BOOK REVIEW

S. Ossowksi (Ed.), *Agreement Technologies*, **Law Governance and Technology Series, Volume 8, Springer, Dordrecht, 2013**

Reaching an agreement on the definition of Online Dispute Resolution (ODR) is not an easy task – indeed there is no readily acceptable definition of Alternative Dispute Resolution (ADR). As Lodder and Zeleznikow[1] point out, examples of negotiation reach back to antiquity,[2] well before the development of state-organized litigation originated. Modern alternatives to litigation were heavily influenced by the *National Conference on the Causes of Popular Dissatisfaction with the Administration of Justice*, which took place in Minneapolis, Minnesota, from 7 to 9 April 1976. At this conference, then US Chief Justice Warren Burger encouraged the exploration and use of informal dispute resolution processes. Lodder and Zeleznikow cite this conference as the commencement of the modern ADR movement.

Hence, it is not surprising that there is no readily acceptable definition of ODR. Some researchers, such as Larson,[3] discuss technology-mediated dispute resolution. Such a definition does not necessarily require the disputants to be online. For example, the software developed in the Adjusted Winner,[4] Family_Winner[5] and Smartsettle[6] systems, which use game theory developed by Nash[7] to provide negotiation, can be used on stand-alone computers. Such software does not require the connectivity of the Internet.

It is important to hold a liberal view of the definition of ODR when deciding whether the new monumental book[8] on Agreement Technologies is indeed a book in the ODR discipline. The book is a series of 37 contributions about the semantic web, norms, argumentation and trust. It is not a treatise that would be readily understandable to traditional ODR developers and consumers.

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1   A. Lodder & J. Zeleznikow, 'Developing an Online Dispute Resolution Environment: Dialogue Tools and Negotiation Systems in a Three Step Model', *The Harvard Negotiation Law Review*, 2005, Vol. 10, pp. 287-338 and A. Lodder & J. Zeleznikow, *Enhanced Dispute Resolution Through the Use of Information Technology*, Cambridge University Press, Cambridge, 2010.
2   For example, as stated in the Torah, negotiations between Abraham and God regarding criteria for the destruction of Sodom and Gomorrah.
3   D.A. Larson, 'Technology Mediated Dispute Resolution (TMDR): A New Paradigm for ADR', *Ohio State Journal on Dispute Resolution,* Vol. 21, No. 3, 2006, p, 629, pp. 668-677.
4   S.J. Brams & A.D. Taylor, *Fair Division, From Cake Cutting to Dispute Resolution*, Cambridge University Press, Cambridge, 1996.
5   E. Bellucci & J. Zeleznikow, 'Developing Negotiation Decision Support Systems That Support Mediators: A Case Study of the Family_Winner System', *Journal of Artificial Intelligence and Law,* Vol. 13, No. 2, 2005, pp. 233-271.
6   E.M. Thiessen & J.P. McMahon, 'Beyond Win-Win in Cyberspace', *Ohio State Journal on Dispute Resolution*, Vol. 15, 2000, p. 643.
7   J. Nash, 'Two Person Cooperative Games', *Econometrica*, Vol. 21, 1953, pp. 128-140.
8   648 pages.

Agreement Technologies is the result of a European Union research project conducted within the framework of COST Action IC0801.[9] Thus the book is Eurocentric, and most (but not all) of the authors of the chapters are from countries in the European Union.

ODR researchers and practitioners constitute a wide community including:

(a) The Group Decision and Negotiation community – who see negotiation as a form of economic bargaining, where Pareto optimal solutions can be obtained.[10] The community has as its main disciplines Group Decision and Negotiation Support Systems, Artificial Intelligence and Management Science, Applied Game Theory, Experiment and Social Choice and Social/ Behavioural Sciences.

(b) The ODR Legal community – who are concerned with legal norms for regulating online disputes.[11]

(c) The ODR provider community – such as Modria[12] and ECODIR.[13]

(d) The Automated Negotiation community – this community conducts research in the disciplines of Artificial Intelligence and Software Engineering. Rather than providing advice or support for negotiations, it develops automated software[14] to support agents in a software engineering environment to col-

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9 *See* <www.agreement-technologies.eu/>, last accessed 9 December 2013. Here *Agreement Technologies* refer to computer systems in which autonomous software agents negotiate with one another, typically on behalf of humans, in order to come to mutually acceptable agreements. This Action aims at coordinating national efforts on a new paradigm for next-generation distributed systems, based on the concept of agreement between computational agents. An entity may choose whether to fulfil an agreement or not, and it should fulfil it when there is an obligation to do so derived from the standing agreements. Autonomy, interaction, mobility and openness are the characteristics that the paradigm will cover from a theoretical and practical perspective. Semantic alignment, negotiation, argumentation, virtual organizations, learning, real time and several other technologies will be in the sandbox to define, specify and verify such systems. Both functional and non-functional properties are to be studied. Security on execution will be based on trust and reputation measures. These measures will help agents to determine with whom to interact and what terms and conditions to accept.

10 *See* for example the Journal *Group Decision and Negotiation*, <www.springer.com/business+ %26+management/operations+research/journal/10726>, last accessed 9 December 2013.

11 *See, e.g.,* L.E. Teitz, 'Providing Legal Services for the Middle Class in Cyberspace: The Promise and Challenge of On-line Dispute Resolution', *Fordham Law Review*, Vol. 70, 2001, p. 985 and O. Rabinovich-Einy & E. Katsh, 'Technology and the Future of Dispute Systems Design', *Harvard Negotiation Law Review*, Vol. 17, 2012, pp. 151-289.

12 *See* <www.modria.com/>, last accessed 9 December 2013.

13 *See* <www.arbitration-adr.org/resources/?p=serviceproviders&a=show&id=40>, last accessed 9 December 2013 and B. Hutchinson, 'Online Resolution of Consumer Disputes – An Introduction to ECODIR: Electronic Consumer Dispute Resolution', *in UNECE Forum on Online Dispute Resolution*, Geneva, 2002, pp. 6-7.

14 No need for the intervention of a human.

laborate.[15] While automated negotiation is not one of the thirteen issues that the Journal has noted should be addressed,[16] it is worthy of being considered.

In its 37 chapters, the book on Agreement Technologies focuses upon many distinct topics. However, with regard to ODR, its major contribution is to the automated negotiation community.

Ossowski views *Agreement Technologies* as next-generation open distributed systems where interactions between computational agents are based on the concept of agreement. To reach such agreements we require a normative context that defines the rules of the game and an interaction mechanism by means of which agreements are first established.

It is impossible to read the book from cover to cover. It is too long and dense with important information to be read as a textbook. Rather the reader should use it as an encyclopedia, going to the index to retrieve relevant information.

The first three chapters provide the foundation for the book: Ossowski, Sierra and Botti define and describe the computing foundations of Agreement Technologies, while Casanovas illustrates how relational law is required for a deeper understanding of Agreement Technologies. Chapters 4 to 9 examine semantics. While the issues discussed in these chapters are fundamental to understanding the operation of the semantic web, they carry little direct relevance to dispute resolution practitioners and theorists.

Chapters 10 to 16 focus upon the issue of norms. An understanding of norms and law is vital to the efficient and just operation of both ODR and ADR. The chapters on social norms, normative agents, trust and argumentation are important and useful. But those dealing with norms and logic will no doubt be peripheral to the reader. For instance, no justification is given as to why abstract issues of Deontic Logic and Artificial Intelligence and Law have any relevance to those interested in ODR.

The latter sections, on Organizations, Argumentation and Negotiation and Trust and Reputation, are very useful. The theoretical component of the book finishes with an excellent chapter by Carles Sierra and the late and very highly valued and distinguished John Debenham, on the issue of building relationships with trust.

Perhaps the crux of the book, which makes it valuable to read, is the last section: seven chapters on applications. These chapters, dealing with Agreement

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15   *See* J.S. Rosenschein, *Rules of Encounter: Designing Conventions for Automated Negotiation Among Computers*, MIT Press, Cambridge, MA, 1994 and N.R. Jennings *et al.*, 'Automated Negotiation: Prospects, Methods and Challenges', *Group Decision and Negotiation*, Vol. 10, No. 2, 2001, pp. 199-215.

16   These issues are technological applications in dispute resolution; new approaches to the use of technology to prevent disputes; the resolution of technology- and telecommunications-related disputes; legal and technical aspects of innovative technological applications; cross-cultural and legal comparisons in dispute resolution and technology; use of technology in dispute systems design; digital divide implications and applications; e-commerce, m-commerce and dispute resolution; resolution of e-governance/government disputes; electronic funds/data transfer for dispute resolution; cyber ethics/e-privacy/e-security for dispute resolution; legal aspects of social engineering and technology/telecommunications dispute resolution and policy.

Book Review

Technology applications related to call centres, transport planning, water, medical applications, business collaborations and e-commerce, finally convinced me that the issue of Agreement Technologies is worth investigating.

To summarize, *Agreement Technologies* is a very demanding book to read. However, the book has many valuable insights and should thus be on the shelf of any ODR enthusiast.

Disclaimer

John Zeleznikow is a close friend and collaborator of Pompeu Casanovas, the series editor of the Springer *Law, Governance and Technology Series* and the author of one of the chapters in the book under review.

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