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Using Information Technology Efficiently in International Arbitration

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What is the main purpose of thinking?

The main purpose of thinking is to abolish thinking. The mind works to make sense out of confusion and uncertainty. The mind works to recognize familiar patterns in the outside world. As soon as such pattern is recognized the mind switches into it and follows it along—further thinking is unnecessary.

The natural tendency of thinking is to support a view arrived at by other means.

—Edward de Bono, *de Bono's Thinking Course* 21, 35 (rev. ed. 1994 [1933])

INTRODUCTION

Information technology (IT) has been around for longer than one normally thinks. Telephone, telex, radio, and television have been in wide use since the first half of the 20th century. However, when we refer to IT, we tend to mean the advent of the personal computer (PC) and—more importantly—computer networks in the early eighties when desktop PC's started to invade offices and later homes. This was more than 20 years ago, and one might wonder why using IT in arbitration should be a topic for a conference at all. One answer could be that the topic is simply “fashionable.” Another answer could be that IT poses new procedural problems. Finally, one could state that IT offers potential for increasing the efficiency of the proceedings and may change the way they are conducted. The answer to the first question would be yes, to a certain extent. The answer to the second one would be yes, but the problems are overrated and in substance not new. The answer to the third one would be yes, but the word *may* must be written in bold capital letters.

This short article will provide the author's opinion as to where we stand in regard to using IT (or "electronic technical aids") in international arbitral proceedings and how actual use could be improved. This will be followed by an attempt to look at the more distant future.

HOW IS IT USED IN INTERNATIONAL ARBITRATION TODAY?

IT has not fundamentally changed the work flow and processes in international arbitration that follows the traditional adversarial approach.

Procedural Culture and IT

The basic principles of adversarial proceedings remain untouched. Arbitral proceedings commence with a request for arbitration followed by further memorials, gathering and introducing documentary, witness or other evidence, and one or more hearings. Either side has access to any information at least to the extent that such information is made available to the arbitral tribunal. The arbitral tribunal is expected to consider only information that is introduced by a party and may not use sources of information of which a party is not aware. This serves to provide procedural justice and may be described as an emanation of the principle of "equal treatment." Irrespective of the proceedings having a civil law or a common law "flavor" and any other substantial procedural difference, this remains the basic pattern.

However, in spite of certain trends of procedural harmonization, procedural concepts applied in arbitration remain to be drawn from municipal civil procedures. This depends primarily on the legal systems in which counsel is trained and also the legal background of the arbitrators. This aspect is important since most arbitration laws and arbitration rules are very open in regard to the methods used for arriving at the final award, if procedural justice is respected. Consequently, the broad scope of options for conducting arbitral proceedings is reduced by counsel and arbitrators who "contaminate" the proceedings with concepts developed in their municipal court systems for the needs of these systems. Depending on whether any such municipal procedural system is IT friendly and how it controls the use of technology, the attitude of counsel and arbitrators towards IT will change. Methods with which they are familiar, to which their resources and work flows have been adjusted, and for the use of which they know the rules, are likely to be implemented without too much difficulty and vice versa.

Cultural diversity in arbitration is likely to reduce the common ground of accepted procedures. This may cause "procedural incidents" that relate

to using IT. However, one may ask whether cultural diversity still has such a significant impact in the average international arbitral proceeding. At least in cases of a certain importance, parties tend to retain counsel from sizeable law firms with teams that are multicultural, albeit without completely eliminating the influence of the firm's respective culture and origin in a specific procedural system. Such law firms also have an advanced IT infrastructure.

Working Methods and IT

Using IT in arbitral proceedings is mainly dependent on the IT capabilities of counsel and, in second place, of the arbitrators.

If it is true that the average counsel in international arbitration works in a sizeable law firm with an advanced IT infrastructure using information technology, the arbitral proceeding should pose no difficulty insofar as working methods or the technology as such are concerned. This, however, appears to be only partially true. Looking at how law firms use IT, one may perceive an "insular" approach. Historically, typewriters have been replaced by PCs and printers, copyists by photocopiers, binders with reference material or templates, and books by databases and physically existing files backed up by electronic file management systems. Other areas where IT is internally used are billing, accounting, and internal management processes.

However, information exchanged with the outside world has until recently remained unchanged (i.e., paper-based and in formats that have been in use for a long time). To a certain extent printed documents are scanned and converted into electronic format for advance e-mail transmission (i.e., e-mail is used instead of facsimile). However, since users trust printed facsimile, point-to-point transmission protocols more, this technical aid is not used when capacity to prove receipt on a certain date is important.¹ One exception is electronic filing facilities provided by some national courts that have also issued rules governing e-filing procedures.

Driven by major clients and technical advancement, sizeable law firms in industrialized countries have moved to establish interfaces that allow sharing information in their case management and billing systems with the clients over the Internet. Here we are essentially concerned with electronic filing cabinets and electronic data rooms where electronic documents are stored and drafts exchanged.

Despite the required tools and infrastructure often being in place at counsels' law firms, these systems for jointly storing and exchanging data are

¹ See "Using E-mail as a Means of Communication" below.

rarely used in arbitration for exchanging information with the adversary and arbitrators.

Regarding the adversary, the causes appear to be a lack of trust in the other side and the practical problems of agreeing on the processes to be followed² in an often-heated adversarial setting. Especially in the absence of an administering institution that provides the required technical facilities, the parties would have to agree on setting up technical solutions, and their use and cost issues, at a time when their attention is focused on the substance of the dispute and procedural tactics.

Arbitrators do not often possess a sophisticated IT infrastructure and the resources required to run it efficiently. Even if they are members of a firm with the needed technical infrastructure, they would need to recover the costs of using this IT infrastructure and support personnel. This may encounter difficulties, since they may find it difficult to have the parties agree to assume such costs. Moreover, many arbitrators may be disinclined to deal with the technical details associated with setting up and controlling electronic file sharing facilities that all parties would trust. One additional factor influencing the attitude may be the average age and professional status of the arbitrators.

Legal Issues and IT

Interestingly, discussion regarding using IT more systematically in arbitration has not really focused on the foregoing considerations, which pertain more to the psychological (attitude) or sociological ("arbitration mafia") realm. The focus has been on legal concerns. At the same time, there are no, or only very few, reported cases addressing such matters.

Legal Status of Electronic Documents and Issues Concerning Safeguarding Authenticity or Privacy

The concerns regarding the legal status of electronic documents and the issue of safeguarding authenticity or privacy appear to be legitimate but overrated. In most arbitrations at least some evidence will be documents that were created and exchanged electronically because electronic communications are standard business practice. Many countries have enacted laws

² In State court proceedings, there is a permanent IT infrastructure and users, who are admitted to that court, and are all subject to the same procedural rules and ethical standards with easily applicable sanctions. In arbitration, there is no permanent infrastructure.

dealing with the legal status of electronic communications and qualified electronic signatures. When evaluating such evidence for arriving at a decision, arbitrators should have acquired the knowledge needed to deal with such issues³ that are now commonplace.

Moreover, these issues have always existed in litigation or arbitration, irrespective of the complexity added by the use of solutions offered by technical advancement.⁴ Since arbitration laws and arbitration rules contain only a minimum of formal requirements for memorials, procedural orders, and other communications of the parties and arbitrators (e.g., the proceedings could be theoretically conducted orally⁵ to a large extent), using electronic format and IT in arbitral proceedings will normally not meet a legal obstacle concerning the form as such, albeit with one important exception: the arbitral award.⁶

Privacy is an issue since data exchanged via the Internet may be misrouted or subject to eavesdropping. However, this is also true for other methods of communication that are used without such concerns being raised.⁷ Moreover, the technical tools for dealing with this concern are available without great expense and are relatively easy to use. Moreover, since e-mails and electronic documents are often used by counsel and parties prior or outside of the arbitration, one may wonder to what extent they are really concerned about threats to confidentiality.

³ The business community worldwide uses electronic format, mainly e-mail, for internal and external communications. Therefore, a huge part of documentary evidence tends to be electronic documents, even if, in practice, these are submitted as “photocopies.” See Robert Smit & Tyler Robinson, “E-Disclosure in International Arbitration,” 24(1) *Arb. Int’l* 105, 107 (2008).

⁴ It has always been possible to forge a handwritten or typed document, and photocopies could be altered. Moreover, using IT, it is relatively simple to scan, alter, and then print any document on paper. Since documentary evidence is mostly submitted as photocopy, it is thus not more reliable than an electronic image contained in a file.

⁵ There are, of course, certain exceptions. Awards *must* be in writing (paper format) and signed according to arbitration laws and arbitration rules. The International Chamber of Commerce (ICC) Rules of Arbitration require the terms of reference to be in writing, signed by the arbitrators and the parties (Article 18, ICC Rules of Arbitration) and to have certain contents. They also require a request for arbitration and an answer to this request in writing.

⁶ Even with qualified electronic signatures of the arbitrators, an award in electronic format is not likely to be enforceable: Qualified electronic signatures may not be recognized for that purpose. The “foreign” electronic signature may not be recognized as a valid equivalent. The judiciary may simply not have the means to handle and enforce an award in electronic format.

⁷ For example, telephone conversations or facsimile transmissions may also be intercepted with electronic means.

Equal and Fair Treatment

Another group of issues concerns equal and fair treatment of the parties as a fundamental principle of arbitration. Arbitration laws and arbitration rules normally require that a standard of equal and fair treatment⁸ be observed throughout the proceedings. Violations of this standard may lead to a successful challenge and replacement of arbitrators, or the annulment or non-recognition of arbitral awards.

Basically, the concerns raised revolve around the issue of an inequality of strength resulting from one party using powerful IT solutions for efficiently presenting its case while the other does not, because—for example—it may not be able to afford it. The problems at the core of this issue are not new, since inequalities caused by one party being represented by an able lawyer while the other party is not, or one party being represented by counsel who is a native speaker of the language used in the arbitral proceedings and the other by a lawyer who has difficulty in speaking and writing in that language, have been known for a long time. It also frequently occurs that one counsel was trained in the applicable substantive law or in employing certain fact-finding techniques to be used in the case and the other was not. Furthermore, inequalities in the parties' respective abilities to draw on financial resources are frequent.

Except for a few reported cases, where it was, for example, found that it may be unconscionable to enforce the agreement to arbitrate in the field of consumer disputes,⁹ these situations remain unsolved and—strangely—do not receive much attention, even if occasionally the question is raised whether and eventually to what extent the arbitral tribunal might have a duty to do what it can with a view to mitigating manifest inequalities. Since this might be viewed as helping the weaker party, such measures have great

⁸ See, e.g., art. 15(3) ICC Rules of Arbitration, R-30 American Arbitration Association (AAA) Commercial Arbitration Rules, art. 30(b), and World Intellectual Property Organization (WIPO) Arbitration Rules, art. 18. Of course, the problems are more complex; see Thomas D. Halket, "The Use Of Technology in Arbitration: Ensuring the Future Is Available to Both Parties," 81 *St. John's L. Rev.* 269, 269-85 (2007).

⁹ See the European Court of Justice (ECJ) case of Elisa María Claro v. Centro Móvil Milenium SL, C168/05 (Oct. 26, 2006). For the United States, one may refer to the "Gateway" cases—Melissa Westendorf v. Gateway 2000, Inc., 2000 Del. Ch. Lexis 54 (Del. Chancery Court, Mar. 16, 2000) *aff'd*, Del. Sup. Ct., Oct. 12, 2000); Hill v. Gateway 2000, Inc., 105 F.3d 1147 (7th Cir.), *cert. denied*, 552 U.S. 808 (1997), Brower v. Gateway 2000, Inc., 676 N.Y.S.2d 569 (New York Supreme Ct. App. Div. [Aug.] 1998); William S. Klocek, Plaintiff, v. Gateway, Inc., 104 F. Supp. 2d 1332 (D. Kan. 2000); see also William W. Park, "Jurisdictional Issues in Financial Arbitration Three Illustrations," in Klaus Peter Berger ed., *Festschrift für Otto Sandrock zum 70* 745-58 (2000).

potential for conflicting with the tribunal's duty to remain impartial and to treat the parties in a fair and equal manner.

This group of issues, including inequalities in IT capabilities, needs to be addressed on a case-specific level with delicacy. A red line needs to be drawn in regard to IT usage that would in all likelihood deprive one party from access to information that is made available to the arbitrators. The arbitral tribunal should be mindful about this type of problem and do what it reasonably can, by steering clear of technical procedural solutions that are likely to have a disproportionate financial impact on a party that clearly cannot afford it. Ideally this should be done in consultation with the parties (this includes counsel and parties) to seek their agreement. In the first place, this should aim at keeping the cost of using IT as a technical aid in proportion to what is economically at stake. Second, this may be dealt with in the context of which costs are recoverable and to what extent. It is important to establish these rules at the beginning of the proceedings so that parties can adjust their procedural behavior.¹⁰

Existing Technical Issues

The underlying problem with systematically and efficiently using IT in arbitration is that counsel, who understand the procedure, want to sit in the "driver's seat" without being bothered with technical details. Support staff often understands the technology but not the procedure. Since communication is from the top downwards, potential new or better uses of IT are not identified or exploited. Moreover, support staff attitude towards IT solutions depends on how they adjust to the working habits of counsel and arbitrators. Writing a memorial or award on a word processor with the relevant physical documents on your desk is far more convenient than working with a file that exists in electronic format only. Even a big-screen monitor displaying many documents will not offer the "creative chaos" on an attorney's desk when working on a file. Such technical constraints, and the fact that software is developed by software engineers and not by users, greatly affects the users' attitudes to how IT may presently be used.

As mentioned above, prior to oral hearings, IT solutions are presently externally employed mainly for transmitting documents that exist in paper format that otherwise would be sent via mail or courier with an advance facsimile copy to the adversary and the arbitrators. This is done via e-mail in the form of attachments, on data carriers such as CDs or DVDs, or using

¹⁰ ICC, "Techniques for Controlling Time and Costs in Arbitration," *ICC Pub. No. 843*, nos. 31 and 85 (2007).

an online file repository to which such documents are centrally uploaded. Using the required technical tools is easy in the vast majority of cases since, irrespective of their location and size, law firms are today equipped with PCs and Internet access. The required programs at the user's end are standard programs that can be obtained at a moderate price. Often free- or open-source software is available to do the job.

The only bottleneck appears to be pricier high-speed scanners that are needed to convert paper format into electronic format. The prevailing format is the versatile PDF format (Portable Document Format), but other formats are also standardized. Thus, the issue of file format that was a concern a decade ago has lost importance and is normally easily agreed.

However, there are some issues that may adversely affect the efficient use of the exchanged electronic documents for the other side or the arbitral tribunal. Some of these issues are trivial but have a certain impact.

Coherent and Meaningful File Naming System

Parties do not always use a coherent and meaningful file naming system. This problem is also not new, since some counsel also do not use a coherent system for identifying their documentary evidence. While counsel who are accustomed to the common law approach of dealing with documentary evidence would frown at such practices, counsel used to systems where the quantity of documents produced in their municipal procedural system is much smaller, are occasionally less disciplined. This difference in attitude is sometimes also reflected in the way documents in electronic format are arranged and handled.

Another cause of complications is that document scanners that convert paper into electronic format will automatically give each file a name (normally a number) that has nothing to do with the naming system used in the physically existing file. While the scanners allow for manually assigning specific names or otherwise configuring the scanner to assign file names that are meaningful for the arbitration, this is often a time-consuming and tedious endeavor that the support staff eschews. For the same reason, the support staff may be tempted to insert a pack of many different paper documents into the document feeder. This results in one single electronic file containing a variety of documents being created and transmitted to the other side and the arbitral tribunal. The result is that the arbitrators and the other side will receive files with meaningless names and different content.

To work efficiently with such electronic data, arbitrators and the other side have to organize it on their respective computers or case management systems. This requires sifting through each electronic file to see whether it contains different "real" documents, to split such multidocument-files into separate files representing each one single document, and to give the files

meaningful names. Since this demands a certain level of understanding of the contents and the arbitral process, this type of work may only be delegated to sufficiently qualified persons. Arbitrators may not have such aides. This easily results in frustration with using electronic format.

This type of problem can be avoided easily by seeking and reaching early agreement on coherent file naming systems and of what may be included in a single file, the format of which should also be specified.¹¹

Metadata that May Be Associated With Any Electronic Document

Sharing so-called metadata that may be associated with any electronic document or otherwise linked to it is another issue that may effect efficiency. For any user, such meta data can substantially increase the ability to retrieve and work with the electronic documents. Any law firm using a state-of-the art case management system will dedicate substantial resources to creating such metadata. Considering that at least the electronic files that are submitted to the arbitral tribunal will be the same for all parties and the arbitrators as well, at least part of the metadata will be identical at each user's end. Thus, the issue arises, why identical metadata that will exist in each party's case management system should not be shared by spreading cost and work appropriately. In practice this meets considerable obstacles, since the practical arrangements will be sophisticated. This procedural side aspect has much potential for creating protracted discussions among the parties.

The reason for this is also technical. While the files with the electronic documents will contain certain metadata by default, their format is specified by a multipurpose standard that does not include by default all the metadata that is used by the case management systems. Moreover, the case management systems store and process the additional information we are concerned with here not in the file with the electronic document, but in relational database systems to link stored data with the electronic document. Thus, sharing the additional data would require that everybody uses the same case management system or systems that have an interface by which they may exchange such data in a way that maintains the links established between the different bit and bytes of information and each document. Without these links, the information as such is rather useless. Even if sharing

¹¹ ICC Task Force, "Issues to Be Considered when Using IT in International Arbitration," in Special Supplement ICC International Court of Arbitration Bulletin "Using Technology to Resolve Business Disputes," *ICC Pub. No. 667 63*, 69 (2004); ICC, "Techniques for Controlling Time and Costs in Arbitration," *ICC Pub. No. 843*, nos. 31 and 39 (2007).

metadata between systems would technically be possible, the adversarial setting of arbitral proceedings does not normally foster the trust required to implement such a solution.

Moreover, the sophistication of case management systems may greatly vary. Especially in international arbitration, one or the other party may not use such a system at all. Many arbitrators have no access to such a system. It is hard to imagine that any party would be willing to provide the adversary with an access to its own metadata even in a restricted way. This might be different insofar as arbitrators are concerned, but this would result in the other side being excluded from access to certain information and eventually be conceived as a violation of the principle of procedural fairness. Furthermore, the licenses for the case management software are often dependent on the number of users, and legitimate use might require a change of the terms of license. Moreover, issues relating to cost sharing are likely to arise.

Presently the real and potential problems associated with sharing metadata appear too substantial for it to become a standard practice. This is clearly a field where users should put pressure on software providers to come up with uniform (i.e., portable) standards for software interfaces, to implement such interfaces, and to provide free tools that allow users to view and search files with the associated metadata.

However, this issue may be less important if online filing cabinets are used for filing electronic documents online, since such systems can provide for automated optical character recognition and document indexing. They can also require entering certain basic metadata during the upload. Standard metadata, such as author, addressees, and date of the original document, could also be shared, and the need for multiple creation of such basic data would become superfluous. Since the repository is accessed via a Web browser, issues of inequality of access to data are also avoided.

Data Integrity and Security

While the issues of data integrity and security are often discussed, little is done to technically deal with these problems even if the IT tools for achieving a minimum level of protection are easily available at low cost. The possibilities range from packing transmitted electronic files into compressed archives that are encrypted and password protected to qualified electronic signatures that can be used to digitally sign and encrypt the files that are transmitted. One reason for the difficulty is that such methods require the exchange of additional information (e.g., passwords and/or public encryption/signature certificates) and additional non-standard steps in the internal work flow. However, these technical aids have been rapidly evolving

during the past years and are now easier to use. One example is the software for processing and viewing PDFs.

Dealing with integrity or authenticity mainly concerns “documentary evidence.” While it is certainly easier to manipulate any document in electronic format, the issue is not new. It only arises on a limited number of occasions. If one is concerned with the digital copy of a document that was first created on paper, any doubt would normally lead to an order for the production of the original.

Documents that were created in electronic format (e.g., e-mails) are a challenge, since one can hardly speak of “an original.” However, as soon as such a document was saved for the first time, one or more copies were created with electronic time stamps. This offers a chance to discover subsequent manipulation. Moreover, even if electronic formats were not used in arbitral proceedings, such evidence would generally only be submitted in the format of a photocopy. This would not alter the underlying problem. Hence, this type of issue exists irrespective of whether or not IT is used in arbitral proceedings.

Using E-Mail as a Means of Communication

The principle of fair and equal treatment or procedural justice comprises the requirement that all other parties receive what is submitted to the arbitral tribunal. Using e-mail as a means of communication has raised concerns in this regard since, unless an acknowledgement is generated and sent manually by the recipient, one may not be sure and cannot easily prove that a communication with file attachments was properly received. As such, this problem is also not new, and arbitration rules, such as the International Chamber of Commerce (ICC) Rules for Arbitration¹² only require that a sending report is generated. However, there remains always an uncertainty about the attitude of national courts dealing with such issues in annulment or recognition proceedings.

Technically, any e-mail client may request a manual acknowledgement of receipt (i.e., an e-mail confirming receipt) and generate one when the e-mail is opened. However, for some reason, many users do not enable or use this feature. Consequently, the parties and the arbitral tribunal will need to establish a rule requiring some form of acknowledgement of receipt that should include a duty to immediately notify any defective or missing file attachments.

¹² *E.g.*, art. 3(2), ICC Rules of Arbitration and art. 4(a), WIPO Arbitration Rules.

However, misuse of e-mail for spam and proliferating malicious software has caused users to implement filters that scan and reject suspicious e-mails automatically. Depending on the configuration, such systems may also reject e-mails and/or attachments sent in the context of arbitration without anybody becoming immediately aware of it. If available, the IT support staff of the parties' counsel and the arbitrators can easily avoid such problems by adding the sender's to so-called white lists or other measures. However, this sort of technical solution may not always be available.

Other problems with e-mail attachments are the size and number of the files. Some e-mail systems impose a maximum size on any e-mail and reject oversized messages. Many file attachments, especially if incoherently named, may cause confusion and require a considerable effort when they are stored and organized by the recipient. To overcome this sort of difficulty some users send a multiple of e-mails with fewer attachments instead of one, and the recipients become even more confused. In most cases, this type of difficulty can be avoided by establishing basic rules early on. Sometimes this does not help, and the result is disruptive.

Since e-mail poses threats to confidentiality, if not encrypted, and can also be intercepted with relative ease, together with the foregoing technical issues, it has been converted today into a tool of secondary choice. The availability of e-mail and the simplicity of its use will, however, preserve its utility for more informal communications, such as agreeing on dates for meetings and the like.

In any event the answer to at least most of the problematic issues relating to electronic e-mail communications is using electronic filing cabinets instead.

IT Solutions as an Aid for Meetings or at Hearings

Using IT solutions as an aid for meetings or at hearings poses fewer technical problems. The main application is the use of projected presentations to increase the efficiency of oral argument or to explain complex factual matters instead of charts and other visualization "hardware." Another technological feature is visualization systems that allow the following of the transcription by court reporters in real time.¹³ While there is still a preference for using printed copies of documentary evidence during hearings, these may also be displayed on computer screens or projected using electronic files on a local computer or server that is accessed via the Internet. Occasionally, videoconferencing is used, for example, for

¹³ See Halket, *supra* note 8, at 294-97.

examining otherwise unavailable witnesses.¹⁴ While such uses of IT create certain logistical problems and may prompt issues regarding cost allocation, they do not seem to pose major difficulties in most cases.

HOW CAN IT BE USED MORE EFFICIENTLY IN INTERNATIONAL ARBITRATION IN THE SHORT TERM?

In the short term, the acceptance and efficiency of transmitting and using information in electronic format may be greatly increased by using central filing cabinets or document repositories that are accessed via the Internet by using a Web browser. These systems use relational databases and other technologies that are also used for case management systems. Since the user is not required to acquire and maintain sophisticated software because the system runs on a server, barriers to entry are low, if a specialized provider for such online facilities is used. Moreover, users do not need extensive training since the interface uses solutions that they know from their other activities on the Internet.

Such central filing cabinets or document repositories are not simply a virtual place where files are uploaded. They can be configured to simplify organizing the data in a meaningful and easily understandable way and to retrieve any document using an index based search. Moreover, they can send an e-mail notification whenever an upload or other change occurs. They can provide for a group calendar function with procedural deadlines or hearing dates. They log all traffic and activities, and it becomes easy to ascertain who accessed what and at what time. They can offer standardized work flows that compel parties to adhere to such things as file naming rules. Last, but not least, they can be configured to always use an encrypted protocol for the flow of data over the Internet without the need for human intervention.

Since secure state-of-the art online repositories are complex and expensive to set up and to maintain, establishing such a system for a particular case does not appear to be a viable solution. Major law firms frequently possess the required IT infrastructure and know-how needed to configure their software for what is needed, while arbitrators will, in most cases, not have this possibility. Since the law firms will usually represent a party to the arbitration, using the system of one of them will normally meet fierce resistance and create potential issues that could affect the integrity of the arbitral proceedings.

¹⁴ See E. Schäfer, "Videoconferencing in Arbitration," 14(1) *ICC Int'l Court of Arb. Bull.* 35 (2003); ICC Task Force, *supra* note 11, at 72 et seq.

Under these circumstances, using a neutral service provider is both simpler and more cost-efficient since such providers should be able to achieve economies of scale. Among those providers, one may give preference to those who offer facilities configured for the specific needs of arbitral proceedings. Institutions like the AAA,¹⁵ WIPO,¹⁶ and the ICC (NetCase¹⁷) already offer such facilities¹⁸.

HOW CAN IT BE USED MORE EFFICIENTLY IN A MORE DISTANT FUTURE?

For assessing the potential of IT solutions for arbitration, the great flexibility of the process that is accepted by most legislators needs to be borne in mind. Fair and just international arbitration proceedings do not require imitating, in whole or in part, any national civil procedure. In many respects, they have never done so, even if most players carry the municipal procedural baggage with them at all times. Thus, subject to known minimum standards, parties and arbitrators can agree on new methods and procedures as they deem fit.

IT offers and further develops tools that make using new and—eventually—more efficient approaches simpler. It is most likely that any such approaches will require more collaboration than would be expected from the adversarial perspective. One such approach could be labeled, Collaborative Case Management (CCM). CCM would rely on an online file repository with its relational database. Superimposed would be software with an interface allowing for visual organization of information in a way we know from decision trees, flow charts, or mind-maps.¹⁹

Such software would enable the arbitral tribunal to draw up, in consultation with the parties during the first phase of the arbitration, a decision tree or mind map with the claims and the issues being relevant for deciding any given claim. This visual representation could be adjusted and

¹⁵ AAA WebFile, <https://apps.adr.org/webfile/>.

¹⁶ WIPO ECAF, <http://www.wipo.int/amc/en/ecaf/index.html>.

¹⁷ ICC Net Case, <https://www.iccnetcase.org/Netcase/init.do>; Mirèze Philippe “NetCase: Keep Going Where Progress Leads You,” 38(1) *U. Toledo L. Rev.* 417 (2006).

¹⁸ Thomas Schultz, *Information Technology and Arbitration: A Practitioner’s Guide*, Kluwer Law International ch. 3 (2006); Halket, *supra* note 8, at 300-05.

¹⁹ For information on these terms, search <http://www.wikimedia.org>; since promoting a specific program may be unjust, it is recommended that the reader use an Internet search engine using the following search terms: “Mindmap,” “Knowledge Management,” “Visual Knowledge Management,” and “Document Management.” See also “logos,” <http://www.knowledgetools.de/en/index.htm>.

further refined or even completely changed during arbitral proceedings. The parties would add their legal and factual arguments and any portion of supporting evidence for each issue by establishing logical links (e.g., in the relational database) to the corresponding element in the decision tree or mind map.

This kind of software already exists, albeit in versions that are not specifically tailored to the needs of arbitration.²⁰ Collaborative methods have been developed for other contexts, such as joint decision making or mediation. Properly done, this would permit an understanding of which information is relevant from the beginning of a case, which will allow a focus in the proceedings accordingly. This would also allow easier assessment of the relevance of certain contentious issues. Finally, a good decision tree and the identification of relevant disputed issues can help to avoid flaws in the analysis and streamline the procedure.

However, adopting such a collaborative approach would require abandoning certain procedural concepts. Firstly, the procedure would become more “front loaded,” since drawing up the basic visual structure is likely to require more information on the substance of the case. Secondly, the approach would result in more transparency, especially insofar as the thoughts of the arbitrators are concerned. This is in certain respects at odds with the common law approach. Moreover, a party reckoning early on that its position may not prevail may be tempted to abandon and thereby frustrate the cooperative approach. This risk should not be underestimated.

CONCLUSION

More efficient use of IT in international arbitration will require even better software solutions, which have user interfaces and work flows that anticipate the working habits of counsel and arbitrators. More efficient use of IT will also require a better understanding and willingness to understand the capabilities of the huge variety of tools offered by IT. Last, but certainly not least, a more efficient use of IT will depend on our willingness to question our habits and work methods.

The adversarial system, in all its different combinations and permutations, has stood the test of time, but IT may help to change it to a more collaborative approach in certain areas. In my opinion such a collaborative approach will increase efficiency and quality, and may—if used intelligently—enhance the principles of fair and just proceedings.

²⁰ *Id.*