ADR AND TECHNOLOGICALLY

SUPPORTED NEGOTIATION – AI

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Parts of this Paper are drawn from T Sourdin, Alternative Dispute Resolution, 2nd Ed, (2005) Lawbook Co with kind permission.

INTRODUCTION

Changing and emerging technologies have considerable relevance to the continuing evolution of ADR processes. At present, technology supplements and supports the operation of many dispute resolution processes. For example, videoconferencing, teleconferencing and email communication can supplement and support face-to-face ADR approaches. Technology can also assist in negotiation and mediation processes. This paper explores a number the impact of technology upon facilitative, advisory and determinative forms of ADR before considering the role of artificial intelligence and the impact that this is likely to have upon ADR processes into the future.

Many forms of ADR are currently carried out completely online using a variety of technological processes.[2] Online dispute resolution (ODR) has evolved quickly over the past five years largely in

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[2]. A C Tidwell, "Handling Disputes in Cyberspace" (1996) 7 *Australian Dispute Resolution Journal* 245. For an example of a website offering dispute resolution services, see "The Virtual Magistrate" at http://vmag..org/ (accessed 5 January 2005),

response to the rapid evolution of the internet and a corresponding increase in online transactions and conflict.[3] It has been estimated that more than one trillium transactions now take place online each year. Following the internet bubble collapse in 2001, many ODR providers became linked with specific transaction types and since that time there has been an increase in service providers and available ODR options.

Whilst many ODR websites act as referral and information points,[4] others provide online services and suggest that online ADR can have many benefits such as enabling greater choice in terms of options, saving travel costs, and keeping parties separate (particularly in domestic violence situations). ODR can take advantage of evolving and improving technologies to support dispute resolution through real time translation and other initiatives that can reduce barriers to effective communication. One writer has suggested that the internet could become a "dispute resolution space" with the assistance of useful tools for "communicating, storing and processing information".[5] ODR processes have been referred to as a "Fourth party" – signifying the special role that technology can play in facilitating the resolution of disputes. However, this is something of a misnomer although many ODR sites often utilise "bidding" or advisory online processes and can almost be fully automated. Others use human intervention through the facilitation of all or part of a dispute or complaints process.

At present email technology is used widely in ODR processes and flat written email dialogue seems incompatible with most facilitative forms of ADR, where communication skills and the

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which provides arbitration and fact-finding services for disputes involving users of online systems, people harmed by wrongful messages and system operators.

[3] See http://www.odr.info/papers.php (accessed 10 November 2004).

[4]. For example, http://www.mediate.com/aba/abaout.cfm (accessed 10 November 2004) and http://www.justice.vic.gov.au/disputeinfo (accessed 10 November 2004).

opportunity for interaction are of particular importance.[6] It is probable that the email approach will evolve rapidly over the next five years as emergent technology provides better communication options. Boulle has raised the possibility that in the future virtual mediation might occur – that is, software could be developed to enable a computer to listen, acknowledge, define disputes, mutually reframe and encourage settlement.[7] In 2001 the National Alternative Dispute Resolution Advisory Council (NADRAC) prepared a paper in respect of issues that are raised by online ADR.[8] As different technology forms are evolving, the advantages of technological processes are being reassessed. For example, as NADRAC has noted, sensory data – such as material relating to touch, smell and taste – can now be transmitted electronically and this can have a capacity to impact upon access to various forms of ODR as well as technologically supported ADR.

Technology may also be responsible for an increase in the number of disputes. This increase occurs for a variety of reasons that include the following:

- Where communication takes place by way of email, there is a greater likelihood of miscommunication (than is the case with face-to-face communication). Technology has recently been developed to assist in the prevention of email "rage" or abuse and "flaming" is an interaction dynamic that is well recognised and is the subject of many email etiquette (or netiquette) guides.[9]

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[5] E Katsh and J Rifkin, *Online Dispute Resolution* (Jossey Bass, 2001) p 3.
[6] See also L Boulle, "Options for Cyber-med" (1999) 10 *ADR Bulletin* 1 at 128.
[7] L Boulle, L Boulle, "Options for Cyber-med" (1999) 10 *ADR Bulletin* 1 at 128 at 129.
[8] National Alternative Dispute Resolution Advisory Council, "Online ADR – Background paper" (Canberra, Attorney-General's Department, January 2001): see http://www.nadrac.gov.au/agd (accessed 14 December 2004).
[9] This subject had been addressed as early as 1985 by RAND – see http://www.rand.org/publications/MR/R3283/ (accessed 10 November 2004).

- More business dealings now take place internationally or transnationally. There is a lack of rules and guidelines that relate to the global community – good-faith communication approaches and interest-based negotiation styles may vary.
- In a global environment there are few norms and standards – a clash of cultures and expectations can take place.
- The speed of the new technology can often mean that there is little time for reflection when a transaction occurs.

ONLINE FACILITATIVE PROCESSES

There have been numerous attempts to set up online facilitative processes. However, these processes deal with a very small number of disputes. Mostly, as with SquareTrade,[10] after a direct negotiation approach has failed, email is used to connect mediators with the parties who are in dispute. Online stories are told by the parties and mediators may "reframe" in an attempt to find common ground. It has been said that:

> *Disputes arising from online auctions present limited dispute profiles, thus mediators depend upon understanding what is really of value to the disputants and where is the most likely place for movement. Repetition has allowed SquareTrade's online mediators to develop a knowledge base and a set of practices to manage auction related disputes.*[11]

It has also been suggested that online mediation may "enhance the power of narrative"[12] and promote more narrative forms of mediation. This is because disputants may have a greater opportunity to reflect on situations and, where personal pathologies exist, behaviour can be

[10] See http://www.squaretrade.com/cnt/jsp/index.jsp (accessed 10 November 2004).
[11] Alan Gaitenby, op cit, p 745; see also http://www.odr.info/papers.php (accessed 10 November 2004).

modified, and therefore the potential for increased conflict is reduced. As voice-based technological opportunities increase, it is likely that reflection can take place more readily. Mediation has also been trialled online in a number of programs where the technology has allowed for videoconferencing to take place. The benefits have included:

- Savings in costs and time where the parties and mediator are separated by distance.
- Where there is a power imbalance, online mediation can offer parties opportunities to have a dialogue without the fear of physical intimidation.[13]
- Timing – in some online discussions parties can contemplate responses before sending them. Newer technology and the availability of digital video contact reduce the likelihood that contact will not be instantaneous.
- A reduction in emotional content[14] – having a physical distance between parties may enable parties to view an argument more dispassionately. Where contact is not visual this can be a disadvantage and notes that telephone mediation has been criticised for its lack of non-verbal input.[15]
- It may assist in setting up a future communication process – videoconferencing may become a "normal" way to meet.

Concerns about online facilitation include:

- The processes can be costly[16] and many disputants may be excluded if they are either not technologically literate or lack access to the technology. Telephone-based services are the

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[12] See J Greary, "Online Narrative Mediation. A Potential New Service Approach": http://www.odr.info/papers.php (accessed 10 November 2004).

[13] See S Hardy, ''Online Mediation: Internet Dispute Resolution'' (1998) 9 *Australian Dispute Resolution Journal* 216 at 217.

[14] Ibid at 218.

[15] Ibid at 219.

[16] See National Alternative Dispute Resolution Advisory Council, op cit, p 4.

cheapest form of communication (by email or voice), however such communication forms are also the most criticised.

- Fears that the information conveyed will not be secure or confidential.
- Digital divide issues (see previous discussion). Gender, age and cultural differences may be more pronounced particularly where parties may not be familiar with newer technologies. NADRAC has noted that a "digital divide" exists and that technology usage is growing most rapidly among more advantaged groups. There are also concerns that conclusions relating to the efficacy of online services do not reflect the experiences of ordinary disputants. In this regard regular online users may have a preference for electronic communication, may be less likely to resort to litigation, and may have a commitment to a global virtual community.[17]

ONLINE ADVISORY AND DETERMINATIVE PROCESSES

There are many examples of online ADR advisory and determinative processes. The technology used is often email- and chat room-based, and bidding processes are used extensively. Cybersettle[18] recently entered into a strategic alliance with SettleOnline whereby Cybersettle would exclusively handle online settlement of claims and Resolute Systems (the parent company of SettleOnline) would receive in-person mediation requests. The cybersettle system involves the parties submitting "double blind" bids in rounds of offers to enable settlements to occur in a range of disputes. This process utilises more secure email communication techniques.

Blind bidding through the cybersettle scheme involves blind demands and offers with calculations to determine whether the case specific settlement barrier has been breached. Basically, a party submits three bids or minimum offers. The other party submits three bids or demands. Each bid is

[17] National Alternative Dispute Resolution Advisory Council, op cit, p 9.
[18] See http://www.cybersettle.com/ (accessed 10 November 2004).

played against another until a round is completed. For each demand cybersettle adds 20% and creates a range of settlement figures.

Source: This image is the copyright of Cybersettle, Inc. and Cybersettle and the name and logo are registered trademarks of Cybersettle, Inc.

Other types of technology support private virtual courts. For example, in Sydney a virtual courtroom hosts arbitration proceedings. The virtual court was launched in November 2000 and has online capacity as well as an in-house facility for evidence management.[19] Extensions of the underlying principles can be accessed at www.i-courthouse.com.

The Online Ombudsman has been set up by the University of Massachusetts in the United States.

[19] National Alternative Dispute Resolution Advisory Council, op cit, p 8.

Here, a confidential, disinterested third party neutral can be provided online.[20] Other programs are primarily directed at disputes that have arisen in online transactions. The Virtual Magistrate Project[21] is another example that provides for online consensual arbitration which is governed by a range of groups.[22] Parties need to agree to be part of the arbitration and decisions are not enforceable.[23] More recent iterations include www.smartsettle.com and www.ecodir.org.

Another area where arbitration processes have been established is in relation to disputes over domain names. In the United States, this area has spawned a number of innovative systems to handle and process disputes.[24] The Internet Corporation for Assigned Names and Numbers (ICANN)[25] uses a Uniform Dispute Resolution Policy (UDRP)[26] that involves arbitration via selected providers[27] to settle disputes about internet domain name registration. Disputants choose a dispute service provider, submit a claim, and the service provider then contacts the other party about a potential arbitration. Arbitrators then consider the claim and any filed documentation provided and make decisions based on UDRP "bad faith" rules. According to Gaitenby:

"Arbitrators and disputants utilize an array of communication but never have a physical meeting

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[20] R Georges, "Dispute Settlement in Cyberspace", FutureLawyer: see http://www.futurelawyer.com/futurelaw0512.htm (accessed 16 December 2004).

[21] The project was designed to be an online arbitration and fact-finding system for disputes involving users of online systems; those harmed by wrongful messages and system operators (to the extent to which complaints or demands for remedies are directed at the system operator). The project accepted complaints about messages, postings and files allegedly involving copyright or trademark infringement, misappropriation of trade secrets, defamation, fraud, deceptive trade practices, inappropriate (obscene, lewd, or otherwise violate system rules) materials, invasion of privacy and other wrongful content.

[22] The Cyberspace Law Institute directs policy for the project; the American Arbitration Association administered all cases submitted to the project; and the Villanova Center for Information Law and Policy operates the Virtual Magistrate service.

[23] See Virtual Magistrate website: http://www.vmag.org/ (accessed 10 November 2004).

[24] Within Australia http://www.auda.org.au/ (accessed 10 November 2004) operates an online complaints and dispute process.

[25] See http://www.icann.org/ (accessed 10 November 2004).

[26] See http://www.icann.org/udrp/udrp.htm (accessed 10 November 2004).

[27] The selected providers are Asian Domain Name Dispute Resolution Centre [ADNDRC]: http://www.adndrc.org/adndrc/index.html; CPR Institute for Dispute Resolution [CPR]: http://www.cpradr.org/IcCANN_Menu.htm; eResolution [eRes]: http://www.eresolution.ca/; The National Arbitration Forum [NAF]: http://www.arbforum.com/domains/; and the World Intellectual Property Organization [WIPO]: http://arbiter.wipo.int/domains/.

or session, arbitrators make decisions and submit opinions via their respective service provider to ICANN to make [them] publicly available."[28]

ARTIFICIAL INTELLIGENCE

There are other dispute resolution schemes that are emerging in response to technological developments. Artificial Legal Intelligence (ALI) can be viewed as a form of dispute resolution or a system that has the capacity to render expert advice or decision-making. Artificial Intelligence (AI) refers to computer systems that perform tasks and/or solve problems that usually require human intelligence.[29] The processes have emerged over the past 50 years[30] and have been directed at technical as well as legal analysis.[31] These processes and systems have the capacity to be blended with existing adjudicatory or non-adjudicatory processes. However, it is most probable that their benefits will be greatest where determinative and advisory processes are concerned.

Legal information and AI systems can use sophisticated "branching" technology to create elaborate decision trees that can suggest outcomes to disputes. This is done by a system which emulates human intelligence. Essentially, what takes place is that the system asks the user a number of questions about the dispute to enable an accurate description of it to be built up. The computer then forms a conclusion by applying the law to the dispute description. It does this by applying rules for specific sets of facts. Finally, the computer can perform tasks based on the description given.[32] This process may enable indicative decisions to be expressed. However, there are many other factors that impact

[28] Alan Gaitenby, op cit, p 745.
[29] R Susskind, *The Future of Law: Facing the Challenges of Information Technology* (Clarendon Press, Oxford, 1996) p 120.
[30] For a history of the development of AI, see P Gray, *Artificial Legal Intelligence* (Brookfield, Dartmouth, United Kingdom, 1997) Ch 2.
[31] P Savasdisara, "Computer-assisted Legal Analysis Systems: Part 1: The Origins of Computer-aided Support Systems" (1994) 5(2) *Computers and Law* 28.
[32] P Savasdisara, op cit at 70.

upon decision-making. The Australian Law Reform Commission has noted that such factors include induction and intuition as well as the capacity to assess the social impact of decisions.[33]

Branching technology that is not rule-based is used in one of the projects of the Intelligent Computing Systems Research at La Trobe University that is called "Split-Up". The project, which has determined that there are 94 factors relevant for a percentage split decision, is directed at applying artificial intelligence to assist in calculating the division of property in family law proceedings.[34] The system offers advice on how the property is likely to be distributed if the matter was to be determined by a court. It has been trialled by some judges, judicial registrars and registrars of the Family Court of Australia as well as legal practitioners, mediators and counsellors.

In Victoria, in 2002 and 2003, a collaborative project by La Trobe University, Victoria University, Justsys and Legal Aid Victoria was undertaken to explore, model and build a decision-making prototype of the decisions made by magistrates when determining sentences in the Victorian Magistrates (criminal) Jurisdiction.[35] For this project, legal knowledge was modelled into reasoning in sentencing and a model developed to predict the sentencing decision of a magistrate, taking into account all the factors used when exercising discretion. When experts were satisfied that the knowledge model was complete and correct it was implemented as a web-based application. A forthcoming paper, "Supporting Discretionary Decision Making with Information Technology: A Case Study in the Criminal Sentencing Jurisdiction",[36] highlights some of the benefits, risks and

[33] Australian Law Reform Commission, op cit at 100.
[34].J Zeleznikow, La Trobe University School of Computer Science and Computer Engineering: see http://www.latrobe.edu.au/cs/research/ (accessed 10 November 2004).
[35] M J J Hall, D Calabro, T Sourdin, A Stranieri and J Zeleznikow, "Supporting Discretionary Decision Making with Information Technology: A Case Study in the Criminal Sentencing Jurisdiction" (2004) 1(2) *University of Ottawa Law and Technology Journal* (forthcoming).
[36] Ibid.

disadvantages of the model which require acknowledgment and management. The model's benefits are its ability to support consistency in interpretation of the law, boosting public confidence in the legal system, allowing decision transparency, promoting better community understanding of the law, and providing accessible and cost effective advice as to potential outcomes. Further benefits are the model's usefulness in training judges, magistrates, legal counsel and law students.[37]

Potential limitations of the model are the deskilling of human staff, the threat to the independence of the decision maker, the model's ability to support some users better than others, the potential for users to be misled as to the amount of knowledge contained in the system, the absence of a human element which may be required in special circumstances, the risk of replacing ouster clauses in legislation due to automated enforcement and the undermining of the judiciary in acting as a check on the legislature.[38] The project demonstrated that whilst some artificial intelligence support can be of benefit to society, some models are unsuitable for total automation and should remain within human control.[39] A successful ARC grant application awarded in 2003 will extend this work.

One of the ways in which this modelling could clearly be extended is in relation to negotiation and mediation support. These forms of AI have the capacity to provide disputants with a range of potential outcomes – to in effect provide clearer and more certain BATNA's and WATNA's. In many instances the BATNA and WATNA can be determined by accessing a computer that prompts the user to make responses.

[37] Ibid.
[38] Ibid.
[39] Ibid.

In addition, AI if used in this manner can effectively isolate the areas of agreement and disagreement between disputants. This can assist to support all forms of ADR.

FUTURE DEVELOPMENTS

Shortcomings and difficulties that currently exist with online ADR are likely to decrease as technology improves. However, the question remains as to whether online ADR can replace those processes that thrive because of their focus on face-to-face contact. Many commentators perceive the role of online ADR as being oriented towards supporting existing ADR options so that where face-to-face communication is not possible, ADR processes can still be used. New and emerging technologies may also promote the use of blended ADR processes where decisional and advisory processes can rely upon artificial advisory or determinative methods.

The growth in e-dispute resolution and e-mediation is supported within Australia by a range of policies that are undergoing revision and supplementation. Such policies are being established primarily in the consumer protection area. For example, the *Policy Framework for Consumer Protection in Electronic Commerce*[40] and *Building Consumer Sovereignty in Electronic Commerce*[41] establish policies and documents that are designed to support e-commerce by establishing complaints handling and dispute resolution systems and are related to general *Benchmarks for Industry-Based Customer Dispute Resolution Schemes*.[42]

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[40] See Australian Government, op cit 59. This document sets out key principles for consumer protection in e-commerce. These principles are: functional equivalence and technology neutrality, promoting the interests of consumers, promoting Australian business in the global marketplace, dual roles of industry and government, international cooperation.

[41] See Australian Government, op cit, referring to the document released by the Minister for Financial Services and Regulation (May 2000) at www.ecommerce.treasury.gov.au.

42 See http://www.selfregulation.gov.au. This website is soon to be decommissioned and the resources will be incorporated in the Consumers Online website, www.consumersonline.gov.au. Consumers Online is the Australian Government's one-stop shop for consumer information. In the meantime, self-regulation publications will still be available (10 November 2004).

International initiatives in the e-commerce area are also likely to have a continuing impact upon e-dispute resolution and it is probable that developments in this area will prompt developments in online ADR.[43] In the United States, for example, a forum on ADR facilities has supported a range of different technologies that can be offered on a case-by-case basis.[44] Many of the United States services are provided by third-party service providers rather than industry-based providers (as is currently the case in most Australian first-tier consumer dispute resolution services).

It is probable that online ADR processes will continue to increase in certain areas (for example where online consumer activity occurs) or may be used in first-tier complaints management and dispute resolution systems. However, the physical proximity[45] and "face-to-face" nature of some ADR processes is often regarded by practitioners as essential in supporting negotiation processes in more complex disputes where creating or supporting an ongoing relationship is important. Gaitenby has noted that another inhibitor is that:

> *ODR service providers may be relatively unknown, their facilitators hidden behind a digital veil. To bridge that gap service providers make assurances as to the confidentiality and privacy of participants' ODR experiences in conjunction with open and transparent processes and third party facilitator profiles. Until ODR is more well established the primary manner to assuage trust gaps resulting from concerns with third party training and practice standards is to draw online facilitators from the ADR*

[43] See the international study, *Disputes in Cyberspace* at: http://www.consumersinternational.org/documents_asp/ViewACategory_levelBelowOnly.asp?regid=135&CategoryID=434 (accessed 10 November 2004).

[44] See Australian Government, op cit, referring to the United States Federal Trade Commission workshop on dispute resolution in e-commerce. Papers are available at: www.ftc.gov/bcp/altdisresolution/index.htm (accessed 10 November 2004).

[45] Close physical proximity can assist in creating the atmosphere and a commonality of experience that cannot be experienced in processes that are not "face-to-face". The impact of sharing coffee, food and the relationship that develops when disputants are physically present has not yet been the subject of any research.

field.[46]

For this reason there has been an increased focus upon the development of standards for ODR practitioners.[47] At the Third UN Forum on ADR held in July 2004, the issue of standards was explored and a number of participants considered that this was a priority area in ODR into the future.

[46] Alan Gaitenby, op cit, p 745.
[47] See http://www.odr.info/standards.php (accessed 10 November 2004).