Doing Justice with Information Technology

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ABSTRACT Courts can use information technology to improve their quality and speed up case handling. For centuries, inefficiency in the judiciary has been a topic for debate. Efficiency and quality of justice were traditionally regarded as opposites. This article examines civil case processing and information handling in the Netherlands, a continental European civil law judicial system. The civil courts fulfill a number of distinct roles. Each role requires a different process which in turn may benefit from specific forms of information technology. The article describes how using various types of information technology can enhance compliance with the requirements of fair hearing and reasonable delay in the human rights conventions.

1. Information technology and the administration of justice

This article discusses how judicial and court performance can be improved with information technology. From 1998 to 2003, I served as the Netherlands judiciary’s program manager for information technology policy. The judiciary went through a major change during those years. From a collection of individuals producing judicial decisions, it evolved into an organization with collective responsibility for its own performance. The article draws on that experience. It also stems from explaining IT to judges and their staff, and from explaining the functioning of courts to IT people, trying to bridge the knowledge gaps between them. All the contacts among experts in court IT world wide provided many examples of good—and less good—practices and a great deal of inspiration.

In an early example of the use of information technology in the courtroom, the war crimes tribunals after World War II made use of film material and simultaneous translation. In 1961, the court trying WWII war criminal Adolf Eichmann used simultaneous interpretation, photocopies and super8 films. Today, a host of different kinds of IT are used in the International Criminal Tribunal for the Former Yugoslavia (ICTY): video and audio recording of the court sessions; simultaneous interpretation; electronic court reporting; videoconferencing for witness hearings; and electronic files. Moreover, the ICTY maintains a web site with its decisions, background information, and sounds and images from the courtroom.

Inefficiency in the courts has been a topic of debate for centuries. In 1802, the Hamburg City Council adopted a directive to shorten court procedures. In 1998, the Netherlands Parliamentary Commission on Improving the Judiciary, known by its president’s name as the Leemhuis Commission, held that more efforts in the...
field of automating court processes were necessary. The Program to Reinforce the Judicial Organization (Programma Versterking Rechterlijke Organisatie, PVRO) and the information policy plan entitled Jurisdiction 2005 both regard IT as a catalyst of renewal and innovation. In the 2002 Strategic Agenda of the Judiciary, modern information technology is regarded as a general tool to improve the judiciary.

However, how should this improvement be defined? These past years, the judiciary has been studied extensively from the perspective of organization science. This produced many significant insights on ways to enhance effectiveness and efficiency by reorganizing the courts and their processes. But organization science cannot conclusively determine how the judiciary’s work of administering justice should be improved. The ultimate standard in a legal context is a legal quality standard. The most generally accepted legal quality standards are laid down in both article 14 of the International Covenant on Civil and Political Rights (ICCPR) and article 6 of the European Convention on Human Rights (ECHR): citizens are entitled to a fair hearing of their case within a reasonable time by an independent, impartial tribunal. Improved administration of justice means better compliance with the ideals in article 14 ICCPR and article 6 ECHR: fair hearing and reasonable delay. An important aspect of fair hearing is equal treatment. Citizens may reasonably expect to be treated equally when the courts ensure consistency of their decisions. We will see how courts can use IT for that purpose.

PVRO and the Strategic Agenda translated the notions of reasonable time and fair hearing into the goals of reducing processing time and increasing consistency, or equal treatment, as an element of fair hearing. In this article, these criteria will be the main topics for discussion. The legal perspective is not sufficient to answer all questions information technology puts to the judiciary. One reason for this is that the legal perspective primarily focuses on individual disputes, whereas the use of technology raises matters of the courts’ business processes. Therefore, we will also adopt a business process view to look at the reality of the administration of justice.

2. Daily practice in the courts

In order to determine which information technology can improve jurisdiction, it is necessary to know what the work of the judiciary is, and how it uses information to do that work. The judiciary in The Netherlands is quite similar to a large business. In 2002, the judiciary had more than 8500 staff employed, a budget of €650 million and a turnover of approximately 1,583,000 cases. There are 19 district courts with normally four sectors each: a civil law sector, a criminal law sector, an administrative law sector and a local courts sector. The civil law sectors have a specialized commercial unit and a unit for summary proceedings. The formerly over 60 local courts were administratively integrated into the districts courts in 2002. They deal mostly with small money claims, traffic violations, minor family matters, and employment and rent contracts. In these fields, they also have summary proceedings. There are five appeal courts which hear appeals of civil, criminal and some administrative cases.
2.1. Present IT use in the courts

The courts obviously use standard office automation such as text production and calendar management. They have their own network as part of the Justitienet (justice network), owned by the Ministry of Justice. There is a national courts intranet, and the courts each have a local intranet. The civil and the administrative jurisdictions each have their own registration and case management systems. The criminal jurisdiction uses the data from Compas, the Public Ministry’s registration system. The applications using the Compas data are entirely separate, used only by the judiciary. In all three jurisdictions, individual cases are managed and terms are monitored. The most common calculations are supported by functionality developed within the judiciary specifically for that purpose: for calculating alimony and child support allowance there is a system called Iudex Non Aestimat (INA); for the compensation at the dissolution of an employment contract according to article 7:685 of the Civil Code and for procedure costs, a dedicated part of the office automation takes care of calculations.

The latter calculation modules are part of JustWord, an application developed by the judiciary itself for managing standard texts and text blocks in Microsoft Word format, and for merging data from the registration systems with Word documents. In some places, speech recognition is used for producing texts, mainly to prevent RSI. Production and management information are extracted from the registration systems by a shell called Rapsody. The courts report about their production to the Council with the help of an application called PCSII, which in its turn extracts data from Rapsody. The workload measurement system translates the production into hours of handling time. On that basis, the cost of disposing of cases is determined. Porta Iuris (PI) is the name of the portal that promotes sharing and dissemination of knowledge in and by the courts. PI provides access to national legislation and case law, European case law and legislation, the Justex database for administrative justice and the database for consistent administration of criminal sanctions. This list is not complete, for new items are added regularly. The judiciary’s public face is www.rechtspraak.nl. Decisions of public interest and other information are published on this site. The site has thousands of visitors daily. Moreover, the judiciary is piloting digital files, videoconferencing and the presentation of production and management information.

2.2. Roles, products and processes

Many different views are held with regard to what the judiciary produces, what its products are. These differences in views over the products of the jurisdiction are generally related to the beholder’s perspective. First instance judges describe their work as resolving disputes. Judges in the higher tiers regard their work as safeguarding the unity of the legal system. Legal sociologists have debated this issue throughout the existence of their profession without coming up with a definitive answer. For the purpose of this article, those products are—broadly—enforceable decisions, and concrete and abstract legal protection.

Ultimately, under rule of law, the role of the judge is what the law says it is. In this perspective, the role of producing enforceable decisions distinguishes judiciaries from all other organizations producing decisions and resolving disputes. In a sociological perspective, concrete legal protection is effected through the manner in which parties are afforded fair hearing. In its turn, it
legitimizes the enforcability of the decisions. Abstract legal protection is produced by the mere presence of the judiciary, and by its accessibility. Effective and efficient concrete legal protection strengthens abstract legal protection. Abstract legal protection is also expressed as ‘the shadow of the law’. The general role of the judge is to produce enforceable decisions or providing title. Within this general framework, the legislator has allocated to the judge a number of distinct roles. For each role, we can determine which products are brought forth. Next, we can determine the characteristics of the processes that produce them.

A process takes input, adds value and creates an output that is of value to the customer. In an information processing business, the process takes information as input, processes the information and adds new information. The result is new information the customer can put to use. Thus, courts receive legally relevant information from parties in a procedure, process it in a legally relevant way, and produce a legally relevant result of value to either or both parties because it can be put to use. A process is determined by the degree of uncertainty of its outcome. Another important factor is, whether, in the eyes of the parties, in terms of game theory, the result is zero–sum or win–win. In the first case, it is irrelevant whether parties maintain a good relationship, in the second, cooperation by the parties is vital toward producing the best result.

The relative uncertainty of the outcome and the relationship between the parties, or rather, the extent to which they can collaborate towards the result, determine the characteristics of the role of the court, its products, its processes and the way information is used. Once the use of information is known, it is easier to determine what kind of information technology can help to support and thereby improve the quality of the jurisdiction, for those particular processes. Below, we will see that although some general conclusions can be drawn, specific needs for IT support can be identified for each group. The distinctions help to determine the ways in which IT can support improvements. Thus, we can determine what kind of IT is useful for what kind of process.

Providing title is the role of the first group. Let there be no misunderstanding: the outcome of the judicial process is always a title, in the sense that it is an enforceable decision which can be used to take possession, to effect imprisonment, or perform any other act of enforcement. Here, we deal with a process that does no more than producing that title. No judgment over a dispute except for a very marginal review and no settlement. The process in this group is characterized by little uncertainty and much objectivity. The notarial role, group 2, also entails little uncertainty. The parties propose a settlement they have worked out among themselves. The settlement is examined only very marginally by the court. The settlement role, group 3: here, the overriding objective is for the parties to reach agreement. The process is characterized by communication and negotiation. Very complex information, needed to bring the parties to agreement, can be the object in this process. Group 4, the judgment role, is widely regarded as the judiciary’s main function. The outcome of the process is dependent on all sorts of events that may occur during the process. The parties are in opposition. The judge decides. This process may involve large amounts of complex information.

3. The Civil Jurisdiction

Our next step is to apply the matrix from Figure 1 to civil justice. There are a number of reasons for this choice. Firstly, civil justice is of relatively large
importance: 45% of all disposed cases are civil in nature. The second is its economic importance: 1 in 4 cases of insolvency is due to late payments. 35% of these payment delays are deliberately late payments; they are not due to financial problems of the debtor, or of a dispute over performance, or even administrative inefficiency. The total number of cases in the small claims court in the Netherlands accrues an interest of more than €600,000 each week at the present rate of legal interest. And the third reason is that there appears to be little attention for these interests and civil justice is usually last in line when it comes to funding.

For each group, we first need to know how many cases are disposed, how they are disposed, and what other information is available about them. Next, we group the cases into the matrix' quadrants. We discuss what this means for the information service, and consequently for supporting and improving the process with IT. Finally, we examine examples of IT use in courts around the world that have proved effective and useful. A distinction is made between a case's handling time and its turnaround time. Handling time in this context denotes the time someone is actually performing some action. Turnaround time denotes the length of time a case is in the court administration, from filing to final disposal. Turnaround time is an actual figure which shows up in the statistics.

The cost of cases discussed here is that of the time spent on them by judges and staff, of the building, postage and of overhead. There are time standards for handling the various categories of cases. This cost is distinct from the court fees paid by the parties. It also does not include fees for legal assistance. Production figures are rounded off. Not the exact numbers, but the overall picture presented is what matters here. More than 700,000 civil cases were disposed in 2002 in first instance. Almost 500,000 of these were handled in the local court sectors of the district courts, the other 200,000 in the other civil sector or sectors in the district courts. Approximately 5300 cases got a second handling in the appeal courts. Finally, the Supreme Court reviewed a little over 600 civil cases.

3.1. Group 1—title role

Provision of titles represents approximately 30% of the total number of civil cases. The process in this group is characterized by a minimum of uncertainty and a large degree of objectivity. The relation between the parties is of no influence, the outcome is certain almost from the start. This process should be the easiest one to automate. Automation means: bringing about a situation in which a process can
be handled by a machine without human intervention. Over 200,000 cases fit this category. Undefended claims belong in this group in any event. More than 70% of all civil money claims are undefended. In 2002, over 215,000 civil cases were undefended.

In the commercial units, turnaround time of ordinary undefended cases was on average 41 days. The workload standard for handling time per case is 10 minutes' time of the judge and 120 minutes of the support staff. For an ordinary default case, the cost is at most €160. In the local sectors these default cases had a turnaround time of 13 days on average. The workload standard is 1 minute of the judge's, and 25 minutes of the support staff’s time per case. The local courts handle these cases in an orally conducted roll session, because parties can represent themselves. Considering the average handling time, this appears to be efficient for those cases. In the local court, an ordinary undefended case will cost no more than approximately €30.

The process of the default cases runs almost completely automatically. This is possible because the handling of collection costs, procedural expenses (mostly legal representation fees), and court fees have been standardized. Some courts even render decisions more quickly for parties who claim collection costs according to the guideline for awarding extrajudicial collection costs, because less work has to be done by hand. Since 2004, the bailiffs have been able to transmit case data to the local courts in electronic form on a CD-ROM. The process was piloted in the Amsterdam small claims sector, which has a thriving collection practice as the largest local court in the country. With this digital delivery, no more data will have to be entered by hand.

A very relevant example of proven technology for this group comes from the United Kingdom. In England and Wales, no formal summons by a bailiff is needed to start a civil claim. The claimant sends his or her claim to the competent court, and the court notifies the defender. Northampton County Court is a court set up especially to handle large numbers of routine civil cases. This frees up the staff of the other local courts for other tasks. Moreover, it saves the other local courts from having to put energy into doing this work efficiently.

The court is a central point for receiving monetary claims: the claim production centre (CPC). Large returning customers such as energy companies and banks use it to file large amounts of claims. Its use is subject to general conditions. Users register themselves with a credit card number for court fees. Fees are lower than in the other, physical, courts. Remarkably, there is no obligatory rule with regard to
competence; the users themselves decide whether to use this court or not. A next step in its development is the centre which processes undefended claims. The claimant can request referral of defended claims to the court that is competent according to the normal rules. Half of all money claims are presently submitted to this court.

In March 2002, Money Claim On-Line (MCOL) was added as the Internet mailbox. It has turned out to be particularly useful for a group which made very little use of the court system until then, but was responsible for almost the entire growth of the labor market in England and Wales in the last five years: the ‘white van-men’. They are self-employed small entrepreneurs with not much more than a truck and a computer. This group is a frequent user of MCOL. A new user of MCOL registers with a user name and password of his or her own choice, and gives a credit card number for the payment of the court costs. As of December 2002, the summoned party can even enter a defense on MCOL. At every stage, parties are encouraged to settle their dispute amicably. If developments in the case make it necessary, a request can be made to refer the case to a court, competent according to the normal rules of civil procedure.

Another example is the Mahnverfahren in Germany, a procedure to acquire an order of payment. This procedure is being automated at different speeds in the Länder or States of the German federation. In most German states, the claimant can download or order a form on line, fill the form out with a typewriter or printer, and then send it to the court by ordinary mail. The form is then machine-read in the court registry. Inhabitants of Bremen can also submit their claim online. They first need to buy a smart card with a qualified digital signature and a card reader, for around €80.

### 3.2. Group 2—notarial role

In approximately 30% of the cases, jurisdiction fulfils a notarial role. This is the group of cases with no real dispute and the largest degree of cooperation between the parties. Parties submit a proposal to court. The proposal is reviewed only marginally. As a rule, no hearing is held. This group is approximately the same size as the title group. In this group we find for instance large parts of the 34,000 mutual requests for divorce. The turnaround time of those requests is on average 104 days. The workload standard per case is 95 minutes judicial time and 450 minutes for support. The resource cost averages €382. In the local court sector, the 63,000 dissolutions of employment contracts on the basis of article 6:785 Civil Code are a good example. Both parties to the contract can request the court to dissolve the contract. The court can set a sum to be paid as equitable compensation. The turnaround time amounts to 20 days. The number of settled dissolutions is very sensitive to the economy; it doubled from 2001 to 2002.

Many of the 117,000 family cases in the local court sectors can also be included in this category. The local court judges appoint guardians for minors in a number of situations. For example, unmarried parents can be given joint parental authority at their request. These examples have something in common: the judicial decision is often needed for a next step in the bureaucratic system, such as registering a divorce in the local population register or requesting unemployment benefit.

In the notarial group, case handling can probably be largely automated if common standards for the reviews can be developed. In this group there are two distinct opportunities. The first was already described in the title group: let the...
users fill your database, and no more time consuming data entry work needs to be done. The second opportunity is demonstrated well by the employment contract dissolutions. Dissolving individual labor contracts in case of irreconcilable differences is attributed to the local sector judges. They can award compensation based on equity. The local judges’ association has developed a guideline for the compensation on the basis of existing equity practice. This guideline consists of a formula to determine the amount of the compensation easily if there are no unusual, special circumstances. The formula is publicly available on the Internet and it is free of charge. Such a public information service can facilitate parties to present a complete and correct contract dissolution proposal to the judge, making the judicial process a routine matter.

3.3. Group 3—settlement role

Around 10% of cases are settled. In a case in this group, there is a dispute, but it need not necessarily be resolved exactly according to the rules of the law. Parties may cooperate to settle their dispute. How many of the present cases fall in this group cannot be determined with great accuracy. In 2002, approximately 70,000 commercial cases were disposed without a decision: 55,000 in the local court sectors and 16,000 in the civil justice sectors. Around 3250, respectively, 4875 of these were summary cases. They may have been withdrawn before or after a hearing, with or without a written settlement. There are bound to be a lot of settlements in this group. IT can support this process of information exchange between the parties in various ways.

Particularly in countries with an Anglo-Saxon legal system, much effort goes into preventing a case from being brought to court. Mediation is one way of doing this. An example of the use of prelodgment notices comes from Australia. The Magistrate’s Court (in this example the one in Adelaide) sends a message to the debtor that the claimant plans to submit a claim. Parties have 21 days to resolve the matter. The court offers mediation free of charge and the option of technical advice from an independent expert. Forms to help the negotiating process along, for instance the text of the agreement, can be downloaded from the court web site. Between June 1999 and September 2002 this facility was used more than 14,000 times, 5300 of these between September 2001 and September 2002. In the first 18 months, 59 mediations took place, more than half of which ended with a settlement.

The Singapore subordinate courts offer the possibility of court-annex mediation by e-mail. They believe that reconciliation and cooperation are part of their culture, rather than adversarial procedures in the western tradition. In 2001, 5000 e-commerce cases were absolved through mediation conducted by e-mail. In 2002 there were more than 9000. In the Netherlands there is also experience with mediation, court annex and otherwise. However, electronic communication does not particularly favour cooperative behavior, so face to face contact can be necessary to broker an agreement. There is no scientific evidence suggesting that mediation in general is a better way of dealing with disputes than a court procedure.20

A dispute can best be resolved where that can be done at the lowest possible social expense, so much is certain. With more efficient judicial disposal, the difference between a court procedure and mediation diminishes. In The Future of Law, Richard Susskind suggests that publishing general rules of thumb as to how
things can be arranged and resolved in general may prevent disputes from breaking out. Such information can also guide solutions in case of mediation. In e-commerce, new—online—form of dispute solution come up where parties can negotiate supported by a computer program. Thus, users of the on-line auction eBay can turn to SquareTrade.

3.4. Group 4—judgment role

In another 10% of the total number of cases the judgment role is practiced. There is a dispute, and it is decided on legal merit. The judge decides. A hearing is not always required. To learn what happens in this group we look at the ordinary, non-summary cases. In 2002, the local court sectors decided around 53,800 cases, and the commercial units decided approximately 14,000 cases. There is no separate registration of the number of cases disposed after a hearing. The segment of cases which was transferred from the commercial unit to the local court was the object of a thorough study when the small claims limit was raised from £5000 to £10,000 in 1999. The commercial units decided approximately 40% of the cases without hearing. They ordered a hearing in at least 38% of the cases. In the commercial units, the time spent on cases in both categories was, on average, 314 days. The commercial units ordered production of evidence or witnesses in, on average, 21% of the contradictory cases, possibly after a hearing. The turnaround time in those cases was, on average, 367 days.

Complex information abounds in these processes. We can probably use computing capacity best for finding and handling relevant information fast. Using digital files will help us when we deal with large quantities of complex information. The district courts of Amsterdam and Rotterdam have piloted the use of digital files. They used a common off-the-shelf application for structuring the information in case files. The results indicate that digital files have great advantages in case of large quantities of information, whether the cases are civil, criminal or otherwise. The information can be structured easily. A hearing in a tribunal can be prepared by one person structuring the information, which may save the other participants a lot of time. Information can also be used more accurately. With paper files, a lot of time is lost because the file is not always accessible for all participants. An electronic file on the court network gives access

![Figure 3](image-url). Pie charts showing case handling modalities in the small claims sectors and the commercial sectors of the district courts within group 4.
to all persons concerned at the same time. Digital files can also include video and audio recordings and still images. Now, testimonies and inspections must always be reproduced in writing. This always involves reducing the complexity and richness of the information. Thus, information is lost and the process is time consuming. We may also have some use for just-in-time knowledge management for the judge. On the basis of case data, relevant legal information might be presented.

IT support for the judgement role deserves much more study. There is some indication that the percentage of cases in which the different courts order a witness hearing varies considerably, and that this variation is associated with length of handling time. Is the same finding valid for turnaround time? How often are facts examined, how many decisions are appealed, and are these variables related? That will tell us much more about the information handling in this group. It will help to identify information needs and the technology required.

Before we come to the conclusions on the advantages of IT for the administration of justice, I feel a word of warning about its dangers is in order. It starts with an example. Once upon a time, I served as a criminal judge. One day, an officiating prosecutor said to me: ‘Your Honour, you cannot impose that sanction, Compas cannot process it!’ He implicitly equated the code on the Prosecution’s computer system with the Criminal Code as a standard for judicial decision-making. Computer code is pre-eminently, and better than legislation, suited to control, regulate and check behavior. A form on a website can force a user to provide answers to all sorts of questions, or leave certain answers out of consideration. Because computing capacity is abundant, this can even be done on a large scale. That can be efficient. The Dutch Law on the administrative disposal of traffic violations was developed in conjunction with the system for its automated administration. Efficiency in imposing and collecting traffic fines has been increased. Only a tiny fraction of the traffic violations now comes to court. This is one of the reasons why this piece of legislation is considered a success.

4. Conclusions

In the short term, the justice system can gain consistency by striving for standardization and by publishing the result of that effort. However, the administration of justice resolves disputes by providing answers where the parties themselves cannot find them. It generates public trust by honoring arguments with new solutions. Proportional and adequate use of technology must support this fundamental openness, it may never reduce it. Judicial organizations need to pay serious attention to their information technology policies. For some directions, let us go back to the matrix for some conclusions.

Electronic filing, online data entry and electronic case files will reduce handling time for all cases. The matrix helps us to understand that there are different cases which require different processing. The cases can be divided into four groups. Each group has specific IT support needs: automating routines for group 1, electronic forms for group 2, public information and software supporting negotiations for group 3.

Improved administration of justice means better compliance with the ideals of the human rights conventions. Public guidelines for frequently occurring decisions can fulfill the need for consistency. Automating the guidelines can be a next step, followed by on line case processing a là Money Claim on Line. Improved
consistency may lead to reduced handling time. Public guidelines can reduce the number of points in dispute, and perhaps even entire disputes, to be put before the judge. Thus, increasing consistency also shortens turnaround time. There is more to this than just implementing technology, however. Developing routines and guidelines requires active work on the part of the judges and their staff in the courts. Judiciary need to be responsible for their own performance as administrators of justice.

Notes


3 Your honor, why don’t you use a computer for that? This was the advice I got in 1991 from someone whose witness statement I had taken while a judge in the Alkmaar District Court. And he was right; taking a witness statement works a lot more efficiently with a PC than with a typewriter because it is much easier to make corrections.

4 Hamburg, City Council of (1802) Verordnung über die Abkürzung der Prozesse, Directive on shortening court procedures of the City Council of Hamburg, 21 May 1802.


7 Judicial Council, Strategic Agenda of the Judiciary, Council for the Judiciary 2002.

8 A note on terminology. Translating legal terminology from one distinct legal culture to another is impossible. Trying to turn terms into a generally understood lingua franca is still not easy. The elegant Dutch term ‘rechtspraak’ denotes jurisdiction as well as the institution of the judiciary power, its organization, the judicial activity, and the jurisprudence which is its product. In English, the term jurisdiction means different things in different cultures. Each meaning used was approximated by an equivalent as closely as possible.

9 The European Union and the National Statistics Office apply minimum levels of €50 million turnover and 250 employees to distinguish large companies.


13 All figures, unless specified otherwise, come from the first public annual report of the Dutch judiciary. More detailed figures come from the reports from the courts to the Council. The Supreme Court has a completely independent position. Figures about the Supreme Court are published by the National Statistics Office CBS.


15 See Struijsma and Jongbloed, this issue.


23 One guilder (f) is approximately €0.45.
25 The remaining 20% can not be categorized meaningfully for the purpose of this article. For 2003, the figures are: group 1, 35%, group 2, 35%, group 3, 8% and group 4, 8%. The remainder is 14%. It is too early to tell what this migration in the direction of groups 1 and 2 might signify.