) (details of the practice notes for each court are set out in the References and Additional Reading sec-

tions below, under 'Federal' and 'Supreme'). Similar approaches are also coming through in the USA, particularly the recent amendments to the Federal Rules of Civil Procedure introducing elements such as the requirement for parties to 'meet and confer' at an early stage of litigation to negotiate a protocol for the electronic exchange and filing of discovery (Federal Rules of Civil Procedure, 2006, Rule 26(f)).

Australia's approach of introducing structure through using guidelines and standard protocols has led the world. This approach is being considered and steadily adopted by courts and tribunals in other countries, including the United Kingdom's Royal Courts of Justice (see Civil Procedure Rules, n.d., and the draft practice direction prepared by the Litigation Support Technology Group, 2005), the Supreme Courts of the Provinces of Canada (see for example Supreme Court of British Columbia, 2006), and in international courts including the UN-founded International Criminal Tribunal for the former Yugoslavia (ICTY) and International Criminal Court (ICC) (see for example *Prosecutor v. Thomas Lubanga Dyilo*, 2006).

The Critical Importance of Protocols

The key concept of a protocol for ICT is to find the lowest common denominator in terms of systems likely to be available to the parties, and for the level at which the data within these systems will be common. This was the key to the first protocols having such an effect. It could be assumed by the late 1990s that all lawyers would use a PC level of computer with off the shelf word processing and database systems installed. Similarly, at that stage, the document formats and the standard fields for describing documents were based on the existing requirements in the court rules for these matters. ICT would just augment what lawyers were doing already.

The introduction of a protocol as a means of controlling process had some immediate benefits. By creating a consultation process to develop each protocol, it encouraged discussion on the broader issue of the effective use of technology in courts. By setting out standardised data and document formats, it gave users the possibility of having more than one ICT application without significant double handling in the initial information processing stages. This cut out an entire step for the parties, who no longer needed to go through the costly and slow transfer of information from the provider's format into the receiver's format.

With the backing of some level of enforceability (having come from the courts rather than the law firms or commercial vendors), this approach specifically avoided mandating any individual ICT application. At the same time, it gave software developers the impetus to develop competing products on the premise that information, and the related data format around it, was now to be application-neutral.

Data and document formats and ICT systems stopped being proprietary. This broke down the risk of any one ICT system or vendor becoming dominant. Vendors could no longer use an all-or-nothing approach of locking users in to their systems or losing them entirely to another system. Instead, they were under pressure to find innovations that would make the best use of these 'open source' formats.

All of these systemic changes were prompted by this straightforward approach. It allowed ICT to be implemented in a way that was achievable within the existing court infrastructure, and without putting great demands on budget and expenditure. With the Australian population (and its courts) being small but densely congregated in a few geographically distant cities, it also fed into developments in national legal practice and legislation placing the hearing of cases within the appropriate court forum.

A sense of the challenges of geographical distance can be seen in the comments in 2000 of the then-Chief Executive Officer of the Supreme Court of Victoria in his submissions to the Victorian Parliament's Review of Legal Services in Regional and Rural Victoria (Parliament of Victoria, 2000). These local factors built, in turn, a strong commercial and system design approach within the vendors. Their marketing and development now needed to compete on functionality and user acceptance rather than locking clients into proprietary data structures. The push for agreement across different court levels within Australian jurisdictions, and between different Australian jurisdictions has also paved the way to improving communication between all of these different Australian court hierarchies.

PLACING PROCESS BEFORE TECHNOLOGY

Australia has demonstrated its reputation for innovation in the variety of ways ICT has been introduced into courts. Having re-entered the picture in the late 1990s, the courts have since shown a willingness to change their procedures to allow ICT to be introduced. By leading with procedural change, they have retained control over the strategic planning for introduction and for the deployment of ICT into the courtroom with insight into its workflows. Not every innovation has been a success (Harper & Loo, n.d., provide a candid review of one of the Supreme Court of Victoria's courtroom ICT projects), but commitment has brought tangible benefits to justice.

This marks out Australia's approach from other countries. By way of contrast, court processes in the USA have given lawyers significant opportunities for introducing presentation technologies into the courtroom. A common presentation technique has the lawyer displaying

to the courtroom an image of a document where the section under examination is superimposed as a highlighted, enlarged image. Used this way, the technologies are well advanced in communicating information to witness, judge, and jury in an accessible and easily understood form.

At the same time, the partial extraction of evidence in this way leaves out the surrounding context, and is not currently able to place it back into context. This is something the courts of Commonwealth countries have historically not been prepared to accept. This use of ICT has also been used international tribunals such as the ICTY, but it has not found favour.

This model does tend to miss some of the opportunities ICT allows. It pushes the responsibility for cost, preparation, training in presentation skills, and the experience of using the technology onto the user: the lawyer (and ultimately their client). The capacity of the technology to be updated in the running of a presentation is achieved with great difficulty. Often documents that were not located in advance cannot be produced in court on demand. The presentation is also still reduced to paper for filing with the court and for future reference. The system does not handle the electronic management of exhibit material. Unable to manipulate the information the lawyer has presented, the judge does not get any greater benefit out of the technology than any other observer of the presentation.

A generic example of the approach in the USA can be seen in the Courtroom 21 Project, which has devised working draft protocols for the use of “courtroom technology.” The protocols expressly defined what this term was intended to include and exclude (Courtroom 21 Project, 2004, § 1–10.00 and commentary) and are in essence merely an evidence presentation system:

For purposes of these Protocols, “courtroom technology” is the technology installed or used

in a courtroom by or for counsel or pro se parties. It includes court record technology only to the degree that counsel or pro se parties use that technology during a trial or hearing for purposes other than preparation of appellate matters.

... A broader definition, which would include court record technologies for the purpose of making the record for appellate purposes (or to assist the judge during trial), any of the docketing, case management, legal research or other technologies used entirely by the court, and the like are outside these Protocols.

A broader step—but the exception rather than the rule—has been taken in one U.S. court, the Ninth Judicial Circuit Court of Florida’s Courtroom 23+ project, a working courtroom with substantially integrated ICT that includes real-time court reporting, desktop touch screens, video annotation, video conferencing, and wireless networking (Courtroom 23+, n.d.).

Australia’s approach to innovation has also been marked by an ongoing dedication to using ICT to its advantage. From the early 1990s, the Australian Institute of Judicial Administration has kept the judiciary at the forefront of developments with reports and forums allowing for discussion, review, and implementation of ICT. (See for example Australian Institute, 1998, 2000, 2004; Greenleaf & Mowbray, 1993). The Australian Institute of Judicial Administration has also been prominent in assessing milestones in the adoption of ICT in commissioning a series of *Technology for Justice* reports (Leeuwenburg & Wallace, 2001, 2003).

Dealing with the Cost of Technology

One lesson in Australia has been the difference in the availability of funding for courts, as opposed to the parties. This has been an issue in

both civil and criminal processes. The budgetary allocation of significantly less public monies to civil justice programmes than to criminal justice programmes is not uniquely Australian. For example, the United States Department of Justice's discretionary budget authority for 2005 was US\$18.7 billion. Almost all of this was allocated to the criminal justice system. Only US\$657 million (about 3%) was allocated to "general legal activities" (Department of Justice: Overview, n.d.).

Much of the development of ICT has been by law firms representing major corporate and institutional litigants in civil disputes. Historically, their clients' own workflows have been highly geared with technology, and they have brought an expectation that the courts—as arenas in which their disputes will be resolved—can operate at the same level. Funding for courts has not always been consistent or comprehensive. In Victoria, substantial funding was directed to the Supreme Court so that it could implement in-court ICT, but the funding did not extend to electronic filing or to case management systems. The funding available to courts has not permitted courts to be the leaders by development. Instead they have, eventually, taken control over process, and only more recently have they been able to secure funding to begin to allow courtroom infrastructure to be available to the parties. An example of Victoria's approaches to the funding process can be seen in the Victorian Department of Justice's *Information Technology Strategic Plan 2002–05* (Department of Justice Information, n.d.).

With this lag in development, courts have lost some ground as the forum of choice for some of the major corporate litigation as this class of litigant has looked towards more amenable party-driven (and party-funded) procedures such as private arbitration. This lack of funding has not prevented the development of e-courts, but it has meant that these sorts of market pres-

sures (perhaps less desirable from the courts' perspective) have been the drivers. In criminal processes, greater funding has tended to be directed towards prosecution authorities rather than the courts. One of the major drivers for ICT entering the courtroom was the fact that prosecutors needed the technology so that the criminal conduct within complex commercial dealings could be demonstrated.

Defence lawyers have had similar funding challenges. Traditionally, criminal justice faces its own pressures because of the breadth of funding needs, and one area affected is public defence funds made available to defendants and their lawyers through legal aid agencies. With low fees per case, the defence teams have not generally had the resources to afford to buy ICT or have the training and experience to use it to their clients' advantage.

Case Study: A Comprehensive E-Court

A best-case example of a courtroom using Web-based integrated ICT (the 'e-court') can be found in the most recent e-court built for the Supreme Court of the Northern Territory in Australia, recently used for the high-profile Falconio murder trial. The courtroom to be used was a bare shell. This presented an unusual opportunity to plan the project unencumbered by existing architecture. The planning process included consideration of ICT deployment issues from the start. All consultants were brought into consultation at the commencement of the project, so that the relevant expertise would always be timely.

This allowed for a complete fit out of the courtroom so the committal and trial stages of this prosecution could take place using fully integrated courtroom and information management systems. To maximise the human element, courtroom layout was 'in the round' to optimize

sightlines. The courtroom was in operation for this case from June 2003 to November 2005. In preparation, the Supreme Court judicial staff, administration staff, and lawyers representing the parties all received training to ensure confident use of the ICT in and out of court. The ICT was in use at all stages in preparation and hearing, and included (Potter, 2005):

- a. Conversion of evidence from the prosecution authority's internal information system into an electronic court book of key documents to be used at hearing (the e-court book)
- b. Management of the protocols of engagement for all parties to exchange data with the court
- c. A systemwide IT management plan, dealing with design and implementation, security, connectivity, disaster recovery, and support services
- d. An electronic court book allowing users interactive access to key documents
- e. Evidence presentation tools, including 'smart board' technology, capturing live whiteboard-style annotations on displayed documents
- f. Real-time transcript, evidence, and exhibit management including delivery to the electronic court book
- g. Implementation of audio-visual technology, including a further ante-room used as a media centre for the international press

INTEGRATION AS A SOLUTION

With courts having taken the lead on the challenge of standardising data and document formats, many different ICT applications are now available for use in the e-court. Each application of ICT has offered different information streams

and has often delivered those streams to parties in the courtroom in its own way. Standardisation allows all these islands of information to operate at the same time, but even greater benefits are achieved by having them operate together, that is, to integrate them into a comprehensive e-court ICT system.

In achieving a workable level of integration, it is fundamental that the needs of a live hearing are paramount. This means that the components of ICT integrated for delivery into the courtroom must reflect the information submitted or created within the court during the course of a hearing. Using this approach, the court's needs would include:

- a. Transcript: real-time, historic real-time, and edited transcripts
- b. Evidence and exhibits
- c. Associated materials such as pleadings, witness statements, and aide-memoires
- d. Audio and video streaming of court proceedings to remote locations
- e. Links to internal and external resources such as case law, legislation, and research
- f. Links to legacy systems such as case management systems
- g. Capturing key links for later use when writing judgments and decisions
- h. Access for parties outside the courtroom, and for the public and media

The Influence of the Web

Fortunately, the introduction of technology into the courtroom has gained a significant advantage by the parallel rapid development of Web and Internet technology. The basic premise of the Web is founded on being able to locate and then link (or 'hyper-link') key pieces of information. This capacity to link information allows for improvements in the speed and capacity to

research data and other pools of knowledge, and makes for simple ways of accessing and organising that knowledge.

The law (and particularly the development of legal arguments in court) revolves around drawing together information of different types and from different sources, and then bringing out of them themes on which arguments in court can be structured. This is no different to the Web's ability to cross-link key pieces of information. Looking at the two systems in this way, it is almost impossible to think of how a comprehensive e-court is able to function without considering the broad possibilities Web technology can introduce when delivered to the judge's bench and the bar table.

Much of the Web technology that has developed has also come to dominate computers' internal operating systems. Although the informed IT community does not see this as ideal, there is a direct benefit to the e-court. Web technology's comprehensive development, broad application, and availability come to provide a low cost mechanism to exploit as the basis of information delivery into the e-court.

Trends in other industries and developments in other areas of IT are also bringing benefits to the courts. For example, audio and video compression technology used in the entertainment industry allows massive amounts of audio and video data to be stored on DVD for later use. Being in digital format, the same types of data can be easily integrated with other e-court ICT. This brings benefits such as the ability to link specific audio and video data to transcript. Currently, such links must be created manually, but new voice recognition systems already in development are showing the promise of doing this automatically.

Courtroom Portals

Ease of access and use within the courtroom remain the prime drivers of integrated court

systems. Providing a comprehensive and centralised desktop to the judge and other parties is the aim of many projects underway in Australia. This area is often referred to as portal development. With a portal model, all key sources of information are organised into a single point of access for the user. More importantly, the system automatically configures a customised desktop view for the user based on their security and user profile. In more advanced systems the software also 'learns' the user's common information requirements and promotes these to the most prominent view. Some systems will automatically search the Internet or the case intranet for further information on selected topics for the user, and present the data the next time the user logs on.

From the judge's perspective, the system delivers immediate access to any information related to what is occurring in the courtroom at any time. So, in one window the judge can see the same document the witness is being shown, and in a separate window the judge can see the audio or written transcript. The prime design requirement focuses on the judge being able to access related information via a single click of the mouse.

The judge retains control over how much information is available on the portal at any stage. Where appropriate, this can include many aspects of the courtroom activity. In a motion or interlocutory phase of hearing, it can detail information for the case the judge is presiding over, along with the judge's docket and schedule, and useful links to case law relating to cases on the docket. When an order or decision is to be made, the portal has comprehensive search and reporting tools to assist the judge to go back and locate key information in the system.

From a court administration viewpoint, portals become the single repository of official records with all documents, transcripts, and related materials being captured into the system during the course of the hearing. All these

sources of case data can be centrally stored from an early stage. Once captured, they are readily available for future uses such as appeals. They allow for ease of archiving in CD-ROM or DVD format using open HTML or XML layouts, which saves the increasing expense of hard-copy document storage and archival infrastructure. Subsequent access is a matter of restoring the data to the system by inserting the disk and reloading the information.

Making Integration Effective Through Planning

Australia's experience has been learning to deal with the interplay that technology creates: resistance to change, excitement at the possibilities, dealing with rapid innovation, and systemic pressures of funding. This experience has now shown how it is possible to set strategic directions about ICT in spite of the challenges of this interplay. For the e-court, the variety of ICT applications and the many ways they can be integrated within the courtroom have some very real benefits. To access them, a strong hand is required to guide their introduction so that they address the immediate needs of the parties as well as the imperatives of justice. The foundation of this is appropriate strategic and operational planning processes.

Planning has to occur in the context of some common themes. Society continues to change at a new pace. ICT in society is now the norm, used by all of us daily, as we have become almost oblivious to its operation or complexity. Anyone coming before the courts will have a higher basic exposure to technology. Many will have an assumption, perhaps even an expectation, that the courts will also use technology not in a self-conscious way but just to operate effectively and communicate the same way they do. Planning processes then need to consider each jurisdiction's own workflow practices and preferred outcomes. Often these will be different

for each court level; they might even be different for each court building. The starting point is still to milestone the existing rules and procedures, and the extent of ICT deployment.

To contextualise the process, courts must look to the social, political, and commercial drivers upon them. Certain of where they stand, courts can afford to have a vision. With the remarkable possibilities of ICT, courts can ask what they want to be *able* to do. In implementation, just as introducing ICT for the first time is a change, technology is always changing and this fluidity must be acknowledged. Good planning also means remaining open to further changes in the future.

Protocols as Planning Tools

The importance of protocols as a key tool in the implementation of strategic planning cannot be overstated. Protocol development has come to be an ideal planning tool for Victorian courts and other Australian and international courts to inform themselves about ICT. The nature of ICT and the challenge of implementing it into court processes and courtrooms can sometimes only be realised through this approach. In developing a protocol, courts obtain their own understanding of what issues ICT requires them to address, and the agenda they must set.

Once established, protocols give courts the tools to communicate their direction and business imperatives. They are a concrete method of setting the agenda which parties must follow. Already familiar with court rules and practice directions in other areas, prosecution agencies and law firms can put the broad imperatives of protocols into context. They minimise dramatically the cost to all stakeholders of developing and adopting ICT. In their introduction and revision, they promote ongoing input on court processes from stakeholders.

INNOVATION IN AUSTRALIA TODAY

In Australia there is still work to be done to integrate ICT. Many courts still operate independent systems, and have work processes that miss opportunities to link information. Currently, Victorian courts and tribunals use 11 different case management systems. Of particular concern is the fact that all Supreme Court filings are required to be in hard copy. For e-court use, those documents have to be reprocessed manually to be put in electronic format and then resubmitted. Partial case management systems have been implemented in some of the other Victorian courts and tribunals, all varying in use and extent. The Integrated Courts Management System Project currently being undertaken in Victoria (Integrated Courts, n.d.) will integrate all existing case management systems into one standard system, delivering case and financial management, e-filing, scheduling and reporting, and online access to lawyers and the public.

Steps Towards Further Integration

There are many reasons why integration has only gone so far. Some systems in use are too dated to communicate with newer systems. The momentum created by looking to seize innovations has been compromised by funding issues. Better funded justice institutions can implement the technology. Courts as the beneficiaries (and now well-informed stakeholders) are still looking to have a dominant input but suffer from budgetary restrictions.

Cultural issues can be at play. The ‘considered’ pace of the law has bred a strong element of conservatism in judges and lawyers. This produces much resistance to change, especially where it concerns the new and unfamiliar. If the vision is for better justice outcomes, any developments must continue to serve court processes, not drive them. Web portal technology is currently the best solution to integrate all the

key information sources required to manage and conduct a hearing, and it remains the key to the current work in developing effective e-courts. Moving to Web-based systems inherently forces the adoption of certain standards that help to ensure the compatibility of information. It allows for more comprehensive integration from early in the process by having integration occur at the level of the base data itself.

Innovation in portal ICT is already beginning to be seen. One example is in using the integrated nature of the e-court to pass control over the in-court presentation of information back to the parties. Many Australian practice notes require the appointment of a Court operator to have direct control of the court book portal, who calls up information from the court book upon a specific request by a party (although this role is being passed to the Court Clerk or Judge’s Associate). We are now beginning to see the capacity for portals to be tailored to the needs of each party in court, so that the information is not produced by request but by the party calling up information from the court book themselves.

Smarter technology permits new ways for separate applications to exchange information. Innovations created by this middleware (sitting between the applications), lead to the presentation of more integrated information. The user can then make intuitive links between disparate pieces of information. This is reinforcing the human element rather than distancing it.

Much of the development and completion work on courtroom ICT in Australia is being done by commercial providers. This is to the benefit of all. It reduces the future costs to courts, as providers are bearing the development cost and the capital at risk in the development. As a corollary, commercial systems are having a higher delivered quality in many ways: system integrity, documentation, training, and support. The prevalence of common systems is also

leading to increases in users of these systems on an international basis.

The development activity away from the commercial sector is in the hands of in-house developers within court administrations, adapting off the shelf applications to their specific needs. Other than this need, there are few reasons why a court would start to develop entirely new systems itself. Development is now so sophisticated that it is outside the courts' imperatives in any event.

FUTURE TRENDS IN AUSTRALIA

Australia now leads the world in the strategic implementation of e-court technology and in supportive court procedures. Commonwealth courts will no doubt maintain their watch, because they share a common legal system and have a closer cultural match. The USA has other drivers for its system and may take more of a cherry picking approach.

The near future of innovation in Australian e-courts will be defined by:

- a. Clear insight into courts' work processes
- b. Sound protocols
- c. A high level of integration with current and future applications
- d. Less focus on technology for its own sake
- e. Low reliance on unique systems

Ongoing support for this comes from many areas. Champions for its benefits remain in the judiciary and in government. The courts know the benefits come from remaining amenable to changes in process. Generational changes are bringing lawyers and administrators with direct experience in the technology into positions of influence. There are two areas which will require special attention by Australian stakeholders:

monitoring when Australia must seek help elsewhere and assessing how relevant (and how affordable) the innovations in civil courtrooms will be when looking at criminal matters.

Australia's expertise in e-courts is high-level, but also admittedly narrow in scope. The United Kingdom and Canada have begun development on e-filing systems. The USA is the forefront on e-discovery (but less so on e-exchange) and on presentation technologies (but less so on integration). Australia must remain conscious of its strengths, and needs to continue looking to other centres of expertise in the world to weigh up those advances against the demands of its local justice system.

The divergence in ICT access between criminal and civil cases in Australia is likely to remain. The public defence funding model will continue to restrict the defence bar from becoming sophisticated users, as the civil bar has achieved. ICT in the criminal case can only develop with an awareness that the parties may have little of their own funding. This will limit the e-court to a cut down model where the variety of information channels is less. Process solutions such as an interactive court book of key documents will stay at a low level of sophistication. Real time transcript costs are likely to be prohibitive in many cases. This minimal approach will still deliver some benefits to the courtroom, but misses out on the opportunities that fuller integration has been shown to offer.

The application of other aspects of ICT in the Australian criminal courtroom is yet to be settled. The area is not yet the subject of rules of court, protocols, or practice directions/guidelines, but it is on the agenda. The question of the jury's access to ICT is currently dealt with on a case by case basis. E-court fit out often happens with only limited funding. This tends to hold back worthy concepts such as courtroom layout, and facilities to juries and to defendants in the dock. The extent to which juries might be prejudiced by their perceptions of ICT in the

courtroom may well also be a factor. If they are to see the prosecution well-armed with ICT and the defence less so, this may give rise to a more sympathetic view of the defence; or, their general unfamiliarity with the courtroom may just mean they assume this is how it must be.

CONCLUSION

Australian judicial bodies have mastered the in-court use of ICT by analysing their experiences, taking control over workflows, and maintaining a willingness to adapt. With this approach they have a strong foundation to move further along the path to fully integrated courts. Australian courts have come to be at the forefront of ICT in justice processes. We now look for Australia's lead to take integration to the level where ICT becomes an invisible conduit in the justice process. Meanwhile, courts around the globe are looking at these achievements, and developing similar protocols and rules with funding from better-informed governments and organisations such as the World Bank. With knowledge and the improving financial means to implement ICT, courts are rightly mastering technology to fulfil their own imperatives and those of the public they serve.

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E-Justice: Information and Communication Technologies in the Court System

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Chapter XII

The Belgian Case: Phenix or How to Design E-Justice Through Privacy Requirements and in Full Respect of the Separation of Powers

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ABSTRACT

This chapter examines the ambitious Phenix project, a global project for the whole computerization of all Courts and Tribunals in Belgium, with the use of ICT by all stakeholders. It focuses especially on the legislative measures that have been taken, mainly in relation to data protection and legal value of the documents generated by the use of the electronic procedure.

INTRODUCTION

Phenix is the brand name of a project which aims to introduce ICT at all the steps of the judicial procedure in Belgium, no matter the affair engaged in: criminal,¹ civil, commercial, and so

forth. In other words, Phenix is a global project for the whole computerization of all courts and tribunals in Belgium. Since the introduction of the dossier until its notification, Phenix aimed to have the actors involved in these different phases: the lawyers, the magistrates, the reg-

istrars, the public prosecutors, and the process servers use the technologies in a secure and efficient way. This very ambitious project has been approved by two legislative acts. The first one, the "Phenix Act," was enacted on August 10, 2005.² It institutes the information system called "Phenix," describes its mission, and sets up different organs in order to regulate the system. What is more noticeable in that legislation is the importance given by the legislator to apply and follow strictly the data protection principles in order to build up the Phenix Information System. The second act "relative to the judicial procedure by electronic way" dates from July 10, 2006³ and aims to modify certain provisions into the Civil and Penal Procedural Code in order to give legal value to the documents generated by the use of the electronic procedure settled up by the Phenix Information System. Our short contribution will analyze these two facets of this legislative input.

Before starting, perhaps a few words about the origin⁴ and the present situation of the Phenix Belgian model would be needed. Apart from 1990, certain initiatives were taken in Belgium, but these initiatives were local and not sufficiently coordinated. They were focusing on the internal use by tribunals of computers and the development of certain software aiming to support the tribunal members' work. The concept of a global "e-justice" project has been launched by the previous government in 2000, on the basis of the studies realized by a large consortium,⁵ joining together all the stakeholders, and a call for tender has been issued in 2001. Three main concerns explain the launching of a global and strongly centralized project: (1) the development of the Internet which creates an opportunity but also an absolute need to integrate the different databases; (2) the obligation to avoid all the problems raised by the incompatibility between the material used at

the different levels; and (3) the idea that such a centralized project will diminish at midterm the costs of the functioning of the tribunals. Several technical working groups⁶ have been settled up in order to elaborate and formulate the needed recommendations to address to the legislator, to the furnisher chosen, and definitively to the different actors involved by this revolution. The first concrete works have started in 2002; two acts have been promulgated in order to fix the legal context of the Phenix project, and no less than 18 royal decrees have to be drafted.

Notwithstanding all the efforts of all the actors and the budget afforded to ensure the success of the project, recently in March 2007, the present Ministry of Justice has announced the Phenix project's failure and the obligation to stop the works initiated. It seems that this failure is due to the difficulties met by the supplier to solve complex technical problems. A litigation is in course before a Belgian court between the state and its furnisher. The next government, which will be formed after the next elections in June, will have to decide which follow-up will be given to the project. From this bad Belgian experience, a first conclusion must be drawn: even if we need to have a global project in order to structure all the developments, it is absolutely needed to start with local and dedicated experiences in order to learn apart from these partial experiences how to adapt continuously these developments and to solve the concrete difficulties met at any stages. Another benefit of this experimental approach is also to progressively convince all the stakeholders (the magistrates, the registrars, the process servers, the lawyers, and, finally, the citizens) of the benefits of the project and to hear from them their expectations about such a project. Too much reluctance has been met from different groups, shocked by this managerial revolution imposed without real consultation.

PHENIX: AN ILLUSTRATION OF THE PRINCIPLE “DESIGN BY PRIVACY”⁷ AND ABOUT THE DIFFICULTY TO RESPECT THE CONSTITUTIONAL PRINCIPLE ABOUT THE SEPARATION OF POWERS

Article 2 of the 2005 act setting up Phenix is enunciated as follows: “Il est créé un système d’information appelé Phenix qui a pour finalités la communication interne et externe requise par le fonctionnement de la Justice, la gestion et la conservation des dossiers judiciaires, l’instauration d’un rôle national, la constitution d’une banque de données de jurisprudence, l’élaboration de statistiques et l’aide à la gestion et l’administration des institutions judiciaires.” (“It is settled up an Information system called Phenix, which has for purposes the internal and external communication requested for the Justice needs, the setting up of a case law data base, the working out of statistics and the assistance to the management and administration of judicial institutions”) This provision and the precise enumeration of the different purposes of the Phenix project is illustrative of the importance given by the legislator to follow strictly the first Privacy principle: all processing must be created for legitimate, determinate, and explicit purposes.⁸

The following provisions of the act are describing more precisely these different purposes and implicitly are fixing the recipients of the different processing, the data to be processed, and the duration of the data storage, according to the principle of proportionality: “Data might be processed and kept only if they are necessary for the achievement of the legitimate purpose of the processing.”⁹ Two examples might be given on that point. Article 7 distinguishes the court decisions databases used for internal purposes and the court decisions databases dif-

fused publicly. As regards the second category, the act imposes the duty to make anonymous the decisions before any diffusion. What is not asked as regards the first category insofar is that the purpose of this second processing ought to support the members of the jurisdiction having issued the decision to “maintain a consistency as regards its jurisprudence,” as explained by the Ministry of Justice. Another example definitively is the use of certain data for statistical purposes (art. 10 and ff), which might help internally to support decisions about the management of the tribunals, but might never be used for controlling the work achieved by each judge individually.

This concern to follow the privacy requirements explains also the importance given to the security of the different processing. This obligation to have secure processing must be the object of different royal decrees, and certain norms might be imposed at that point. This obligation raises certain problems. So, as regards the access to the different files opened at a court, it has been foreseen that the access will be open to all the members of the Bar Association. The control of the identity and the quality of the requester will be ensured as regards the first point by the use of a secure authentication and, as regards the second, by the fact that the requester belongs to the lists held by the different Bar Associations under the basis of his or her national registration number. This checking method has raised difficulties. Certain lawyers have refused to give their national registration number to the Bar Association and have raised privacy concerns about the obligation to use their electronic identity card as a unique way of authentication, arguing that they would like to distinguish clearly the authentication method they are using in the context of, from one part, their professional activities and, from the other part, as citizens.¹⁰

Another more crucial problem was the control of the legitimate interest of the requester

to have access to the different files.¹¹ Finally, the system proposed was the possibility for the lawyer in charge of the file to know through the login of all the access to control *a posteriori* the names of the colleagues which have access to the files. It is not obvious that this system will be sufficient to avoid any abuse.

Other questions about the application of the data protection have to be mentioned. Particularly, it has been pointed out that the right of the data subjects must be respected by the data controller. Data subjects are of various natures: definitively, it concerns all the citizens which are concerned by the litigation directly (the plaintiff and the assignee) but also indirectly (a person quoted by the judge, a witness), it might be also the advocates and the judges. So the question is: to what extent the present provision included in our civil or penal procedural codes enacting a limited right of access are complying with the data protection legislative requirements about the right to be informed, the right to get access, and the right to correct or delete certain data? This question is still discussed.¹²

The main problem met by the legislator by setting up the Phenix information system surely was the choice of the different organs to be installed in order to manage and to rule the development of this information system. Three main concerns have to be taken into consideration. The first one was to respect the holy and constitutional principle of the separation of powers, particularly the split between the executive power and the judicial one. The second addresses the delicate question of the data protection and again the question of separation of powers between the legislative power represented by the Data Protection Authority (the Belgian Commission pour la protection de la vie privée) and the judicial one. How do we ensure the compliance of the Phenix development with the data protection requirements? Finally the third one is to ensure that the infor-

mation system meets the needs of the different stakeholders involved.

To answer to these concerns, the Phenix Act puts into place three organs: the “Management Committee” (Comité de gestion), the “Surveillance Committee,” and, finally, the “Users’ Committee.” The main competence of the first one is to ensure the daily management of Phenix and to take all initiatives which will contribute to its efficiency. The committee has therefore the possibility to decide on different aspects like technical agreements, conformity certificates as regards the legal value of certain electronic documents, and to establish control and security mechanisms.¹³ It proposes to the Ministry the draft of the royal decrees needed for the implementation of the legislative texts. An annual report about the committee’s activities must be established for the Highest Court of Justice (Cour de cassation) and the Ministry of Justice. Furthermore, the committee has to intervene in case of technical deficiencies or nonrespect of the Phenix rules. The committee’s composition reflects the duality of nature of the Phenix system belonging both to the executive power and to the judicial one. Twelve members nominated by the King are composing the committee, 6 under proposal by the judicial power, and 6 under the proposal of the Ministry of Justice.

The “Surveillance Committee” is established by the Phenix Act as a sectoral Data Protection Authority established within the Belgian Data Protection Authority but having a lot of autonomy and no subject to control by its mother institution.¹⁴ Furthermore, the committee examines the complaints introduced as regards the nonrespect of the data protection provisions and might introduce any proposals about all questions relative to privacy requirements applied to the Phenix information system and its evolution. The composition of this committee has been subject to a lot of discussion between the judicial power and the Data Protection Commission.¹⁵

The judicial power in a first moment rejected any form of interference by the Data Protection Authority, accepting only the presence of a member of the Data Protection Authority and only with consultative voice. Finally, the compromise proposed by the government and taken again by the act was to have a committee with six members, three chosen by the DPA and the three others nominated by the parliament amongst the magistrates. The chairman necessarily must be a magistrate.

The last organ to be put into place is the “User’s Committee,” in charge of proposing to the Management Committee any initiative in order to promote the Phenix use. The committee joins together 24 members representing all the stakeholders but with a huge majority of magistrates (16/24). It illustrates once again the fear expressed during all the discussion by the magistrates about the risk of losing their independence in the same time information systems were introduced in their office.

PHENIX: HOW TO GIVE LEGAL VALUE TO ELECTRONIC PROCEDURAL DOCUMENTS¹⁶

The introduction of the electronic file definitively is the major revolution introduced by the 2006 Act relative to the procedure by electronic way. Three main principles are asserted: the first one is the freedom for everybody to choose or not the electronic procedure: “*Sauf dispositions légalement contraires, personne ne peut être constraint de poser des actes de procédure ou de recevoir des documents relatifs à des actes de procédure par voie électronique.*”¹⁷ This consent’s principle¹⁸ is however alleviated by the possibility to impose the use of the electronic procedure to certain professions by royal decree. In order to ensure the real consent of the actors to use the electronic procedure but also

the opposability of the electronic exchanges, a list of the actors, professional or not, who do accept the new tools to communicate in the context of the procedure will be held and published by the Ministry of Justice or by the professional associations. The consent might be withdrawn. Precisely the use of an electronic judiciary address is left to the free choice of the persons. The electronic address is defined under Art. 6 of the 2006 Act, as : “*l’adresse de courrier électronique, attribuée par un greffe et à laquelle une personne a accepté, selon les modalités fixées par le Roi, que lui soient adressées les significations, notifications et les communications.*”

The second principle is the equivalency principle. Under this principle, the electronic address is equivalent to a physical address and has the same permanency as the traditional one. Furthermore, it must be considered that all the electronic documents generated in the context of the procedure are assimilated as regards its legal value to a paper document and that electronic signature in that context have the same legal value than the traditional handwritten signature. As Montero¹⁹ pinpointed, it must be clear that under the 2006 Act, only advanced or under the Belgian terminology qualified signatures complying with the EU Directive requirements are recognized in the context of the e-justice system and not all electronic signatures²⁰ in order to ensure an easier legal security. Finally, one pinpoints the principle of the unity of the electronic file insofar as the electronic nature of the file; it is no more necessary to distinguish copies and original, insofar this latter might be reproduced in a nonlimited way.

As regards the relationships with the third parties, essentially meaning the lawyers and the process servers, the idea is to authorize either the downloading of the files or certain pieces of the procedure either their access, through the Judiciary order’s portal, only after a double

checking: first, the requester of the access needs to be identified through a secure authentication; second, the system will seamlessly check near the appropriate databases held by the professional associations, his or her quality. It is quite obvious that the Phenix system will support all types of documents (open office, XML, PDF, etc.). Finally, the act contains certain provisions about the consequences of a not guilty²¹ dysfunction of the information system (virus, breakdown of the information system, etc.) which are assimilated²² to Acts of God “*when that dysfunctioning hinders the exercise of the citizen's rights.*” Let us now have a look at the different steps of the procedure.

The introduction of a litigation before a court (la mise au rôle) would have to be, apart from now, realized by an electronic message.²³ On that point, it might be remembered that the role is held through electronic means publicly accessible, but any access is registered in order to avoid abuses as regards the privacy protection requirements.²⁴ The registrar automatically attributes to the affair a specific identifying number which will follow the case during its entire judicial life (including in appeal or before the highest Court of Justice). This identifying number contains neither the name of the parties, nor other personal data. The registrar is in charge of making the inventories of the files. Certain norms as regards the preservation of the integrity of the pieces notwithstanding the change into the technology must be defined.

As regards now the management of the file, the Phenix Information system will receive the additional elements appropriate to each step of the judicial procedure: “*Toute autre communication par pli simple ou recommandé peut avoir lieu valablement par voie électronique ou par introduction dans le système Phenix.*”²⁵ The article 9 of the 2006 Act determines the moment of the delivery of the electronic document as follows: “*la délivrance d'un document*

électronique est le moment où le destinataire peut prendre connaissance du contenu de celui-ci.” In order to avoid any litigation as regards this moment, it is possible to make recourse to a third party. In that case, the moment of the delivery is fixed by the statement given by this third party certifying the delivery of the message to the recipient.

The fixation of the audience must also be done through electronic messages. The judgment will be issued and signed electronically by the judge before it is sent to the database, the internal one, and after having been duly made anonymous by the Registrar, the publicly accessible one.

Two peculiar operations must be analyzed additionally, the “*signification*” and the “*notification*.” Both operations are aiming to make the citizen or his/her lawyer aware of the existence of the pursuit or of the judgment. For ensuring these two operations, the use of an electronic message is possible²⁶ through the intervention of a trusted third party who will have to ensure that the document has been delivered without modification (certificate of integrity) to the electronic address of the addressee and that this delivery has taken place at a precise moment (time stamping). For achieving it, the 2006 Act foresees the intervention of a “communication service provider”²⁷ who will certify the delivery and the moment of this delivery.²⁸ To be complete, it must be noted that the legislation puts in place a hybrid system in case the final recipient has no electronic address. In that case, the service communication provider will make a copy on a paper certified conform of the message and deliver it to the process server who will deliver the document following the traditional way.

CONCLUSION

Is there a Belgian Phenix model? In my opinion, it would be too easy to simply answer by the negative, invoking the present failure of the Phenix launching. It is obvious that the promoters have been too ambitious and, perhaps, a more progressive approach associated with the actors, especially magistrates, registrars, and lawyers, step by step, working on specific domain and using pilot experiences would have been better. Notwithstanding these facts, one would like to underline the qualities of the legal framework put into place to ensure e-justice, which might be in my opinion viewed as a model for foreign countries. So we might consider that the Belgian legislator, even if the solutions are not always perfect, has designed a privacy compliant system and that, through the organs settled up, the independence of the judiciary power vis-à-vis the executive power is safeguarded.

FUTURE TRENDS

Two points have to be considered as crucial in the future. First, since through a global information systems at the hands of the magistrates their informational power is increasing by their possibility to cross a certain number of information about the parties, it must be feared that the principle of the “equality of the weapons” would not be respected. In that respect, data protection requirements are important. At the same time, the fact that the information system is operated and sometimes developed by the administration put at risk in the long term a progressive loss of the independence of the judges. The solution proposed by the Belgian legislation is in that perspective notice worthy even if they appear a bit intricate and too complex as regards the day to day management.

As regards the modifications introduced by the legislator into the civil procedural code, we might subscribe to the main principles asserted through the multiple provisions: the consent permits to avoid any risk of discrimination between those who adopt the new electronic system and the others more reluctant to it. The “functional equivalency” principle has permitted to introduce concept like electronic address, electronic file, electronic signature, electronic signification, and notification. By doing that and by proposing a real secure communication system with the intervention of trusted third parties, control of access, double checking, and so forth, the Belgian legislator proposes to the other European legislator a really attractive model.

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ENDNOTES

¹ The specific legislative provisions about the criminal procedure will not be commented in the present contribution. About these provisions, read Vandermeersch (2007).

² As regards this first act and its analysis, see Henrotte (2005) and Henrotte and Poulet (2005). This act has been published at the Belgian Official (Moniteur Belge) (loi du 10 août instituant le système d'information

Phenix, M.B., 1er septembre 2005, p. 38.305).

³ As regards this second act and its analysis, see the various contributions published in Colson et al. (2007). No less than 24 royal decrees were foreseen as regards the implementation of both acts. Some of them have been already drafted but not yet submitted to the royal signature. This Act has been published at the Belgian Official Journal (Moniteur Belge) (Loi du 10 juillet 2006 relative à la procédure par voie électronique et du 5 août 2006 modifiant certaines dispositions du code judiciaire en vue de la procédure par voie électronique, M.B., 7 septembre 2006, p. 45517).

⁴ About this genesis, see Hubin (2005).

⁵ The consortium “e-Justice” has been created by the Ministry of Justice in 2002 and 2003 under the direction of three university professors: G.de Leval (ULG), P. Taelman (U. Gent), and Y. Poulet (U. Namur). It has worked during 18 months and produced reports which have been taken as points of reference by the authors of the project, put under the leadership of President Verougstraete. First, president of the Cour de Cassation (the highest Belgian Court of Justice). About these works, the reports published at the CRID’s Web site: <http://www.crid.be>

⁶ ⁶ 11 technical groups have been therefore created. The most important was the Juricontrol W.G. in charge to formulate the legislative provisions about the Phenix system. Others groups have also to be quoted: “Security,” “Modelisation,” “Change Management,” “Communication,” “Nomenclatures and Codes,” “Legal value of electronic judicial documents,” “Archives,” “Infrastructure,” “Software Applications,” and “External relationships with process servers, lawyers, and so forth.”

⁷ On that point, see (Poulet and Moreau, 2006)

⁸ The recitals of the act refers explicitly on that point to the famous Rotaru Case decided by the European Human Rights Court of Justice (EHRCJ) May 4 and published notably in 2001. *Rev. Trim des droits de l'homme*, 2001, p. 137 and ff, with annotations by O. de Schutter). This decision recalls these principles directly derived from the article 8 of the European Convention of Human Rights. As regards the EU Directive 95/46 on Data Protection (OJ., n°L.281, 23th of Nov., pp. 31 and ff), the same principles are enunciated by art. 6.1 b.

⁹ See as regards this principle, art. 6 c and e of the EU Directive 95/46 quoted footnote 8.

¹⁰ The Belgian Privacy Commission argued in the same sense in its opinion delivered May 24th, 2006 about “Identification and electronic signature within the Phenix I.S.” On that opinion, see the Web site of The Belgian Privacy Commission: <http://www.privacycommission.be>

¹¹ By example, one might imagine that a lawyer defending a citizen against his neighbour for vicinity questions will access different files including criminal files of this neighbour in order to argue against him.

¹² On that point, see Danieli (2006).

¹³ Appeals against the committee’s decisions are foreseen before the Highest Court of Justice (Cour de cassation). Once again, the existence of this recourse put into evidence the intent of the Belgian legislator to maintain the independence of the judiciary power by giving to it the last word.

¹⁴ On that point, see the explanation given by the Ministry of Justice: “*Par ailleurs, autoriser la Commission de protection de la vie privée à évoquer des avis du comité*

de surveillance de Phenix serait remettre en cause l’équilibre des pouvoirs entre la Commission de la protection de la vie privée (dépendant du législatif) et l’Ordre judiciaire, tous deux institutionnellement et légalement indépendants.” (Doc.Parl. Ch., 2004-2005, 1654/001, p. 42).

¹⁵ See the opinion delivered by the Belgian Data Protection Authority (Opinion n° 11/2004 (Poulet & Moreau, 2006), point 22, published on the Web site of the Belgian Privacy Commission).

¹⁶ In that point II, we will analyze only the question related to the civil procedure. The additional problems raised by the electronic criminal procedure are too complex for being evoked here. See Vandermeersch (2007) about these additional problems.

¹⁷ Art. 4 of the 2006 Act recalling the same principle already asserted by the art. 4 §1 of the act on electronic signature.

¹⁸ About this fundamental principle, see Lamberts (2007).

¹⁹ Montero (2007).

²⁰ “*Chaque fois qu’une disposition légale prévoit la signature d’une pièce de la procédure et qu’il s’agit d’une pièce électronique, celle-ci est pourvue d’une signature qualifiée... Cette signature électronique qualifiée est assimilée à une signature électronique. .. La signature qualifiée s’entend de la signature électronique avancée définie à l’article 2, 2° de la loi du 9 juillet 2001 fixant certaines règles relative aux cadres juridiques pour les signatures électroniques et les services de certification, certifié par un certificat qualifié visé à l’article , 4°, de cette loi et créé avec un dispositif sécurisé au sens de l’article 2, 7° de cette loi.*” (Art. 7 of the 2006 Act). To be complete, it has to be underlined that the electronic signature linked with the use of the electronic identity card definitively is a “qualified” signature

and thus might be used in order to sign any electronic document of the procedure.

²¹ What does “not guilty” mean? Is any lawyer who participates in the Phenix system obliged to use a antivirus system and if yes with which quality? On that question, see Mougenot (2007).

²² Art. 9 §2 of the 2006 Act.

²³ As it is foreseen apart from now under the revised Art. 713 of the Civil Procedural Code: “*le rôle est créé et conservé d'une manière qui rende possible sa consultation et garantit sa lisibilité.*”

²⁴ So certain companies were noting systematically the names of certain litigants (employees suiting their employers, bad payers, etc.) in order to constitute black lists. About this phenomenon, see Burton and Poulet (2005).

²⁵ Art. 4 of the 2006 Act.

²⁶ Art. 6 of the 2006 Act. “*Sans préjudice des conventions internationales en la matière, la signification peut avoir lieu par voie électronique. Elle a lieu à l'adresse judiciaire électronique par l'intermédiaire d'un prestataire de service de communication...*”

²⁷ Art 10 of the 2006 Act. This article foresees a certain number of requirements to be observed by the communication service provider. The compliance with these requirements is verified in the context of a licensing procedure quite similar to the licensing procedure used for the certification service providers in case of electronic signature.

²⁸ This actor might be considered as a Trusted Third Party, combining two functions, that is, the time stamping function and the evidence of the sending and receipt of the messages.

E-Justice: Information and Communication Technologies in the Court System

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Chapter XIII

Courts on the Web in Russia

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INTRODUCTION

When the Internet reached Russia in the mid-1990s, Russian judicial chiefs actively embraced the idea of having a solid presence of national judiciary on the Web. To judges, having court Web sites would improve public awareness about Russian courts and relieve overloaded court clerks from answering mundane questions about the location of courthouses, hours of work, schedule of hearings, court forms, and so on. However, the chronic underfinancing of Russian courts in the 1990s and the decentralized nature of the Russian judiciary made the creation and the maintenance of the lower courts' Web sites much more sporadic.

Improving public awareness about Russian courts is a priority for Russian judges, who increasingly issue impartial decisions yet at the same time face growing public skepticism about judicial performance (Solomon, 2003, 2004; Trochev, 2006). As the growing number of studies of the information and communication technologies (ICT) in courthouses around the world show, computerized courts can both speed

up the administration of justice and strengthen public trust in the judicial system (Bueno, Ribeiro, & Hoeschl, 2003; Dalal, 2005; Fabri & Contini, 2001; Fabri & Langbroek, 2000; Fabri, Jean, Langbroek, & Pauliat, 2005; Langbroek & Fabri, 2004; Oskamp, Lodder, & Apistola, 2004; Valentini, 2003; Malik, 2002). Indeed, as the recent research demonstrates, those who know something about the courts: either about court procedures or about court-ordered public policies, tend to trust the judiciary and to comply with court decisions (Baird, 2001; Gibson, Caldeira., & Baird, 1998; Kritzer & Voelker, 1998; Tyler & Mitchell, 1994; Tyler, Boeckmann, Smith, & Huo, 1997).

This article focuses on the Web sites of Russian courts as the virtual gateways in the world of judicial administration (Trochev, 2002) and discusses challenges of adapting Russian court Web sites to the needs of various users of judicial system: judges themselves, law-enforcement agencies, actual litigants, general public and scholars (Toharia, 2003).

BACKGROUND: INFORMATION AND COMMUNICATION TECHNOLOGIES IN RUSSIAN COURTS

Following the collapse of the USSR in 1991, Russia's constitution-makers pursued a major program of judicial reform, as they understood that strong and independent courts would help to achieve larger policy goals (Solomon & Foglesong, 2000). In theory, Russia's rulers needed a respected rule of law system and effective courts to attract significant investment for the Russian economy and carry out further reforms on such crucial matters as land ownership (Trochey & Solomon, 2005). With the accession the Council of Europe and acceptance of the binding jurisdiction of the European Court of Human Rights (ECHR) in 1998, Russia has also been facing an additional challenge of administering justice in a timely and fair manner in order to avoid violation of the Article 6 of the European Convention on Human Rights. Since the early 1990s, Russian judges insisted that meeting these challenges and improving the efficiency of their courts in the context of exploding rates of litigation would be impossible without computers and information and communication technologies (ICT) in every courthouse. As Solomon and Foglesong (2000) report, by early 1998, the Russian Supreme Court had plans for a comprehensive publication of its judgments (p. 105), while the Russian Constitutional Court and the Higher Arbitrazh Court had their Web sites up and running even before that. However, the Russian government took this idea seriously only in 2001, when the first ECHR judgments against Russia severely criticized the country's inefficient and slow administration of justice. If in 2001, there were 10,000 computers in all Russian courts, by early 2005, their number grew to 40,000. Starting in 2004, the Russian judiciary annually receives additional 500 million rubles (17 mln U.S. dollars) to buy computers, servers, and modems, to create and maintain electronic

data interchange (EDI), network management, court intranets/extranets, videoconferencing, and court Web sites. As a result of this massive funding, by the end of 2005, Russia's 118 commercial (arbitrazh) courts became ready for the integration into a country-wide inter-court network that will serve as a basis for the electronic paperless resolution of commercial disputes. International financial aid and technical assistance has also played an important role in digitizing the Russian judiciary. In fact, Russian government officials encouraged judges to apply for grants from foreign NGOs (Trochey & Solomon, 2005). However, domestic funding and the willingness of court chairs to use information technologies remain crucial determinants of getting Russian courts ready to meet the challenges of the 21st century.

Russian Constitutional Courts on the Web

Russian Constitutional Court (RCC) has its own Web site, www.ksrf.ru, containing all decisions on the merits of the case and some rulings dismissing the case. Some rulings are published only on the Web site of the Court and are enforceable. In addition to the jurisprudence of the RCC, this Web site contains the schedule of the upcoming hearings, statistical data about the work of the Court, speeches by the chief justice, biographies of justices and historical essay about the Court. Unfortunately, this Web site no longer posts summaries of several RCC decisions translated into English, French, and German. All RCC Justices and some Court clerks have an access to the Internet. This is in addition to the RCC intranet with an easy access to all judgments of the Court as well as several legal databases. This intranet was made available through German funding in the mid-1990s.

Three out of 15 regional constitutional/charter courts also have presence on the Internet

(Trochev, 2004). Karelia Constitutional Court, www.gov.karelia.ru/Law/index.html, has a regularly updated Web site with decisions, by-laws of the Court and short biographies of Justices. For the text of dissenting opinions, you need to search at the Web site of "Karelia," the official newspaper of this region, www.gov.karelia.ru/gov/Karelia/search.html. Sverdlovsk Oblast Charter Court, ustavsd.ur.ru/1.htm, has similar detailed information on Justices and their work. This court has also several publications by the Justices as well as data on the implementation of the Court's decisions in 2000. St. Petersburg Charter Court, ustavsd.spb.ru/content.asp?cnt=114, is also present on the Web thanks to the efforts of the St. Petersburg State University law school students. This Web site contains fewer court decisions and only few lines on the judges' background. But it has the texts of journal and newspaper articles about the Court's work.

Russian Ordinary Courts on the Web

Unlike federal and regional constitutional courts, Russia's ordinary courts form a hierarchy with the Russian Supreme Court (RSC) at its apex. The Web page of the RSC, www.supcourt.ru, has information about the Court's work and its history, a collection of judgments, and a schedule of its hearings. In addition, the RSC Web site contains data about the work of the Russian judicial self-government bodies: the Council of Russian Judges, the Congress of Judges, and the Higher Judicial Qualification Collegium, the main body in charge of screening judicial nominees and disciplining judges. Here, one could also find the electronic copy of the monthly RSC Bulletin, an official publication of the Court, which frequently contains important guidelines for lower courts.

Lower ordinary courts are the courts that most Russians are familiar with. There are about 2,500 municipal/rural courts, 87 regional courts

and 146 military courts. The Web page of the St. Petersburg courts, www.cdept.spb.ru, lists the contact information for all ordinary courts in Russia. The Web site of the Russian Judicial Department, www.cdep.ru, has up-to-date statistics about their workload. While by early 2004, every regional court had an access to the World Wide Web, the RSC Web site contained links only to a dozen of regional courts including two military courts. This delayed production of the court Web sites reflects the decentralized nature of the Russian judiciary: many regional court chairs have very few incentives to promote their courts on the Web and prefer to spend resources on other priorities of judicial administration. This is why the majority of the regional courts' Web sites simply list addresses, working hours and contact information of these courts and the Justices of the Peace.

Websites of other courts have more usable information for judges, mass media, and the public. Court Web sites in Yaroslavl, oblsud.yar.ru and cdyar.yaroslavl.ru, and in Saratov, www.usdsaratov.ru, regions, target primarily local judges. They publish summaries of cases, numerous interviews with local judges and reports about the judicial reform in the regions. The Web site of Cheliabinsk Regional Court, www.ural-chel.ru/gubern/obl_sud/index.htm, which is famous for its televised cassation criminal trials contains materials on the ICT to support judicial administration. Briansk Regional Court's Web site, www.debryansk.ru/~suddepbr, is also devoted to this issue as well as to the work of the justices of the peace. The Web site of Omsk Regional Court, www.oblsud.omsk.ru, has statistics on the cases heard in 2001 and early 2002, monthly schedule of civil and criminal cases, and review of publications about the Court in local media. Judges in Khabarovsk Region regularly contribute to the monthly "Justice" newspaper and quarterly Bulletin on Judicial Practice, both of which appear at the regional court Website, www.usd.

khv.ru. Kaluga ordinary courts, www.suddep.kaluga.ru, publish downloadable templates of complaints, claims, and civil actions of various categories to assist potential litigants in filing their lawsuits. Municipal courts in oil-rich regions already have functioning Web sites. Usinsk City Court in Komi Region, www.usinsk.com/sud, and Muravlenko City Court in Yamal-Nenets Region, gorsud.muravlenko.com, provide claim forms and contact information for judges, the Bar, the procuracy and the court bailiffs on their Web sites. Nojabrsk City Court in Yamal-Nenets Region, posts weekly updated schedule of hearings and hosts interactive "Frequently Asked Questions" section on its Web site, ngcourt.nojabrsk.ru.

Finally, there is a small minority of Russian courts that follow the example of the Russian Supreme Court and publish their judgments on the Internet. For example, Karelia Regional Court, versud.karelia.ru, and Amur Regional Court, www.oblsud.tsl.ru, have published a selection of their judgments on the Internet. Most valuable and regularly updated Website, www.scourt.vens.ru, is hosted by Ul'ianovsk Regional Court which has a wealth of information on this court's jurisprudence, judicial reform, etc. It even has the minutes of the meeting of the regional conference of Judges. Sverdlovsk Regional Court, www.femida.e-burg.ru, also publishes its judgments on the Web and even has lively interactive "questions & answers" section, where Internet users can receive brief answers from regional judges.

Military courts in Moscow and St. Petersburg have also been particularly active in creating and updating their presence on the Web. Moscow District Military Court, www.movs.ru, has a selection of its judgments issued in 2002. Leningrad District Military Court, www.dk.ru/voensud/INDEXXX.HTM, has a database of its decisions issued in 1999 to mid-2001 and a short essay on the history of military courts. The Web sites of St. Petersburg Garrison Mili-

tary Court, gvs.spb.ru, and Pushkin Garrison Military Court, pgvs.spb.ru, have their judgments, claim forms and even addresses and telephone numbers of local jails and prisons, where the accused or convicted soldiers and officers are likely to be held. Pskov Garrison Military Court, www.psc.ru/voensud, also posts certain decisions issued in 2000 and templates for filing complaints.

Among city courts, Moscow District court in the city of Tver' offers the most informative and up-to-date homepage, www.mossud.tver.ru, with all court decisions since 2000 and templates of complaints, claims and civil actions of various categories. This is the only local court that publishes its own decisions thanks to the generous funding by the Open Society Institute.

Russian Arbitrazh Courts on the Web

The arbitrazh courts, established in 1991 to hear disputes among firms and between firms and the government, exist at the trial level in 87 regions, 20 appellate circuits of three to five regions (introduced in 2003), 10 cassation circuits of eight to ten regions (added in 1995), and the Higher Arbitrazh Court. The Higher Arbitrazh Court maintains a Web site, www.arbitr.ru, with extensive database of its decisions, the contact information, including e-mail addresses, of all lower arbitrazh courts, archive of publications about them and statistical data on the work of these courts in 1992-2004. Similar to the limited Web presence of ordinary courts, although all arbitrazh courts have Internet access, only few of them have Web sites online. Some courts, like North Ossetia Arbitrazh Court, as.alanianet.ru, publish only a selection of their judgments and fail to update their Web sites on a regular basis. Omsk Arbitrazh Court, www.omskarbitr.ru, posts a daily schedule of its casework and texts of decisions issued in October-November 2001

and April-May 2002. One judge of this court has his own Web site, chucha.omskarbitr.ru, with several publications and court decisions. The Web site of Primor Arbitrazh Court, primarbitr.ru, has numerous reviews about the Court's jurisprudence, together with an interactive "questions & answers" section, where Internet users can receive brief answers from regional judges. Northwestern Circuit Arbitrazh Court in St. Petersburg, www.fas.spb.ru, has a wealth of data on the work of this court including helpful information for the litigants. This court posts its own quarterly journal "Arbitration Disputes" on the Web at www.kadis.net/asp/asp_view.php3, which you can read after registering free of charge. Moscow City Arbitrazh Court, www.msk.arbitr.ru, boasts a database of about 4,000 decisions issued in 1991-2005, statistical data on the Court's work since 1998, contact information and claim forms. East Siberian Circuit Arbitrazh Court in Irkutsk, fasvso.ru, in addition to various useful court-related information, publishes its quarterly journal "Justice in Eastern Siberia" on the Internet, www.pravosib.ru, featuring arbitrazh court judgments, case comments and interviews with Siberian judges.

FUTURE TRENDS

In addition to ICTs, the use of Internet among Russian courts is likely to continue if only to ease the burden of an overloaded judiciary and to improve its reputation at home and abroad. Both tasks are daunting in light of Russia's vast landmass, frequently changing legislation, and widespread public perception of the judicial dependence and corruption. Given the level of current funding, all Russian judges and court clerks will have computers and access to the World Wide Web in the next decade. More and more court Web sites will contain court judgments, particularly in the light of the recent guidelines on court Web sites issued by the

Russian Supreme Court and the Higher Arbitrazh Court. Given that, as of mid-2005, each appellate court in Russia has a full-time press-attaché, court Web pages are likely to present interviews with judges and court officials about their achievements and challenges. Judges in post-authoritarian societies must advertise their work: if judges fail to inform the citizens, nobody else will. Greater interaction with journalists as well as with the public via Internet is bound to make the Russian court more user-friendly and more up-to-date. Fortunately, many recent judicial appointments in Russia indicate that the newly appointed court chairs are willing to use ICT, including Internet, in their courts. Finally, greater integration of Russia into the global market place through its imminent accession to the World Trade Organization may provide an impetus for the Russian judiciary to have English-language versions of their Web sites. Indeed, the experiences of post-communist countries (Latvia, Lithuania, and Estonia), which recently joined the European Union, show that deeper international integration contributes to more English-language content of court Web sites.

CONCLUSION

If designed and maintained properly, court Web sites could greatly improve the administration of justice and the image of judiciary in the eyes of the public. On the one hand, publishing court decisions on the Web is an attractive way to tell the public about the work of the high courts. Electronic dissemination of court decisions to the mass media improves the interaction between the judiciary and the press. Having a court Web site also signals judges from abroad that the Russian judiciary is well equipped to navigate the information super-highway. On the other hand, easy access to judicial decisions on court Web sites places a great responsibil-

ity on judges to deliver sound and persuasive verdicts (preferably with the summaries to be easily understood by ordinary citizens). Also, court Web pages must contain up-to-date and accurate information on the site for viewers to use while preventing unauthorized users from accessing confidential data. Finally, court Web sites must enhance the accessibility of the judiciary and cater to the needs of actual and potential litigants. Some Russian judges have already realized this. The Web sites of military courts post claim forms so that soldiers can simply print them out, fill in the blanks, and file a lawsuits. City courts post on the Web contact information of local lawyers and human rights non-governmental organizations, law enforcement agencies and court bailiffs, to whom local residents could turn for help. Other courts answer questions posted on their Web sites by concerned citizens. Sharing these Web-based innovations with other courts would be the next step in the right direction. Moreover, learning from the experiences of foreign (British, Finnish, Canadian, and some state courts in the USA) would be very important for Russian court Webmasters. Still, more research is needed to determine the needs of the users of these court Web sites so that the growing presence of the Russian judiciary on the WWW actually improves the public reputation of the third branch of Russian government.

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KEY TERMS

Council of Europe: An international organization founded in 1949, currently consists of 46 member states, which accept the principle of the rule of law and guarantee basic human rights and freedoms to their citizens.

Electronic Data Interchange: The computer-to-computer interchange of strictly formatted messages that represent documents, like court conviction records, court orders and judgments, claim forms and legal acts.

European Court of Human Rights: A judicial branch of the Council of Europe, which was created in 1959 to hear human rights complaints from Council of Europe member states, and to issue decisions binding on the member states.

Extranet: A system for communication among two or more computers, used a group of select users, like judges and court clerks across the country (and excluding everyone else).

Information and Communications Technologies (ICTs): Technologies from computing, electronics, and telecommunications to process and distribute information in digital and other forms, like radio, television, phones, computer

and network hardware and software, satellite systems, and so on.

Intranet: A system for communication among two or more computers, used internally in an organization.

Network Management: maintenance of two or more computer systems linked together by telephone lines, cables, or radio waves.

Russian Judicial System: Consists of the federal and regional constitutional courts; the ordinary courts including military courts and justice of the peace courts, in charge of civil, administrative, and criminal cases; and commercial (arbitrazh) courts.

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E-Justice: Information and Communication Technologies in the Court System

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Chapter XIV E-Justice: An Australian Perspective

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ABSTRACT

A 1999 Australian report on the prospective impact of information and communications technology on the justice system presented a vision of how technology might result in a new paradigm of 'e-justice.' Since that report was written, Australian courts have had nearly two decades of experience of the introduction of new technologies. This chapter discusses the experience of e-justice in Australia to date and argues that it still has some way to go to achieve the goals set out in the 1999 report. It suggests that, to date, the implementation of information and communication technology (ICT) in courts has largely concentrated on enhancing traditional methods of delivering justice. The innovative potential of technology is something that courts are still coming to terms with. In particular, courts have been slow to embrace the possibilities for the delivery of new kinds of services that will transform the nature of their relationship with users.

INTRODUCTION

In 1999, a seminal Australian report by the Victorian Parliamentary Law Reform Committee on the prospective impact of information and communications technology on the justice system predicted that:

Developments in technology offer the opportunity to transform the justice system into an

accessible, inexpensive, transparent and efficient system, which is responsive to the needs of the community. The effective use of IT in the justice system can entirely change the relationship between courts, governments and the public. ...technology can ensure that everyday legal issues are processed without the need for expensive legal advice or long court processes. ...IT offers lawyers the opportunity to be world leaders in their chosen field and offers judges

access to the best resources possible to make appropriate decisions. (Parliament of Victoria, 1999, p. 23)

The report was visionary. It pointed to the potential of new technologies to improve and enhance the operation of the justice system. More significantly, it presented a vision of how technology might result in a new paradigm of ‘e-justice.’

Since that report was written, Australian courts have had nearly two decades of experience of modern information and communications technologies (ICT). ICT is being deployed to enable parties to file cases electronically, to assist courts in managing cases and workflow, to time-table hearings and allocate hearing rooms and judges, to provide judicial support and enhanced research capacity, to enable courts to receive evidence from remote locations, to organise and display evidence more efficiently in the courtroom, to provide faster and more efficient communication between the court and the parties, to provide a record of court proceedings, to publish the decisions of the courts, to provide better information to court users, to exchange data between justice agencies, and for many internal management and organisational purposes.

This chapter argues that the use of ICT in the court system has not yet resulted in the transformation envisaged in that 1999 report. While application of ICT in the court process is routinely justified by reference to the goals it put forward, and while technology may have made some contributions to achieving those goals, in general, it has not yet fulfilled the report’s vision of ensuring that everyday legal issues are processed without the need for expensive legal advice or long court processes.

It suggests that the reason that the transformative potential of new technologies has yet to be fully realised in the Australian court system has to do with an emphasis that has been

placed on using ICT to support existing court practices and procedures. It argues that change, to the extent the committee envisaged, will only come about as courts embrace the possibilities that technology offers to provide new ways to deliver justice.

The chapter will also discuss some of the issues that are arising in the transformation process, identify areas in need of research, and refer to some current Australian research that is being conducted in relation to one area of particular importance.

THE AUSTRALIAN EXPERIENCE

‘Technology’ has been defined as referring to applications of scientific knowledge (Australian Law Reform Commission, 1998, [1.8]). For the purposes of this chapter, ICT is taken to encompass a range of computer and telecommunications technologies, including data processing (electronic retrieval, storage and management of data, document imaging), data management, communications services (telecommunications generally, wireless, video-conferencing, electronic mail, the Internet, virtual private networks, voice over Internet, collaborative Web technology), groupware and workflow systems, voice recognition, and artificial intelligence or expert systems.

In discussing the application of ICT in the Australian justice system, it is important to bear in mind that Australia has a federal system of government, so it has 10 separate but inter-related legal systems: the Commonwealth, six states, and three self-governing territories. The following discussion will provide an overview of the development and use of ICT in Australia as a whole, rather than a detailed analysis of each jurisdiction.

The use of ICT in the justice system began with the introduction of desktop computers in the early 1980s onwards, in the ‘back office’ or

administrative areas of courts. Coupled with more sophisticated word-processing software packages, they quickly replaced more cumbersome, main-framed based systems. They provided more flexibility for individual authors to exercise more direct control over their work. Thus, the ‘computer’ began to be seen as an integral part of the office equipment, rather than as the province of a specialist.

Case Management

Court administrators realised that other types of software, such as spreadsheet and database tools, could have application to the work of courts. In particular, courts began to consider the use of software to record cases filed, draw up court hearing lists, and track and manage the progress of cases and outcomes. Initially, these tools were applied as part of management processes designed to address backlogs of cases in a number of jurisdictions.

Australian courts began to look to the experience of the United States, where the science or study of systems of case management was already receiving considerable attention. The U.S. experience had shown that the design and implementation of new techniques of managing cases and judicial workflow required more and more accurate, information about rates of delay, case processing times, disposition rates, elapsed times, and a variety of other information (McMillan, 1998).

It was a logical step to look to emerging technologies to design systems that would assist with this information-gathering process. Computerised case management systems could more effectively track and manage the progress of cases. All Australian courts and most tribunals now use specialised case management software,

ranging from off the shelf products to those which are custom-designed to meet the needs of the particular organisation (AIJA, 2005).

Judgment Publication and Distribution

Once court judgments were being produced in electronic format, others began turning their minds to the use of ICT to facilitate judgment publication. The Australian Legal Information Institute (AustLII, <http://www.austlii.edu.au>), a joint facility of two Australian universities, began operation in July 1995. Prior to that, there were no significant free access sources of Australian legal information, whether on the Internet or elsewhere (Greenleaf, 1998).

Australian courts make their decisions freely available in electronic form to AustLII and on their own Web sites (see below). The service now includes 251 databases of case law (reported decisions of the courts) and statute law (legislation) from all Australian jurisdictions.¹ AustLII is a national service; however, there are now also local public access judgment and legislation services in each state and territory.²

Legal Information

All Australian courts now have Web sites that contain a wide range of information, including:

- Description of function
- Legislation or link to legislation
- Contacts
- Hearing lists
- Calendars
- Practice notes; procedural information
- Judgments – either to the court’s own database, to AustLII, or to a state or territory electronic judgment publication service;

- ‘Do-it-yourself’ guidance – for members of the public and litigants in person
- Links to other courts and related agencies³

Increasingly, court Web sites are also being used as the ‘gateway’ to enable users to transact electronically with the court (see discussion below).

Litigation Support

Two other developments have been significant in relation to the use of technology in the court system. The Australian economy went into an economic recession in the 1980s, and there were a number of high-profile corporate collapses, resulting in investigations by regulatory authorities. Many of these involved complicated factual scenarios with complex relationships between various corporate entities. For the first time, investigation agencies began looking for software packages to manage the extensive documentation associated with those investigations and subsequent court proceedings. Law firms too began to see the potential for technology to assist in preparing cases, particularly litigation involving voluminous documentation or complex financial transactions.

Evidence Presentation

From its use in case preparation, it was a logical step to consider extending the use of technology to assist with the case presentation in the courtroom. Modern litigation support systems are designed to carry through from the pretrial preparation stage with a view to the ultimate presentation of the evidence in court. Evidence can be organised and stored in ways that make it easy to search and retrieve and to present in ways that assist a judge or jury to understand (Australian Law Reform Commission, 1998). For example:

Where a single piece of evidence—such as a murder weapon—may have previously been ‘passed around’ for inspection, digital cameras now project the image onto easily viewed large flat screens. Reams of paper documents that previously needed copying can be digitally referenced and displayed—taking less time, yet with more accuracy. (Attorney-General’s Department of Western Australia, 2007)

Electronic mail and Internet technology can also be used to allow the creation of secure networks within which the parties can conduct discussions and exchange information. ICT can also be used to allow parties outside the courtroom to follow the proceedings and read a real-time transcript of the evidence (Australian Law Reform Commission, 1998; Stanfield, 2003). New types of evidence can be received in the courtroom, such as sounds or recordings of dance ceremonies.⁴

Electronic Courtrooms

To facilitate the presentation of evidence in this way, new technologies had to be incorporated into the courtroom. During the 1990s, a number of high technology electronic courtrooms were specially constructed for use in complex white-collar crime trials, multiparty civil litigation or lengthy commissions of inquiry. For the first time, equipment such as computer monitors, document cameras, scanners, and electronic whiteboards became standard features of courtrooms. Initially, most electronic courtrooms were set up on a temporary basis for particular proceedings and disbanded at their conclusion. Most jurisdictions now have at least one full electronic courtroom.

New court buildings are incorporating many of the features found in electronic courtrooms as part of the standard infrastructure (McInerney & Jones, 2002). In older court build-

ings, various aspects of the technology have been incorporated into existing courtrooms. "In a typical situation, you may have one or two courts with video-conferencing facilities, several with data projection facilities, and a variety of other more portable technologies that can be made available in any courtroom" (Macdonald & Wallace, 2004, p. 651).⁵

The most widespread availability of modern ICT facilities in courtrooms means that parties can consider using evidence presentation systems in a wider variety of cases. ICT needs no longer to be restricted to complex or longer trials. It is also possible to select aspects of the technology that suit the needs of a particular case, rather than having to use a whole system, and increased portability means that technology can be used to set up temporary electronic courtrooms in remote or regional locations (Stanfield, 2003).

Knowledge Management

Use of intranet systems to share corporate data and information is now standard practice in most courts. These include independent, secure networks for the judiciary. ICT has also provided the judiciary with better tools, by way of specialised research support. Many courts have developed judicial support systems, which provide access over the judicial intranet to primary research materials, such as cases and legislation, augmented by a variety of other material including sentencing information, bench books, and publications such as court bulletins or administrative circulars.

A number of jurisdictions have developed sophisticated sentencing databases. For example, the Judicial Information Research System (JIRS) in New South Wales contains a comprehensive statistical analysis of sentences imposed by courts in that state. It includes statistical information in the form of graphs and tables on the range and frequency of penalties

the courts. It is also possible to obtain information on 'going rate' or 'tariff' for the offence by entering specific details of the offence and the offender, such as age, prior record, bail status, and plea.⁶

Courts have developed electronic bench-books to enable judicial officers to obtain up-to-date access to the latest information on particular areas of law.⁷ Publishing electronically means that these documents can be quickly updated when the law changes, and they can be made easily accessible at low cost to judicial officers and are less cumbersome to carry around, particularly, for judicial officers who travel on circuit to regional or remote locations.

While many of these resources for the judiciary were initially made available only on court intranets, increasingly, they are available publicly, generally on the court Web site⁸ or on the Web site of organisations that provide judicial training and support, such as the Judicial Commission of New South Wales or the Judicial College of Victoria.⁹

Video-Conferencing

From the late 1980s, Australian courts began to recognise a need to provide a means to take evidence from vulnerable witnesses, such as children, at a location removed from the physical courtroom environment, where such a witness might feel intimidated or threatened. They began to experiment with the use of closed circuit television (CCTV) and, later, video-conferencing technology, to provide audio and visual links between courtrooms and remote locations (Parliament of Victoria, 1999, [10.33]).

Australian courts were quick to realise the potential of video-conferencing, and by 1999, it was noted that 'Australia...is internationally recognised for the effective use of video-conferencing in legal processes' (Parliament of Victoria,

ria, 1999). This is perhaps not surprising, given the huge distances covered by many Australian jurisdictions and the consequent travel costs for parties, witnesses, and court staff.

Video-conferencing is now used widely in Australia, both to take evidence from within the country and from overseas. Direct links to prisons and remand centres are used in several states to hear bail applications (Cock, 2000; Williams, 1998). On several occasions, accused persons have been sentenced by video-link.¹⁰ Video-conferencing is being used in one state to provide interpreting services in country proceedings (Williams, 2001).

Video-conferencing can also be more convenient for courts and lawyers. It is used on occasions as an alternative to circuit hearings (Australian Law Reform Commission, 1998), to conduct directions or pretrial hearings, to hear chamber applications, and for appeal hearings and handing down decisions and applications for special leave to appeal (Australian Law Reform Commission, 1998; Brennan, 1998). It has been used as a temporary expedient to bring a magistrate 'online' to a country court, when the local magistrate was unexpectedly unavailable to deal with a busy list (Waldron, Jones, Alsop, & Francis, 1998).

Improvements in the technology and the introduction of higher speed broadband connections have improved the quality of sounds and images. Improvements in hardware have also made it possible to display multiple sites in the courtroom by splitting the screen so that all participants are visible to each other. Access to images can be controlled by direction of the judge. Exhibits can be displayed via video-link using exhibit cameras, imaging, and scanning technology (Australian Law Reform Commission, 1998; Waldron et al., 1998).

In the past, the need for permanent infrastructure and to locate a video-conferencing facility in a specific location has been a barrier to its more widespread use. However, the use of

desktop video-conferencing over the Internet and software such as Skype now makes participation open to any party or witness who can access a computer with an Internet connection and a Web cam (Parliament of Victoria, 1999; Susskind, 1998).

Transcript

Being able to access an accurate record of the proceedings is particularly important for judges and lawyers involved in court cases. Digital recording systems and real-time transcripts have made significant improvements to both the immediacy and availability of transcript, together with new software tools to search and store transcript in electronic form (Harris, 1998). More recently, courts are moving towards full audio-visual recording in digital format.¹¹

Electronic Filing

On the business operations side, courts have begun to introduce systems that enable them to transact electronically with their users. Again, the Internet has been the key to facilitating these transactions.

Although most proceedings in Australian courts are still initiated by filing a paper copy of an initiating document at a court registry counter, most courts have either introduced, or are planning to introduce, electronic filing facilities (Greenwood, 2006). Most of the current systems enable a party to file a document by transmitting it directly from their computer to the court's electronic filing service (or in the case of some courts, a third party intermediary providing that service as a transaction facility for the court).¹² More recent systems enable direct integration of data attached to, or contained in, the filed document into the court's case management system. The most advanced enable electronically filed documents to be

accessed online by the parties, the precursor to an electronic case file. Law firms are indicating a high level of interest in these services (Greenwood, 2006).

Electronic Search

Another increasingly common transactional tool is an electronic search facility, which enables users to access selected case information from the court's case management system from the court Web site. For example, the Federal Court of Australia's eSearch facility enables members of the public to search a database of selected information on cases initiated in the Federal Court of Australia and in the federal law jurisdiction of the Federal Magistrates Court of Australia.¹³

The available information includes:

- File number
- The date the case was commenced
- Type of matter
- The type of each document filed in the case and the date on which it was filed
- Past and future hearing dates
- The current status of the case
- Where available, the text of orders made

E-Courts

Technologies such as e-mail are now regularly used to handle communication at the pretrial preparation stage. A number of courts have experimented with the use of technology such as discussion boards or bulletin boards, in conjunction with secure e-mail systems to handle pretrial hearings in systems which are generally referred to as e-courts (AIJA, 2005). For example, the New South Wales Land and Environment Court conducts 20% of its directions hearing online and reports a high level of user satisfaction among users of this service (Greenwood, 2006).

Integrated Justice

ICT has considerable potential to integrate the flow of information in the justice system and improve efficiency. For example, in the course of a typical criminal prosecution, data in relation to an offender's personal information (name, description, date of birth) may need to be entered by a number of different justice agencies: the police, the courts, legal aid, and corrections. A system whereby information of that type could be entered once and then shared across the relevant agencies could avoid unnecessary duplication of effort and ensure greater accuracy of information.

Justice agencies also need to transfer information in relation to individual cases. For example, conviction details need to be transmitted from courts to the police and correction facilities. Electronic data transfer could also improve the flow of information between relevant agencies, avoiding errors associated with manual transmission of information and lowering costs associated with manual processes. This type of integration was an essential component of the Victorian Parliamentary Law Reform Committee's vision (Parliament of Victoria, 1999).

However, there are concerns about sharing information electronically. Security of data is a significant issue, as is judicial independence and the need to ensure the independent exercise of prosecutorial discretion.¹⁴ There have also been technical issues such as achieving interoperability and common data standards between agencies. These difficulties are aggravated by Australia's federal system and the need to negotiate with multiple justice agencies to achieve agreement on these issues.

Notwithstanding these difficulties are integrated justice systems. Projects in the two most populous states—Victoria (ICMS) and NSW (CourtLink)—aim to achieve this objective and are now well underway (Attorney-General's

Department of New South Wales, 2006; Greenwood, 2006; Morris, 2005; Simpson, 2005).

What are the Goals?

The introduction of new, or improved, technology into the court system generally involves the outlay of substantial sums of public money. Courts, like other publicly funded institutions, have to justify those outlays. This tends to occur either at the stage where funding is sought, for example, from the executive government, or when a regular accounting is made for expenditure, for example, in an annual report.

The types of justifications that are commonly given for expenditure on ICT in the justice system include improvements in the timeliness and comprehensiveness of information, faster reporting on court outcomes, improved efficiency (County Court of Victoria, 2006), service improvement (Attorney-General's Department of NSW, 2006), convenience, accessibility, and improved quality of decision making (Attorney-General's Department of Western Australia, 2007).

The only Australian attempt to date articulating a comprehensive set of goals or objectives for the use of technology was made by the Victorian Parliamentary Law Reform Committee in its 1999 report. The committee suggested that the transformative potential of new technologies should be directed towards achieving: "An accessible, inexpensive, transparent and efficient system, which is responsive to the needs of the community" (Parliament of Victoria, 1999, 3.1).

To these might be added a further—enhancing performance—which is implicit in many of the committee's other recommendations and explicit in some of the justifications for the use of technology given above. Enhancement of performance goes beyond merely improving the efficiency and timeliness of the court system. It also encompasses the notion of improvements in

'outcomes' both in qualitative and quantitative terms. In other words, a system which can handle more cases and one in which the outcomes of those result in better decisions.

Are They Being Met?

The extent to which the use of ITC in the court system is achieving its stated objectives has not been the subject of any detailed empirical research. Indeed, as one recent review has pointed out, most of the published literature in Australia on court technology is largely conceptual and descriptive and provides very little empirical, results-focused research. Its authors conclude that many of the claims put forward in relation to the use of technology are not supported by empirical results (May & Burdon, 2005).

Accessibility

One of the key criteria for the rule of law is that citizens should have access to information about the law, that is, that they should be able to know and understand what the law is. Knowledge of the law enables citizens to comply with it, use it, make better business decisions and better manage legal risks. It also ensures a fairer legal process (Scott, 1999). In a legal system such as Australia's, based on the British common law tradition, access to the law means access to both statute law and also to the decisions of the courts (which both interpret the statute law and develop the Australian common law by means of the doctrine of precedent).

The advent of new technologies, in particular the Internet, have been seen as a vehicle to enhance public access to law (McKechnie, 2001). Others have taken it further and argued that courts have a positive obligation, as a matter of public policy, to publish their decisions electronically, as part of the duty of all branches of government to inform citizens of the rules by which they will be governed (Bruce, 2000).

The application of technology to the publication of statute law and court decisions has played a key role in securing for Australia:

An international reputation for progressiveness in the provision of public access to legal information. No where in the world do you see a more progressive and coordinated approach to the electronic provision of legal information (Davey, 1998).

Discussions about the role of courts in providing legal information generally take place in relation to publication of judgments. Some say that publishing is essentially a commercial activity, best left to the private sector (Bruce, 2000). However, in the online environment, it may be more efficient for courts to publish their decisions themselves (Shapiro & Varian, 1997).

As a result of the development of AustLII, there appears to be a general acceptance by Australian courts that judgments in electronic form should be available from the source. There is also general acceptance that this availability should be unencumbered by the restrictive arrangements that have sometimes encumbered public access to printed materials.

All courts now provide free public access to their judgments from their Web sites, whether by a link to AustLII, their own judgments database, or another service. The development of local judgment services, such as the NSW Caselaw service,¹⁵ and the Queensland Courts Judgments Service,¹⁶ may signal a move away from the centralized arrangement that currently underpins AustLII, and it has been suggested that, in the long-run, a more decentralized, or distributed, approach may be more sustainable (Bruce, 2000). On the other hand, it has been argued that courts should continue to provide copies of their judgments to AustLII as well to local services to ensure that free public access

is maintained and because AustLII provides different types of value-adding that cater for different users (Greenleaf, 2000). AustLII has recently suffered a significant reduction in its funding, which may well result in an intensification of this debate (AustLII, 2007a).

Does publishing court judgments on the Internet really improve access to the law? Although aspects of judgment-writing style have been modified to suit electronic publication (for example, paragraph numbering and medium-neutral citations), judgments of Australian courts are still published in their traditional format, a format which is largely designed to be read by lawyers and translated by them to their clients. In this way, Internet publication perpetuates the assumption of traditional legal publishing that the main audience for legal information is lawyers—judges, the practicing legal profession, legal academics, and students.

In the past, lawyers and courts have assumed that:

litigants would almost always be represented by competent and ethical lawyers who would tell their clients all they needed to know. Witnesses would be given sufficient briefing by the lawyers for the party calling them to carry out their function in the court. Victims of crime, not being parties in the case, had no interest in the proceedings except as witnesses. Unrepresented litigants and defendants would somehow acquire an understanding of court procedure and terminology sufficient for the relatively minor nature of their matter. The public generally, and the media particularly, would appreciate that participation in the administration of justice was a civic duty that needed no further justification. (Parker, 1998, p. 158)

These assumptions are increasingly false. There is a widespread perception that the numbers of unrepresented litigants are increasing

(Parker, 1998), and they are often unable to access legal assistance. Many other participants do not understand the court process and their part in it. Jurors, witnesses, the media, lobby groups, and victims of crime might all benefit from better information about court processes and proceedings (Parker, 1998). A number of recent reports have also highlighted the fact that the role of courts in the maintenance of a society based on the rule of law is not understood well by all sections of the community (Parker, 1998; Scott, 1999).

There have been increasing calls for the courts to think about ways of meeting these unmet information needs. The Chief Justice of South Australia has observed that:

The community wants more information about courts as an institution, about what to expect when they go to court, and about the work of the courts. They want a substantially improved level of information for people who attend court, better explanations of what is happening when they are at court, and more reliable information through the media about what has happened in court. ...[and] they look to court staff to provide some of this information. (Doyle, 2001, p. 2)

While courts cannot provide legal advice, there is much that court information systems can do to assist members of the public to navigate their way through the court process. Publishing hard copy legal information can meet some of these needs. However, publishing on the Internet has the potential to make information accessible to many more people who would, in the past, have been deterred by the barriers to seeking it out (Parliament of Victoria, 1999; Scott, 1999).

There is a large potential audience for legal information on the Internet. Recent statistics show that 77% of Australian businesses and 60% of Australian homes have Internet access (ABS, 2006a; ABS, 2006b). The development

of the Internet has been a powerful force for expanding access to information; what has been described as the 'democratization' of information (Susskind, 1998). Already, legal information systems that have been established on the Internet have attracted far larger audiences than previously imagined (Bruce, 1995).

In addition to publishing information to a wider audience, ICT can enable courts to publish new types of information and to publish in new ways. Information can be brought together, structured, and presented in ways that make access more convenient, faster, and more affordable for the existing audience and potentially more accessible to new audiences. Given the many different audiences for legal information, there is considerable potential for courts to take greater advantage of the capacities of ICT in this regard. However, the Victorian Parliamentary Law Reform Committee found that much of the information on court Web sites focused on legal practitioners. They also found that much of 'This material is...founded on paper-based material available in courts, and there has yet to be a clear rethinking of information service delivery over the Internet for the general public (Parliament of Victoria, 1999). There are signs that some courts are now trying to better direct their systems to the needs of nonlawyers, for example, by including links to material specifically directed to the media, for unrepresented litigants, or jurors.¹⁷ However, the general approach is still to recycle printed material into electronic form.

A more sophisticated approach requires a better focus on users' needs and a greater willingness to engage with the technology itself. For information systems to provide effective access to the law for nonlawyers, they should be structured from their viewpoint (Nyberg, 1999). They need to take into account users' levels of knowledge, the way they access and use information, and adhere to basic guidelines on Web design, disability issues, and standards

for electronic legal information. They also need to be willing to explore the possibilities offered by the technology to present information in different ways and to draw on relevant materials produced by others.

At the same time, it is important for courts to bear in mind that an effective legal information system is only part of an overall court information strategy that includes a commitment to equality of access to information for all court users. There is still a significant percentage of the community who are not 'digitally empowered,' and their needs also have to be met.

The more widespread availability of information about court proceedings, particularly, over the Internet, also gives rise to privacy concerns. Electronic access provides much easier and wider access, a fundamental change from the current situation where documents filed on a paper court file are, to all intents and purposes, 'practically obscure.' Although, in theory, most courts provide a right of public access to documents that form part of the court record, in practice only those with a direct interest in the case are likely to take the time and trouble to physically search the court file (Wallace, 2003). The development of electronic filing, integrated with case management and electronic case files, and coupled with electronic search facilities on court Web sites, has the potential to change that. Suddenly sensitive personal data contained in court files may be available to anyone at the click of a mouse button and capable of being exploited for purposes quite unrelated to the litigation.

The author has argued elsewhere that courts need to revise and update their policies in relation to access to documents to take account of these concerns. That review needs to consider not only the importance of the principle of open justice in the Australian legal system, but also the need to ensure that both the general public and individual litigants retain their trust and confidence in the court system. A number of

Australian courts have already taken steps in this direction. For example, in 2005, the New South Wales Supreme Court issued for public comment a consultation paper and draft policy regarding nonparty access to court records in the electronic environment and subsequently revised its policy to provide that, as a basic principle, leave of the court is required to access to all court documents.

Cost-Effectiveness

The use of ICT to make cost-savings or to deliver 'cost-effective' services is another common rationale or justification for its use. For example, it has been asserted that:

'By making a wide range of information and services available over the Internet, courts are able to save and redirect valuable resources, which would otherwise be expended in providing the same services by more traditional means' (Jackson & McDonald, 2004).

They cite the example of the Family Court of Australia, which has placed significant emphasis on the development of information services using the Internet: 'There have been more than 1,500,000 "hits" on its Website in 2004. If it is assumed that each hit is a possible telephone enquiry, the potential for savings in administration is obvious' (Jackson & McDonald, 2004).

It is also argued that electronic filing provides efficiencies, immediate cost-savings, and productivity gains to courts (Carlson, 2004; Washington, 2004). In 2004, a leading United States court journal carried an article which asserted in its title that electronic filing 'immediate cost-savings and productivity gains with almost no up-front investment' (Carlson, 2004). The article argued that these could be achieved as a result of fewer staff resources being required to accept and file documents, easier access to documents, and reduced file storage costs.

While some of these assertions may sound self-evident, the article actually provided little in the way of detailed analysis to support these claims. What evidence is there to support these assertions? What is the quantifiable difference in staff resources? Does electronic filing result in the employment of fewer staff, or are staff redeployed into other tasks, for example, providing more assistance to unrepresented litigants?

Whether or not documents are easier to access because they are in electronic form may depend on a variety of factors, including the level of willingness of judges and court staff to deal with documents electronically. Less floor space may be required to store paper documents; however, there may be costs associated with the design and maintenance of electronic document storage and archiving that need to be considered. Courts may need to consider the costs of maintaining dual systems for old and new records and dealing with records created with obsolete technology. There may be additional costs associated with staff training and with considering and formulating privacy and access policies. In the absence of a detailed analysis and some empirical evidence, it is difficult to justify claims based purely on anecdote.

Litigation support and evidence presentation systems certainly have the potential to reduce preparation and hearing time, leading to cost-savings (Australian Law Reform Commission, 1998). They can provide an alternative to dealing with large quantities of hard copy documents and consequent savings in transport, collation, and storage costs. As noted above, they can also provide a more efficient way of organising and presenting large quantities of materials or complex materials. However, the extent to which the potential to achieve cost-savings in practice has been achieved in Australia to date is open to debate. The poor quality of many electronic source materials and the use of inconsistent formats adds considerable expense to the use of court technology (Stanfield, 2003). Original

material that is not available in electronic form has to be scanned, an exercise which itself can be quite costly.

Courts have developed quite detailed protocols to address the preparation of cases for trial in an electronic courtroom to assist with some of these issues. These are found in various court practice notes and directions which also enable judges to give directions about the use of ICT at the pretrial preparation stage.¹⁸

However, the major challenge is the lack of common standards to ensure data consistency:

Data consistency is the cornerstone for electronic solutions...if judgments, transcripts and filed documents can be produced...in a manner that is electronically consistent...then this will enable those documents and the information contained within them to be electronically processed. The result will be that information can be automatically extracted and used at all stages of the court process, from trial through to ultimate appeal. (Stanfield, 2003, [7.20]).

In 1998, the Australasian Council of Chief Justices received a report on *Electronic Appeals* which suggested a number of steps the courts needed to take to make possible the development of an electronic appeal book. The report's major recommendation was that steps be taken to develop common standards to ensure the seamless flow of documents through all levels of the court process (Sherman, 1998).

The development of standard metadata 'tags,' using tools such as Extensible Markup Language (XML), has received consideration in this regard. The Standing Committee of Attorneys-General (representing all states and territories) has formed a working group to encourage the coordination of XML standards in the justice sector. Although some work has been done in sharing information as yet, no defined standards

have emerged from the process (G. Kirk, personal communication, April 23, 2006).

Disparities in the ability of parties to access technology may also impact on the extent to which use of the technology can achieve cost-savings. The establishment of protocols for the delivery and management of exhibits can also be important in this regard (Australian Law Reform Commission, 1998) as well as ensuring that sufficient training and technical support is available. The issue of who pays for this training and support can be a significant one, particularly in criminal trials where a well-resourced prosecutor may be at a considerable advantage over an unrepresented accused.

One area where cost-savings have been established is in relation to the use of video-conferencing. It has been established that conducting remand hearings and bail applications by video-link can save both transport and personnel costs, reduce security problems, and waiting times for both the court and those in custody (Parliament of Victoria, 1999; Spigelman, 1999). Video-conferencing used for pretrial hearings and preliminary applications can produce savings in both time and cost for lawyers. Using video-conferencing to obtain evidence from witnesses who are overseas, or from busy experts, such as doctors or forensic scientists, can assist in reducing costs associated with their travel and 'down time' from their professional activities, particularly where they are able to give evidence directly from their office or laboratory (Waldron et al., 1998).

In the past, a significant factor in assessing cost-effectiveness has been the cost of the connection (both the infrastructure, usage, and connection charges). Assessing cost-effectiveness requires taking those costs into account and balancing them against the opportunity cost of the time of the participants (Spigelman, 1999). The move away from fixed-infrastructure video-conferencing to Internet-based systems

will undoubtedly make use of this technology more cost-effective.

Transparency

The indicators of transparency are generally taken to be the provision of courts that are open (to the public) and whose proceedings are thereby subject to scrutiny. Cases are initiated by the parties who are also entitled to be heard in relation to decisions that affect them. Judicial officers are required to give reasons for their decisions, and those decisions themselves are subject to appeal (Morris, 2005). However, the notion of transparency also involves an educative function: 'True transparency involves more than open justice. It involves an understanding of what it is that the courts do and why' (Steytler, 2005, p. 9).

Although seldom explicitly articulated in terms of transparency, the use of ICT in courts is often justified on the basis of the provision of improved information, that is, information available to the legal profession, other court users, and the general public that will not only assist court users but promote public trust and confidence in courts.

The use of ICT to assist in providing more information has the potential to improve the transparency of court processes in two ways:

1. By improving distribution of court decisions
2. By improving information available about the court processes

It has been argued that technology has already made a significant difference to the transparency of justice; in particular, by the development of AustLII and the publication of court judgments on the Internet, which has made it possible for court judgments to be much more widely and rapidly disseminated (Morris,

2005). However, as noted above, publishing information is not necessarily the same thing as making it accessible. Technology has certainly improved the dissemination of court judgments to lawyers, other judges, and law students.

There has been little research as to the extent to which the improvements in judgment publication made possible by new technology have made court processes more transparent to the general public. Certainly, the user statistics for Web sites such as AustLII do indicate that users span the whole community with the most recent AustLII statistics (February 2007) indicating, for example, that some 15% of users come from community organizations and 30% from educational institutions (AustLII, 2007b). However, beyond that, there is little information.

Information on court Web sites and facilities like eSearch that enable the public to obtain access to court lists and basic case information are another example of the use of ICT to make the operations of the courts more transparent. The Supreme Court of Tasmania took the step of placing judges' sentencing remarks on the court's Web site in order to counteract ill-informed media criticism (Underwood, 2000), an innovation that has now been adopted by a number of other Australian courts. ICT can also assist in combating corruption in court systems. Technology-based systems that create proper records of cases and case-processing in a secure environment and digital recording of court proceedings are useful tools in this regard (McMillan, 2006), although historically, this has not been a significant issue in Australia.

Efficiency

The introduction of ICT is often justified on the basis that it will enable cases to be dealt with more efficiently. For example, well-designed, integrated case management systems to have the potential to enhance the efficient administration of justice by facilitating the allocation of

resources, scheduling judges' workloads, timetabling and listing cases, and allocating court rooms (Parliament of Victoria, 1999). They can also ensure that case information is processed with maximum efficiency, available when and where it is needed, and processed in ways and in forms that make it accessible to those who need it. In Victoria, for example, the introduction of technology in one tribunal has resulted in a significant improvement in the timeliness of decision-making (Morris, 2005).

Case management technology can also be used to assist court staff and judges in differentiating at an early stage between different types of cases, some of which may require different treatment. The use of ICT to support differential case management can promote efficiency by avoiding the wastage of scarce court resources on cases that do not require intensive management, for example, and concentrating those resources on cases where the parties require more input from the court in the process towards resolution. For example, ICT can assist in identifying, at an early stage, cases where the parties may be inclined to use alternative dispute resolution, either as a method of resolving their dispute or to narrow the issues.

Courtroom technology also has the potential to achieve efficiencies. Digital transcript systems can lessen the amount of time judges have to take to search and retrieve evidence. Internet access in the courtroom can enable lawyers to consult with their colleagues instantly, lessening out of court consultation time (Attorney-General's Department of Western Australia, 2007).

The introduction of electronic filing systems is often justified on the basis that it will deliver efficiencies and better service to clients (Attorney-General's Department of Western Australia, 2007; Washington, 2004). Thus, law firms can file documents with the court without having to send staff down to the courts; they can file documents 24 hours a day, 7 days a week; prac-

titioners from the country or regional areas can have the same standard of service as those in the city (Carlson, 2004); there is a faster turn-around time for documents, and electronically filed documents can be made available online for parties to search (James, 2004).

Electronic filing can reduce the amount of 'paper traffic' to the court, avoiding congestion and delays. It also avoids the amount of physical traffic to and from the court, freeing up law firm staff for other activities. It avoids double keying of data and consequent errors that may occur in that process. Where case management systems are fully integrated into electronic filing systems, data can also be automatically inserted into the case management system. Depending on the level of sophistication, electronically filed documents can also be automatically entered on electronic case file. Experience with electronic filing systems in Australia to date appears to be mixed. It may be difficult to quantify the extent of any increased efficiency until practitioners are fully aware of all the processes required (Western Australia Department of Justice, 2005).

Certainly, convenience is a factor that attracts the legal profession. However, electronic filing systems which do not provide for integration of filed documents into the court's case management system, for convenient online payments methods, which have document size limits, or other restrictions, may mitigate against those advantages (Diamond, 2004). Other users have highlighted the need to provide better integration between lawyers' practice management systems and electronic filing technology. Experience suggests that the slow take-up rate of electronic filing is attributable, at least in part, to some of these factors and that users may find it hard to quantify the business benefit until they are addressed (Lethlean & Elliott, 2004).

There is certainly a developing body of experience, and courts are presumably making

their own evaluations for internal purposes. However, it is true that while:

There are plenty of assertions that say these new technologies deliver a more efficient and effective system, yet there is no empirical research to support that (May & Burdon, 2005, p. 17).

One area, in particular, where promised efficiencies have been slow to materialize is in the area of integrated justice systems. Overall, the level of interoperability within the justice sector generally is still poor. In particular the absence of national standards for data exchange (referred to above) is of concern.

Enhanced Performance

In considering the potential of technology in this regard, we first need to consider what is meant by 'performance' in the context of courts. In recent years, the debate about performance in courts has focused on issues of efficiency or cost-effectiveness (discussed above). However, the delivery of justice also needs to be accompanied by values such as fairness, impartiality, openness, and accessibility.

Certainly at the level of managing inputs and outputs, technology has provided to be an important ingredient in the measurement of court performance (Morris, 2005). Automated case management systems can be used to generate caseload statistics to assist the court in allocating its own resources and in make the case to government for further resources. For example, arguments about the need for judicial positions can be more accurately based on forecasts deriving from caseload statistics.

At a national level, the Australian Bureau of Statistics regularly publishes statistics on workload and case disposition in Australia's higher criminal courts.¹⁹ The Council of Australian Governments (COAG) reports on performance indicators in relation to government services

generally and, on the work of the courts, as part of annual statistics that compare the performance of courts on issues such as timeliness of disposition, expenditure per lodgement and finalization of lodgements.

Both these national collections have encountered difficulties arising from a lack of standardization among the various court case management and financial management systems. It is difficult to make meaningful comparisons between systems that measure different things in different ways. As one chief judicial officer has noted, ‘Despite calls for co-ordinated efforts to collect comparable statistics in order to identify best practices among court, very little has been done to achieve this objective’ (Gray, 2003, p. 8).

Technology also has the potential to more accurately measure aspects of the performance of individual judges. For example, a case management system can be used to generate statistics about the case-processing times of individual judges and the level of their individual workloads. However, the issue of performance indicators as they apply to the judiciary is a controversial issue in Australia. Comparisons based on case-processing time and workload may be misleading, if they do not take into account the complexity of individual cases, a factor which may be hard to measure. Measurement of ‘quality indicators’ is harder to assess than qualitative ones. As one senior judicial officer has pointed out, qualities such as fairness and responsiveness are simply difficult to assess quantitatively (Spigelman, 2006).

Conclusion

Certainly technology has had a significant impact on the work of Australian courts. Speaking at a conference in 1998, a former Chief Justice of Australia described its impact as amounting to nothing less than ‘a revolution in the way that participants in the justice system receive

and process information’ (Brennan, 1998, p. 2). However, when assessed in relation to the goals set out by the Victorian Parliamentary Law Reform Committee, experience to date appears to be mixed. In particular, ICT does not appear to have resulted in significant changes in relationship between courts and their users.

THE FUTURE: THE TRANSFORMATIVE POTENTIAL OF ICT

After two decades of the use of ICT in courts, further consideration needs to be given to the methods by which the Victorian Parliamentary Law Reform Commission’s goal of using technology to create an accessible, inexpensive, transparent, and efficient system of justice might be achieved. A new paradigm of justice involves new conceptualizations of the role of ICT in the relationship between courts and their users.

The English law and technology scholar, Dr Richard Susskind, developed his concept of the ‘Grid’ to analyze the potential impact of ICT on the legal profession. It also provides a useful methodology for analyzing the potential impact of ICT on courts

The horizontal axis of the Grid represents a ‘legal information continuum.’ The vertical axis creates an internal/external divide, for example, between a law firm and its clients. This results in four quadrants representing internal management infrastructure, management, information, and knowledge, accessed and leveraged by external technology links in the top sectors.

Susskind uses the Grid to illustrate how the legal profession has been approaching the use of technology. In 2000, he expressed the view that most lawyers were concentrating their attention on the internal use of technology, both in terms of ‘back office systems’ (the bottom left quadrant) and the creation of knowledge data-

bases and intranets (the bottom right quadrant). Susskind noted attempts by some law firms to move into the top left quadrant and use ICT to offer new ways to deliver traditional services, for example, e-mail for communication and the provision of Web sites to provide information to new and prospective clients. He noted that only a few were embracing and aced the top-right quadrant in terms of online legal services (Susskind, 2000). Similar developments have been noted in Australia (Broderick, 2004).

The Grid is also a useful tool to examine the effect of implementation of ICT in courts. In particular, provides a framework to examine its impact on the delivery of services to court users and the nature of their interactions with the courts.

The implementation of ICT in Australian courts has largely concentrated on the bottom half of the Grid, that is, infrastructure and internal knowledge management systems with some attempts to extend its use into top left quadrant by using ICT to enhance traditional methods of delivering justice. For example, case management systems constituted a significant improvement to the internal management of information in courts. The development of internal databases of court judgments, made available on court intranets, was an activity centred in the bottom right quadrant of the Grid. Electronic filing is an example of an outward focused service, using ICT to deliver a traditional service in a new way.

Another example illustrates the ways in which the implementation of ICT can result in a change in focus from internal to external from operation to innovation. The integration of ICT facilities, for example, networked computer with a broadband Internet connection, plasma screens, and video and audio system, will form part of the standard infrastructure in many new courtrooms. Similarly, most courts operate a modern technology-based case management

system. Those are 'back office' systems, part of the lower left-hand quadrant.

ICT provides information to case managers (judicial officers and registrars) in a timely fashion to enable them to make decisions about the ways in which particular cases are to be managed and heard. This may include the identification of cases in which it may be preferable for witnesses to give evidence remotely, for example, a case involving a child witness. This is applying ICT in the court's internal knowledge management.

Integration of that knowledge base with the infrastructure enables the court to move into the top left quadrant of the Grid, by offering another method to enable the witness to give evidence. Using video-conferencing to deliver witness testimony from a remote location to the existing courtroom is, in Susskind's terms, a new way of delivering a traditional service.

Innovation might be said to occur when the court is enabled by ICT to offer a new service. A fully 'virtual' courtroom, where all participants are linked by technology from any point in the globe, might be one such example.

Another example demonstrates that innovation does not necessarily have to be costly or involve elaborate infrastructure. The Magistrates' Court of South Australia offers an electronic prelodgment system for litigants who are filing small claims to recover debts. The service enables a final notice from the court to be sent to the defendant, notifying the sender's intention to sue and also providing contact details for a mediator who can intervene and try to resolve the dispute at no cost to either party. Prelodgment is available for a cost of \$10 through the court Web site and has proved to be a very popular service (Cannon, 2001).

Other possibilities for innovation are offered by technologies such as Web-streaming, that the potential to significantly improve knowledge and understanding of the work of the courts by providing greater access to court proceed-

ings (Stepniak, 2005). Although, theoretically, all courts are generally open to the public, in practice, very few people take time out of their day to attend a court proceeding unless they have some direct interest in a particular case. The Federal Court of Australia has taken the step of streaming a number of judgements of considerable public significance.²³

However, the practice has not yet been generally adopted in Australian courts, despite the technology being fairly widely available. The Chief Justice of Western Australia has recently indicated that he is keen to pursue Web broadcasting of court proceedings with a view to enhancing the quality and accuracy of news coverage. At the same time, he has warned of judicial resistance to the move (Drummond, 2007).

Newer forms of technology are providing other opportunities. The United States' Federal Court 7th Circuit recently became the first court to take advantage of collaborative Web technology by launching a court wiki.²⁴ This is an interactive site which allows lawyers and judges to post and change notes on procedure and practice with a view to revising the court's *Practitioners' Handbook* (Marek, 2007). This type of technology opens up exciting new opportunities for Australian courts to think creatively about engaging with and responding to their users and to the public.

Improvements in video-conferencing technology also make it possible for courts to think more creatively about the locations from which evidence can be taken. Courts in Singapore are already using video-conferencing to enable practitioners to participate in directions hearings from their office desks (Thean, 2002).

It has been predicted more widespread use of video-conferencing may be a step towards the possibility of 'virtual' court proceedings (Australian Law Reform Commission, 1998; Parliament of Victoria, 1999). This point is considered further below.

It has been predicted that the future might see the Internet used as a medium for courts to advertise their services and to compete for business in online dispute resolution (Sutherland, 2000). Others predict that sophisticated and interactive online guidance systems will guide users through all phases of their legal problems, including the court process (Parliament of Victoria, 1999).

Overall, the transformative potential of ICT is something that courts are still coming to terms with. In particular, courts have been slow to embrace the possibilities for the delivery of new kinds of services, which could assist to achieve the vision put forward by the Victorian Parliamentary Law Reform Commission.

FUTURE RESEARCH DIRECTIONS

The "Virtual Court"

Whatever developments are in store, the Internet is a new and constantly changing medium, and there is a need for ongoing monitoring and research as to how it is most effectively used to communicate information (Scott, 1999). Court strategies in relation to ICT also need to take into account general government policies and strategies on e-government, a developing area in Australia.

A number of technologies now combine to make a virtual courtroom a real possibility, and the power of technology to create 'virtual spaces' for the delivery of justice is receiving increasing attention. The notion that the administration of the law must take place in a physical courtroom is one that is now receiving critical examination. There are a number of issues in relation to this concept that warrant further investigation. These include:

- The control of 'shared spaces'; what systems of court governance apply in a virtual

space? What implications are there for judicial independence?

- How can equality of access be assured, particularly in relation to unrepresented litigants or those who may not be able to access the technology?
- Is there an element of personal contact or ‘confrontation’ that is essential to the doing of justice? Are there cultural considerations that impact on that?
- How can transparency and openness be assured in a ‘virtual court’? Do technology-based solutions, such as Web-streaming, provide a complete answer to that?
- What effects does the use of technology have on the quality of the courtroom experience?

There is some current research underway in Australia in relation to these issues. For example, a research consortium headed by the University of Canberra is undertaking a project which aims to create models for improving communication for remote participants in court and tribunal proceedings.

Other Research Possibilities

Other areas in which there is scope for research include:

- The cost-benefit and efficiencies claimed for technological innovations (as noted above) (May & Burdon, 2005)
- The security of electronic courts (May & Burdon, 2005)
- The effect of the introduction of audio-visual recording as the official court record on the way that cases are reviewed on appeal
- The extent to which the improvements in the publication and dissemination of legal information made possible by ICT have

resulted in improved public understanding of the justice system

Indeed, the major lesson from the deployment of ICT in the justice sector in Australia to date is that there is much scope for further research into the objectives and effectiveness of ICT as a tool for transforming the delivery of justice.

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ENDNOTES

- ¹ See AustLII Web site at <http://www.austlii.edu.au/databases.html> for a comprehensive list.
- ² See, for example, CaseLaw NSW at <http://www.lawlink.nsw.gov.au/caselaw/caselaw.nsf/pages/lec>, ACT Legislation Register at <http://www.legislation.act.gov.au/>, and Queensland Courts Judgments Service at <http://www.courts.qld.gov.au/qjudgment/default.htm>.
- ³ See listing of Australian court Web sites with links at the Australian Institute of Judicial Administration Web site at <http://www.aija.org.au/links.htm>.
- ⁴ The system used for the Inquiry into the Glenbrook Railway disaster in 1999 allowed the addition of audio evidence (recordings from signal operators and train drivers) in digital format, accessible through the database, and the Federal Court of Australia has received evidence in the form of video-recordings of dance ceremonies in a native title case.
- ⁵ See, for example, 'Technology Available in Criminal Courts (Brisbane)' on Queensland Courts Web site at <http://www.courts.qld.gov.au/about/technology.htm>.
- ⁶ Judicial Commission of New South Wales, Judicial Information Research System, at <http://www.judcom.nsw.gov.au/sentencing/jirs.php>.
- ⁷ See, for example, the Victorian Sentencing Manual, the Victorian Criminal Charge Book, the Search Warrants Manual, and the Sexual Assault Manual published by the Judicial College of Victoria, available at <http://www.judicialcollege.vic.edu.au/CA256DC1001D124B/HomePage?ReadForm&l=Home~&2=~&3=~>.
- ⁸ See, for example, the Queensland Courts Equal Treatment Benchbook at <http://www.courts.qld.gov.au/practice/etbb/default.htm>.
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- ¹² For example, the Federal Court of Australia's Electronic Filing Service at http://www.fedcourt.gov.au/fff/fff_filingelectronic.html; the West Australian Courts eLodgment service at <http://www.justice.wa.gov.au/E/elodgements.aspx?uid=1394-0970-6792-7103>; the Citec Confirm system operating in the County Court of Victoria at <http://www.countycourt.vic.gov.au/CA256D8E0005C96F/page/Technology+in+the+Court-electronic+filing?OpenDocument&l=80-Technology+in+the+Court~&2=0-electronic+filing~&3=~>
- ¹³ Federal Court of Australia, eSearch at http://www.fedcourt.gov.au/ecourt/ecourt_esearch_slide.html.
- ¹⁴ However, a number of jurisdictions permit police and other prosecution agencies to

make bulk electronic transfers of prosecution filings into the Magistrates' Court.

¹⁵ CaseLaw NSW at <http://www.lawlink.nsw.gov.au/caselaw/caselaw.nsf/pages/lec>.

¹⁶ Queensland Courts Judgments Service at <http://www.courts.qld.gov.au/qjudgment/pe.htm>.

¹⁷ See, for example, the South Australian courts Web site at www.courts.sa.gov.au.

¹⁸ See, for example, Federal Court of Australia, Practice and Procedure, Practice Note No. 17, Guidelines for the Use of Technology in Any Civil Matter at http://www.fedcourt.gov.au/how/practice_notes_cj17.htm; South Australian Courts, Guidelines for the Use of Technology, Practice Direction No. 52 at http://www.courts.sa.gov.au/lawyers/practice_directions/civil_pd/civil_pd_52.htm; Supreme Court of New South Wales, Practice Note No. SC Gen 7 (15 August 2006) at http://www.lawlink.nsw.gov.au/practice_notes/nswsc_pc.nsf/abe8e3538fbb2861ca2572e3001ce3d4/c6f2487244a08572ca2571cb001dc176?OpenDocument; Supreme Court of Victoria, Practice Note No. 1 of 2002, at [http://www.supremecourt.vic.gov.au/CA-256902000FE154/Lookup/PN/\\$file/PN-1-2002%20-%20IT.pdf](http://www.supremecourt.vic.gov.au/CA-256902000FE154/Lookup/PN/$file/PN-1-2002%20-%20IT.pdf); Queensland Courts, Practice Direction Relating to Document Management No 8 of 2004, at http://www.ecourts.courts.qld.gov.au/eCourtroom/Practice%20Direction-sc2004_08.pdf.

¹⁹ See, for example, Australian Bureau of Statistics, Release No. 4513.0, Criminal Courts, Australia, 2004-05, at <http://www.abs.gov.au/AUSSTATS/abs@.nsf/ProductsbyReleaseDate/>

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