
Faculty Scholarship

2011

"Brother, Can You Spare a Dime?" Technology Can Reduce Dispute Resolution Costs When Times are Tough and Improve Outcomes

David Allen Larson

Mitchell Hamline School of Law, david.larson@mitchellhamline.edu

Publication Information

11 Nevada Law Journal 523 (2011)

Repository Citation

Larson, David Allen, "'Brother, Can You Spare a Dime?' Technology Can Reduce Dispute Resolution Costs When Times are Tough and Improve Outcomes" (2011). *Faculty Scholarship*. Paper 333.
<http://open.mitchellhamline.edu/facsch/333>

This Article is brought to you for free and open access by Mitchell Hamline Open Access. It has been accepted for inclusion in Faculty Scholarship by an authorized administrator of Mitchell Hamline Open Access. For more information, please contact sean.felhofer@mitchellhamline.edu.

"Brother, Can You Spare a Dime?" Technology Can Reduce Dispute Resolution Costs When Times are Tough and Improve Outcomes

Abstract

Cost reduction is one of the desirable results frequently attributed to Alternative Dispute Resolution (ADR) processes. Although it is reasonable to assume that businesses always are interested in saving money, this goal takes on added importance when the economy is struggling. The cost savings inherent in ADR, which already are significant, can be increased substantially through the strategic adoption of technology. Although I generally do not urge caution when it comes to expanding the ways in which we use technology, we nonetheless must recognize not only technology's potential benefits but also its possible pitfalls. It is relatively easy to identify some of the cost savings that can be achieved through greater reliance on technology. It can be somewhat more difficult, however, to identify the circumstances in which technology can create unanticipated costs. Fortunately, many of those costs can be avoided.

This article identifies cost efficiencies that technology can bring to dispute resolution processes and also suggest how potential costs can be minimized or avoided. The article begins by examining the Technology Revolution. The emergence of technology mediated dispute resolution (TMDR) as an efficient and cost-effective means of resolving disputes illustrates the significant impact the Technology Revolution has had in the area of ADR. This article suggests why TMDR has not been embraced more enthusiastically. It then explores how we can use technology to make dispute resolution more effective and efficient and explains why, in light of a rapidly maturing technology savvy generation, we might have little choice but to embrace TMDR.

The article next discusses Cybersettle and Smartsettle, two of the established TMDR programs available today. The following section provides additional reasons why the use of TMDR will increase, including the assertion that foreign nations' decisions to expand TMDR will compel the United States to rely more heavily on TMDR. The article then examines the challenges raised by TMDR. These challenges include power imbalances; the possibility that TMDR software and platforms may exercise greater influence over the dispute resolution process than expected; and questions as to how we can involve artificial intelligence devices, robots, and avatars in our dispute resolution processes. Ideas for integrating artificial intelligence devices into TMDR processes are based upon the manner in which these devices already are being used in the health care industry. The article concludes by examining the dangers and financial costs of relying on avatars and robots, identifies sectors well positioned to use TMDR, and briefly raises the issue of whether we need to regulate TMDR.

Keywords

Dispute resolution (Law), Technology

Disciplines

Dispute Resolution and Arbitration

“BROTHER, CAN YOU SPARE A DIME?”¹ TECHNOLOGY CAN REDUCE DISPUTE RESOLUTION COSTS WHEN TIMES ARE TOUGH AND IMPROVE OUTCOMES

David Allen Larson*

Cost reduction is one of the desirable results frequently attributed to Alternative Dispute Resolution (ADR) processes.² Although it is reasonable to assume that businesses always are interested in saving money, this goal takes

* Professor of Law, Senior Fellow and former Director, Dispute Resolution Institute, Hamline University School of Law. Professor Larson was a member of the American Bar Association's E-commerce and ADR Task Force, was one of the founders of the International Competition for Online Dispute Resolution, created the ADR and Technology course for Hamline University, and was a U.S. West Technology Fellow. He was the founder and Editor-in-Chief of the *Journal of Alternative Dispute Resolution in Employment*, a Hearing Examiner for the Nebraska Equal Opportunity Commission, an arbitrator for the Omaha Tribe, and currently serves as an independent arbitrator. He is a Qualified Neutral under Minnesota Supreme Court Rule 114; his other articles discussing Technology Mediated Dispute Resolution are available at <http://ssrn.com/author=709717>, and he can be contacted at dlarson@hamline.edu. He thanks Jennifer D. Rottmann and Dawn Hudock, 2010 graduates of the Hamline University School of Law, and third year law student Heather Balgaard for their valuable assistance.

¹ Composed by Edgar Yipsel Harburg and Jay Gorney, this song became known as the unofficial anthem of the 1930s Great Depression. Lyricist E. Y. Harburg turned to musical composition after his electrical appliance business went bankrupt in 1929. In 1939, he and Harold Arlen wrote the songs for the still popular film the Wizard of Oz. Blacklisted for his political views, Harburg eventually was welcomed back into filmmaking and wrote songs for a number of other films, including Finian's Rainbow. From the author's perspective, he may be best remembered for writing the lyrics to the song "(Somewhere) Over the Rainbow". See *E.Y. Harburg*, BRITANNICA ACAD. EDITION, <http://www.britannica.com/EBchecked/topic/1076908/EY-Harburg> (last visited Mar. 11, 2011).

² See A. Michael Weber, *Rise of ADR for Workplace Disputes: Deciding Whether to Adopt Mandatory Arbitration*, 240 N.Y. L.J., July 17, 2008, at 24, available at <http://www.law.com/jsp/nylj/PubArticleNY.jsp?id=1202423032978> (discussing the advantages of arbitration).

Arbitration is usually a less costly method of resolving problems in the workplace than traditional litigation. In a study on court-supervised arbitration, the Institute for Civil Justice of the Rand Corporation concluded that arbitration resulted in a 20 percent cost savings to the parties on average. While historically employers typically paid all of the arbitrator's fees, that trend is changing, and may present a further cost savings to employers.

Id.; see also Amy Cook, *ADR Is A-OK*, CBA REC., Apr. 2008, at 6, 6 (discussing the advantages of arbitration, including the fact that "[a] 2003 ABA survey found that 78% of lawyers believe that arbitration is generally timelier than litigation and most said it was more cost effective"); Jerry Fitzgerald English, *Funny Things Can Happen on the Way to the Forum*, 141 N.J. L.J., Aug. 14, 1995, at 1871 (stating one advantage of alternative dispute resolution is that "pots of money are saved").

on added importance when the economy is struggling. The cost savings inherent in ADR, which already are significant, can be increased substantially through the strategic adoption of technology.

Although I generally do not urge caution when it comes to expanding the ways in which we use technology, we nonetheless must recognize not only technology's potential benefits but also its possible pitfalls. It is relatively easy to identify some of the cost savings that can be achieved through greater reliance on technology. Video conferencing may eliminate the need for physical travel, for instance. The ability to communicate using one's own internet service provider, or one of the increasingly ubiquitous free public Wi-Fi access hotspots, allows individuals to interact from wherever, and often whenever, it is most convenient.³ This level of convenience obviously saves both money and time. Parties will not have to purchase new clothes, dress formally, or arrange child care to participate in a traditional face-to-face meeting.⁴ If information needs to be collected and submitted, then it can be collected online quickly and stored at minimal cost.⁵ Contracts under which disputes arise may have forum selection clauses that require parties to travel to a single designated location, which may be far from a party's residence.⁶ And in our global economy, there is no guarantee that the relevant forum is not an international location.⁷ Parties can eliminate those travel costs by thoughtful use of technology.

It can be somewhat more difficult, however, to identify the circumstances in which technology can create unanticipated costs. Fortunately, many of those costs can be avoided. This Article will identify cost efficiencies that technology can bring to dispute resolution processes and also suggest how potential costs can be minimized or avoided.

The Article begins by examining the Technology Revolution. The emergence of technology mediated dispute resolution (TMDR) as an efficient and cost-effective means of resolving disputes illustrates the significant impact the Technology Revolution has had in the area of ADR.⁸ TMDR includes online

³ Amy J. Schmitz, "Drive-Thru" Arbitration in the Digital Age: Empowering Consumers Through Binding ODR, 62 BAYLOR L. REV. 178, 200 (2010).

⁴ *Id.*

⁵ *Id.* at 201.

⁶ *Id.* at 200-01.

⁷ *Id.* at 201.

⁸ See, e.g., Nat'l Ctr. for Tech. & Dispute Resolution, *Mission*, ODR.INFO, <http://www.odr.info/mission.php> (last visited Mar. 11, 2011). The National Center for Technology Dispute Resolution is maintained by Professors Ethan Katsh, Janet Rifkin, Alan Gaitenby and Leah Wing, experts in the field of dispute resolution. *Id.*; see also Ethan Katsh & Jeff Aresty, *A New Face for Small Claims Courts*, BOSTON GLOBE, Sep. 29, 2007, at A11, available at http://www.boston.com/news/globe/editorial_opinion/oped/articles/2007/09/29/a_new_face_for_small_claims_courts/ (explaining how contemporary technology's efficient transmission of information and elimination of geographical barriers have made it a highly effective tool for dispute resolution processes). The term "technology mediated dispute resolution," as opposed to "online dispute resolution" was proposed by Professor David Allen Larson in 2006 to reflect the fact that "[w]ireless cellular telephones and satellite support systems now supplement Internet communications with audio, text, and video capabilities." David A. Larson, *Technology Mediated Dispute Resolution (TMDR): A New Paradigm for ADR*, 21 OHIO ST. J. ON DISP. RESOL. 629, 633-34 (2006). Indeed, with regard to teen-aged users of technology, a recent study found that this demographic prefers communication via text messaging rather than other technology based forms of communication: 54 percent of

dispute resolution (ODR), but also incorporates other advanced communication technologies, such as cellular telephones, satellite communications, tele-immersion, video conferencing, avatars (a user's two or three dimensional graphical representation of herself appearing in computer games or virtual environments), and artificial intelligence applications to achieve traditional ADR objectives.⁹ This Article suggests why TMDR has not been embraced more enthusiastically. It then explores how we can use technology to make dispute resolution more effective and efficient and explains why, in light of a rapidly maturing technology savvy generation, we might have little choice but to embrace TMDR.

The Article next discusses Cybersettle and Smartsettle, two of the established TMDR programs available today. The following section provides additional reasons why the use of TMDR will increase, including the assertion that foreign nations' decisions to expand TMDR will compel the United States to rely more heavily on TMDR. The Article then examines the challenges raised by TMDR. These challenges include power imbalances; the possibility that TMDR software and platforms may exercise greater influence over the dispute resolution process than expected; and questions as to how we can involve artificial intelligence devices, robots, and avatars in our dispute resolution processes. Ideas for integrating artificial intelligence devices into TMDR processes are based upon the manner in which these devices already are being used in the health care industry. The Article concludes by examining the dangers and financial costs of relying on avatars and robots, identifies sectors well positioned to use TMDR, and briefly raises the issue of whether we need to regulate TMDR.

I. THE TECHNOLOGY REVOLUTION

The Technology Revolution, which includes the emergence of the Internet, expansion of digital technology, and explosion of user-created content and social networking sites, represents the most significant cultural and social change since the Industrial Revolution.¹⁰ Our ability to communicate with any-

survey respondents use text messaging as their primary form of communication with friends, while only 25 percent communicate through social networking sites and only 11 percent communicate via e-mail. Amanda Lenhart, *Teens, Cell Phones and Texting: Text Messaging Becomes Centerpiece Communication*, PEW RES. CENTER PUBLICATIONS (Apr. 20, 2010), <http://pewresearch.org/pubs/1572/teens-cell-phones-text-messages>.

⁹ See Larson, *supra* note 8, at 634.

¹⁰ See, e.g., Lev Grossman, *Time's Person of the Year: You*, TIME MAG., Dec. 25, 2006, at 38, 40, available at <http://www.time.com/time/magazine/article/0,9171,1569514,00.html> (discussing how the advent of computer technology—and the Internet in particular—has revolutionized the modern world and shifted the balance of power from the hands of the few to the desktops, laptops, and cell phones of the many). Describing the meteoric rise of the Internet in general and its social and cultural effects in particular, one author explained the phenomenon thus:

It's a story about community and collaboration on a scale never seen before. It's about the cosmic compendium of knowledge Wikipedia and the million-channel people's network YouTube and the online metropolis MySpace

The tool that makes this possible is the World Wide Web. Not the Web that Tim Berners-Lee hacked together (15 years ago, according to Wikipedia) as a way for scientists to share research. It's not even the overhyped dotcom Web of the late 1990s. The new Web is a very

one, or at least anyone who has access to technology,¹¹ has been enhanced dramatically. We no longer need to find a publisher who controls conventional information distribution channels, for example, when we want to communicate instantly with large numbers of individuals and entities scattered around the world.¹² In addition to enjoying expanded communication opportunities, we increasingly rely on artificial intelligence devices to perform tasks that previously required human attention.¹³ If we take advantage of new communication technologies and also integrate artificial intelligence devices into our dispute resolution processes, then we not only will realize even greater cost savings, but we also may improve dispute resolution process outcomes.

The Technology Revolution is changing the way we interact and inevitably will change the way in which we resolve disputes. Although distinctions between work and personal time, and physical and virtual reality, are disap-

different thing. *It's a tool for bringing together the small contributions of millions of people and making them matter.*

Id. at 40 (emphasis added).

¹¹ It is not surprising that populations with fewer financial resources do not have equal access to technology. Even though access to the most basic technologies becomes more affordable as new advancements are made, not everyone can take advantage even of discounted technologies. Anyone advocating increased reliance on technology to deliver a variety of services must make every effort to ensure that as many people as possible enjoy the benefits. A technology based dispute resolution system that cannot be accessed effectively by everyone cannot be promoted as a substitute for traditional dispute resolution processes. The fact that we continue to have a “digital divide” must be recognized and addressed by technology mediated dispute resolution system developers and universal access must be a priority. Even though governments are allocating significant funds in an effort to close the divide and there is evidence that the situation is improving as more public facilities such as libraries offer access, the problem will not disappear any time soon. See generally Rolf H. Weber, *Digital Trade in WTO-Law—Taking Stock and Looking Ahead*, 5 *ASIAN J. WTO & INT'L HEALTH L. & POL'Y* 1, 19-20 (2010); Robert A. Penchuk, *Unleashing the Open Mobile Internet*, *J. INTERNET L.*, June 2010, at 1, 18-19; Press Release, Office of the Mayor Richard M. Daley, Mayor Daley Announces City Has Received \$21.7 Million in Federal Funds and Matching Grants to Close “Digital Divide” in Neighborhoods (July 30, 2010), available at http://mayor.cityofchicago.org/etc/medialib/mayor/press_room1/press_releases/press_release_pdfs/2010.Par.26450.File.pdf0730%20digital%20divide-fed%20econ%20stimulus%20broadband%20grant%20final%20release.pdf.

¹² See generally Grossman, *supra* note 10, at 40 (describing how the Internet has enabled the masses to distribute information of all types to a global audience). See also *About YouTube*, *YOUTUBE*, http://www.youtube.com/t/about_youtube (providing an overview of one of the world's most popular online video communities, which allows individuals to post their own videos for—quite literally—the entire world to see); *The Story of Blogger*, *BLOGGER*, <http://www.blogger.com/about> (last visited Mar. 11, 2011) (explaining the history of Google's free blogging service, which allows anyone with a Google account to create and maintain his own online journal). Perhaps one of the most telling indications of this phenomenon is the meteoric rise of teen idol Justin Bieber. Jan Hoffman, *Justin Bieber is Living the Dream*, *N.Y. TIMES*, Jan. 3, 2010, at ST1, available at <http://www.nytimes.com/2010/01/03/fashion/03bieber.html>. The sixteen-year-old singer began his recording career by posting videos on You Tube in 2007; he now “has played Madison Square Garden and sung for the [P]resident of the United States.” *Id.*

¹³ See generally David Allen Larson, *Artificial Intelligence: Robots, Avatars, and the Demise of the Human Mediator*, 25 *OHIO ST. J. ON DISP. RESOL.* 105, 105-07 (2010) (discussing the role artificial intelligence increasingly plays in contemporary society).

pearing for everyone who has access to modern technology,¹⁴ this blurring of traditional distinctions is most noticeable when one looks closely at the children who are being raised on technology.¹⁵ We must keep in mind that the children of today soon will be the adults, and therefore the clients, of tomorrow. Even if the following suggestions and predictions do not resonate with you, they may sound quite unremarkable to those individuals immersed far more deeply in technology than those who were raised in a less technology-saturated world.

Children and young adults (and increasingly everyone who uses technology) depend upon social networking media such as Facebook and Twitter to develop and maintain relationships.¹⁶ Many individuals regard a near-constant presence in virtual, augmented reality as essential.¹⁷ And, over time, that environment often becomes the only reality.¹⁸

¹⁴ See generally *id.* See also Jimmy Guterman, *Technology in America*, PC MAG., Mar. 12, 2002, at 98, 100, available at <http://www.pcmag.com/article2/0,2817,15161,00.asp> (noting that “one of the most dramatic changes technology has brought over the past 20 years [is] the opportunity to share in new ways and create communities based on common interests, without geography getting the way”); Brendan I. Koerner, *Driven by Distraction: How Twitter and Facebook Make Us More Productive*, WIRED MAG., Mar. 2010, at 15, 15-16, available at http://www.wired.com/magazine/2010/02/st_essay_distraction (proposing that there are beneficial effects on employee productivity that arise from the blurred line between personal and professional time with regard to online distractions such as Twitter); Janet Kornblum, *Social, Work Lives Collide on Networking Websites*, USA TODAY, Jan. 18, 2008, at A1, available at http://www.usatoday.com/tech/webguide/internetlife/2008-01-17-social-network-nobarrriers_N.htm (describing the potential pitfalls of work and personal worlds colliding on social networking sites such as Facebook).

¹⁵ See, e.g., Larson, *supra* note 8, at 632 (noting the extent to which technology has become an integral part of children’s experiences at surprisingly young ages).

¹⁶ See *Press Room*, FACEBOOK, <http://www.facebook.com/press/info.php?statistics> (last visited Mar. 11, 2011) (providing statistics concerning usage of this popular social networking site.) Facebook has more than 500 million active users, 50 percent of which log onto Facebook daily. *Id.* “People spend over 700 billion minutes per month on Facebook.” *Id.* Facebook has grown internationally with more than seventy translations available on the site and having 70 percent of users living outside the United States. *Id.* New first year college students, for instance, are using the Facebook application RoomBug to select roommates online based on criteria that include neatness, sleep habits, and general interests. Isaac Arnsdorf, *No More New Kid on Campus*, WALL ST. J., Aug. 5, 2010 at D1, available at <http://online.wsj.com/article/SB10001424052748704017904575409203223872556.html>.

¹⁷ See, e.g., Koerner, *supra* note 14, at 15 (citing one recent research project’s finding that people’s constant need for connectivity in the United Kingdom results in an aggregate loss of \$2.2 billion per year to British companies, while citing another research endeavor that attributes a 1.5 percent loss in workplace productivity solely to employees’ Facebook use).

¹⁸ See, e.g., Kornblum, *supra* note 14 (discussing how the virtual world has led to the convergence—and therefore (sometimes unwanted) synthesis—of previously separate and disparate arenas of our real lives). As one marketing executive remarked, “‘It’s a bit like we’re all Hollywood people now, where everyone is our friend.’” *Id.* Ironically, the constant stream of real-time Web transmissions regarding Hollywood celebrities and their foibles has led several of these illuminati to embrace a more traditional medium—documentary film. Laura M. Holson, (*Insert Celebrity Name Here*): *The Movie*, N.Y. TIMES, June 24, 2010, at E1, available at <http://www.nytimes.com/2010/06/24/fashion/24docu.html?ref=movies>. Those in the ever-present limelight now can use film as a “visual editorial for the Internet era Twitter, Facebook, and TMZ have made it difficult for celebrities to manipulate their public persona. A sympathetic documentary can be the first step in rehabbing a damaged reputation. . . .” *Id.* On the other hand, the underlying synthetic nature of technology still

As social media becomes more important in our lives, fundamental values are beginning to change. Digital information can be captured easily and transferred quickly, and the question of whether privacy is becoming an antiquated notion no longer can be dismissed. Given the ease with which digital information can be shared and our inability to ensure that confidential information is not circulated outside specific parameters,¹⁹ transparency now may be more important than privacy to an increasing number of people.²⁰ The fact that indi-

can cause problems. In the context of cyberbullying, for example, the lack of typical nonverbal cues associated with face-to-face communication can exacerbate the effect of the act in question. Jan Hoffman, *Online Bullies Pull Schools into the Fray*, N.Y. TIMES, June 28, 2010, at A1, available at <http://www.nytimes.com/2010/06/28/style/28bully.html?pagewanted=1&ref=general&src=me> (discussing the specific problems that contemporary, technology-based communication has caused among an age group that is still learning to navigate interpersonal relationships in the real world, let alone in the virtual world). A recent *New York Times* article exploring the subject of cyberbullying profiled a New Jersey middle school where the school counselor noted that:

“In seventh grade, the girls are trying to figure out where they fit in . . . [a]nd the technology makes it harder for them to understand what’s a real friendship.” Because students prefer to use their phones for texting rather than talking, [the counselor] added, they often miss cues about tone of voice. Misunderstandings proliferate: a crass joke can read as a withering attack; did that text have a buried subtext? The girls come into her office, depressed, weeping, astonished, betrayed.

Id.

¹⁹ You may have seen trucks with the name Lifelock printed on the side, for example, driving around your neighborhood displaying the social security number of the company’s CEO. See, e.g., Ray Stern, *Cracking Lifelock: Even After a \$12 Million Penalty for Deceptive Advertising, the Tempe Company Can’t Be Honest About Its Identity-Theft-Protection Service*, PHOENIX NEW TIMES, May 13, 2010, <http://www.phoenixnewtimes.com/2010-05-13/news/cracking-life-lock-even-after-a-12-million-penalty-for-deceptive-advertising-the-tempe-company-can-t-be-honest-about-its-identity-theft-protection-service/>. Although the company known as Lifelock offers a “\$1 million guarantee” that its identity theft protection system will not fail and publicly broadcasts CEO Todd Davis’ personal social security number to demonstrate that its system cannot be breached, Davis himself was a victim of identity theft. *Id.* The Federal Trade Commission also levied a \$12 million fine against Lifelock for deceptive advertising. *Id.*

²⁰ See, e.g., Grossman, *supra* note 10, at 40; Kornblum, *supra* note 14. Transparency may have both positive and negative consequences. On the one hand, as noted above, transparency puts power back in the hands of the multitudes. See Grossman, *supra* note 10, at 40. On the other hand, transparency can result in personal information being more widely circulated than expected or intended and professional reputations can be tainted as a result of the people with whom one associates, or “friends,” online. Kornblum, *supra* note 14. A USA Today newspaper article presented an anecdote that illustrates exactly this point:

Deb Levine, executive director at Internet Sexuality Information Services in Oakland, spent time cultivating professional contacts on LinkedIn, a social network with features similar to Facebook and MySpace that is designed for making professional contacts. Then the wife of Levine’s rabbi asked to “friend” her on the site, and Levine felt compelled to say yes. Now Levine has mixed her religious life with her work life online, something she never intended to do. And she worries that having a personal contact listed among business associates will make her look less professional. “I’m using LinkedIn to further my professional projects,” Levine says. “There’s just no way (the rabbi’s wife) could be helpful in that. I don’t talk about my religion and religious affiliations’ while at work.

Id. Furthermore, the recent increase in cyberbullying—the virtual equivalent of real-world physical and mental intimidation among teenagers—has drawn close scrutiny from state legislatures and prosecutors who intend to hold Internet users accountable for their online behavior. See, e.g., Erik Eckholm & Katie Zezima, *Six Teenagers Are Charged After Sui-*

viduals are willing to forgo privacy in their daily affairs in exchange for the convenience offered by technology strongly suggests that they also will do so in the context of dispute resolution. This willingness to integrate technology in spite of reservations about confidentiality is fueled by the belief that whatever is lost in terms of privacy is less valuable than what can be gained in terms of efficiency and convenience.²¹

Many dispute resolution practitioners believe that it often is necessary to identify parties' true interests or goals, as distinguished from their positions or

cide of Classmate, N.Y. TIMES, Mar. 30, 2010, at A14, available at <http://www.nytimes.com/2010/03/30/us/30bully.html?pagewanted=1> (reporting on the January 2010 suicide of 15-year-old Phoebe Prince, who was taunted and bullied by classmates from school who allegedly "plotted against Ms. Prince on the Internet, using social networking sites."); see also Justin W. Patchin & Sameer Hinduja, *Research*, CYBERBULLYING RES. CENTER, <http://www.cyberbullying.us/research.php> (last visited Mar. 11, 2011). Doctors Patchin and Hinduja state: "We define cyberbullying as . . . [w]hen someone repeatedly harasses, mistreats, or makes fun of another person online or while using cell phones or other electronic devices." *Id.* Research conducted in the first half of 2010 by these experts indicates that almost 20 percent of students have been cyberbullied at least once in their lifetimes. *Id.* Additionally, "when asked about specific types of cyberbullying in the previous 30 days, mean or hurtful comments (13.7%) and rumors spread (12.9%) online continue to be among the most commonly cited." *Id.*

It should not be forgotten, however, that the Internet's powers of transparency also may be beneficial with regard to holding government and corporate entities accountable for their actions. See, e.g., Raymond Yee et al., *Improving Federal Spending Transparency: Lessons Drawn from Recovery.gov*, in UC BERKELEY SCHOOL OF INFORMATION REPORT 2010-04, at 1, 3-4 (2010), available at <http://escholarship.org/uc/item/7tw2w9wx> (noting the potential technical difficulties in obtaining the transparency required by the American Recovery and Reinvestment Act of 2009, which requires entities receiving federal money under the Act to make publicly available all information regarding the disbursement and spending of such money); About, TECH. FOR TRANSPARENCY NETWORK, <http://transparency.globalvoicesonline.org/about/> (last visited Mar. 11, 2011) (explaining the purpose and vision of an international research project to determine the effect of the Internet in developing countries as it relates to "government transparency, accountability, and public participation in political processes"). Technology can quickly, dramatically and perhaps dangerously expose governments' confidential information as witnessed by the more than 100,000 secret diplomatic cables that WikiLeaks posted online in July 2010, in an effort to bring greater attention to the U.S. military's war in Afghanistan. See Ed Hooper, *Wikileaks Hacker Put Lives at Risk*, AJC (Aug. 10, 2010, 7:30 PM), <http://www.ajc.com/opinion/wikileaks-hacker-put-lives-589280.html>.

²¹ Of course, not everyone is willing to forfeit privacy for transparency. See, e.g., Jessica E. Vascellaro, *Facebook Grapples with Privacy Issues*, WALL ST. J., May 19, 2010, at B1, available at <http://online.wsj.com/article/SB10001424052748704912004575252723109845974.html> (discussing the continuing attempts of Facebook's Chief Executive Officer to decrease the amount of information users may keep private). Notably, although traditional concepts of privacy certainly have evolved with the advent of social media, many users of such technology still want to control the extent to which they share information. *Id.* Facebook, in particular, has fallen under both Federal Trade Commission (FTC) and subscriber scrutiny within the past several months—and "[s]ome frustrated users [even] have created websites that highlight what they see as shortcomings in Facebook's privacy controls." *Id.* Furthermore, "[a] group of senators led by Sen. Charles Schumer [of New York] called on Facebook to roll back [recent privacy] changes and more than a dozen privacy groups lodged a complaint with the FTC on grounds that Facebook was displaying user information without their consent." *Id.*

arguments, in order to mediate a conflict.²² It generally has been assumed that parties will not reveal their true interests without assurances of confidentiality.²³ In light of increasing familiarity and comfort with technology, and an appreciation that it is becoming more difficult to keep anything completely private anymore, guarantees of confidentiality may no longer be as critical. Rather, transparency may become the gold standard.

But transparency in the abstract may not prove an adequate substitute for privacy without additional structure or context. Mere disclosure of information does not ensure that the recipient will find it helpful. Disclosure without context may have little impact. On July 25, 2010, for example, WikiLeaks, which is world famous for acquiring and publicizing highly sensitive government documents, announced it was releasing a document set called the Afghan War Diary that contains more than ninety-one thousand reports covering the war in Afghanistan from 2004 to 2010.²⁴ But until the documents had been reviewed, vetted, and interpreted by the three traditional media sources to whom WikiLeaks earlier and strategically had released the documents (*New York Times*, *Guardian*, and *Der Spiegel*), it was difficult to separate the significant from the meaningless, to put the released documents into a context, and to begin to understand their significance.²⁵

The fact that transparency might be “moot without authority”²⁶ creates something of a double-edged sword. If we cannot understand the disclosures made to us, that act of transparency will provide little or no protection. If others cannot understand the disclosures made concerning our confidential information, then it might be of little consequence and might not hurt us. If we are engaged in a TMDR proceeding, then we must insist that the intentional disclosures are presented in a manner that can be understood.

Throughout society, technology users are struggling to find the appropriate, or at least acceptable, balance between privacy and the convenience that technology offers. As this Article is being written, for example, Research in Motion Ltd. (RIM) is being pressured by the United Arab Emirates, Saudi Arabia, and India to allow greater access to encrypted information sent by its Blackberry smartphones.²⁷ RIM’s message services offer “unusually high levels of encryption,” in contrast to other smartphone providers, and transmit

²² Frank E. A. Sander & Lukasz Rozdeiczer, *Selecting an Appropriate Dispute Resolution Procedure: Detailed Analysis and Simplified Solution*, in *THE HANDBOOK OF DISPUTE RESOLUTION* 386, 401 (Michael L. Moffit & Robert C. Bordone eds., 2008).

²³ *Id.*

²⁴ *Afghan War Diary, 2004-2010*, WIKILEAKS, http://mirror.wikileaks.info/wiki/Afghan_War_Diary_2004-2010/ (last visited Mar. 11, 2011).

²⁵ Adam Kirsch, *Why Wikileaks Still Needs 'The New York Times'*, *NEW REPUBLIC* (July 26, 2010, 1:27 PM), <http://www.tnr.com/blog/foreign-policy/76562/why-wikileaks-still-needs-the-new-york-times>.

²⁶ *Id.*

²⁷ See Spencer E. Ante & Phred Dvorak, *Message from RIM Chief: It's the Web, Deal With It*, *WALL ST. J.*, Aug. 5, 2010 at B1, available at <http://online.wsj.com/article/SB10001424052748704017904575409093226146722.html>. Saudi Arabia announced on August 10, 2010, that it will permit Blackberry message service to continue to operate because some of the regulatory requirements have been met. See Summer Said, *Saudis Ease on Blackberry*, *WALL ST. J.*, Aug. 11, 2010, at B4, available at <http://online.wsj.com/article/SB10001424052748704164904575420642075136072.html>.

data via its own server networks.²⁸ The United Arab Emirates Regulatory Authority announced in August 2010 that based on national security concerns it would suspend Blackberry services (including e-mail, instant messaging, and web browsing) on October 11, 2010, although the Authority would be open to further discussions.²⁹

Confidentiality breaches that are similar to what might occur between disputing parties using TMDR are occurring in a wide range of circumstances. In the employment law area, for example, the manner in which individuals now routinely use technology can create unanticipated problems. Executive employment agreements, for instance, may include non-compete and non-solicitation agreements.³⁰ Social networks such as Facebook³¹ and LinkedIn³² allow us to easily connect with former colleagues and other persons in the same industry by simply clicking an “Accept” button. The problem is that these new “friends” might be working for competing companies, and, depending on the information exchanged, the new relationships might unintentionally violate the non-compete and non-solicitation agreements. The ease and blazing speed with which messages can be dispatched might result in information being transferred that, if the sender had paused and reflected, never would have been sent. And if an employee is intent on violating company confidentiality rather than simply communicating carelessly, then she can reach an unlimited worldwide audience instantly. The concern is not merely hypothetical. In March 2010, for instance, a case was filed in Federal District Court in Minnesota alleging that an employee used LinkedIn to contact former colleagues and former clients in violation of her non-compete and non-solicitation agreement.³³

Similarly, it is not unreasonable to be concerned that private information exchanged during TMDR could be broadcast widely. A TMDR service provider and any neutral (arbitrator, facilitator, or mediator) involved in a TMDR

²⁸ Said, *supra* note 27.

²⁹ *Id.*

³⁰ Anthony C. Valiulis, *Non-Competition Agreements: Despite the Myths, Often a Powerful Method of Protecting Your Business*, MUCH SHELST (Nov. 2009), <http://www.muchshelist.com/non-competition-agreements-as-a-method-of-protecting-your-business-alert.htm>.

³¹ *Facebook Sign Up*, FACEBOOK, <http://www.facebook.com/> (last visited Mar. 11, 2011).

³² *Join LinkedIn Today*, LINKEDIN, <http://www.linkedin.com/> (last visited Mar. 11, 2011).

³³ Complaint at 10, *TEKsystems, Inc. v. Hammernick*, No. 10-cv-00819 (D. Minn. filed Mar. 16, 2010). The impulse to connect with others may be more than economically motivated. As noted earlier, technology blurs the lines between working time and nonworking time. Employees determined to sexually harass or discriminate against coworkers via social networking media can create liability issues for employers. So employment counsel must ask—where is the employee privacy-management supervisory line? To what degree should we, and to what degree must we, closely monitor the ways in which employees use social networking media? Will an express policy prohibiting harassing and discriminatory behavior not accompanied by employer monitoring be sufficient to avoid employer liability? See Janet Cecelia Walthall, *Facebook Harassment: Social Websites May Prompt Need for New Policies, Procedures*, 28 HUM. RESOURCES REP., 261, 261 (2010) (noting that U.S. Supreme Court decisions *Faragher v. Boca Ratan*, 524 U.S. 775 (1998) and *Burlington Indus. Inc. v. Ellerth*, 524 U.S. 742 (1998) provide an affirmative defense for alleged harassment if an employer can demonstrate that a tangible act, such as a discharge, did not occur; the employer took reasonable care to prevent and correct promptly the harassment; and the allegedly victimized employee failed unreasonably to take advantage of preventive or corrective opportunities).

process should remind parties how easy it can be to let information slip out when communicating on social networking sites or via technology in general. The provider and the neutral must articulate clear guidelines regarding the ways in which individuals may use the TMDR software. A TMDR service provider and any neutral must be vigilant not only to ensure that the TMDR software is not misused for improper disclosures, but also to ensure that it is not used to harass or discriminate against a party. Providers also must limit the parties' ability to communicate concerning the matter in dispute using software that is not part of the TMDR protocol, such as social networking media. These limitations, of course, are not unlike the communication restrictions placed on parties engaged in traditional ADR processes. Parties engaged in a traditional mediation, for example, may be asked not to speak with each other outside of the mediation session while the session is ongoing.

II. WHY HAS TECHNOLOGY-MEDIATED DISPUTE RESOLUTION NOT BEEN EMBRACED MORE UNIVERSALLY?

Although TMDR eventually will transform the way practitioners approach dispute resolution, we constantly must be mindful that the medium affects the message. Technology is, in essence, a fourth party at the table.³⁴ And although technology can have a significant impact on the dispute resolution process, there is no guarantee that this impact always will be positive.³⁵ Relying on technology can have a positive effect, for instance, because effective technology-mediated communication requires that the parties establish guidelines regarding what specific technology, and how that technology, will be used.³⁶ Parties must clearly articulate expectations and assumptions at the outset.³⁷

³⁴ See ETHAN KATSH & JANET RIFKIN, ONLINE DISPUTE RESOLUTION: RESOLVING CONFLICTS IN CYBERSPACE 93 (2001) (proposing that the reader think of ODR differently than traditional ADR in that there are four parties involved rather than three where "[t]he 'fourth party,' the new presence 'at the table,' is the technology that works with the mediator or arbitrator").

³⁵ See, e.g., *supra* notes 16-18 and accompanying text (discussing the pros and cons of online communication).

³⁶ Cybersettle, for example, relies on a "bottom line" approach to dispute resolution. *About Cybersettle*, CYBERSETTLE, <http://www.cybersettle.com/pub/home/about.aspx> (last visited Mar. 11, 2010). The complaining party in a conflict submits a dollar amount for which he is willing to settle the dispute (a "demand") and the website's technology notifies the opposing party of the demand. *How Cybersettle Works*, CYBERSETTLE, <http://www.cybersettle.com/pub/home/demo.aspx> (last visited Mar. 11, 2010). The opposing party then may submit his own offer for settlement and Cybersettle's patented technology determines whether there is a match between the two amounts. *Id.* Of course, the success of traditional mediation also relies on the parties' open communication about expectations and goals. See AM. BAR. ASS'N, WHAT YOU NEED TO KNOW ABOUT DISPUTE RESOLUTION: THE GUIDE TO DISPUTE RESOLUTION PROCESSES 3 (2006), available at <http://www.abanet.org/dispute/processguide.html>; see also AM. BAR. ASS'N, MODEL STANDARDS OF CONDUCT FOR MEDIATORS 2 (2005), available at <http://www.abanet.org/dispute/webpolicy.html>. Indeed, the whole purpose of the mediation process is to allow self-determination between the parties. *Id.* at 3. The American Bar Association (ABA) defines self-determination as, "the act of coming to a voluntary, un-coerced decision in which each party makes free and informed choices as to process and outcome." *Id.*

³⁷ See *How Cybersettle Works*, *supra* note 36; *About Cybersettle*, *supra* note 36.

But TMDR must have some disadvantages (or at least must raise serious questions) because it clearly has not been embraced as quickly and universally as some of us have expected.³⁸

There are several possible explanations as to why TMDR has not been embraced wholeheartedly.³⁹ For instance, there are at least three strong reservations concerning whether technology facilitated communication mediums will be effective when used for dispute resolution.⁴⁰ First, we cannot have effective and productive conversations without the intimacy and trust that only face-to-face contact creates.⁴¹ A second, and related, reservation is that the verbal and nonverbal cues that are lost when we rely on technology-facilitated communication media are critical for effective communication.⁴² And, finally,

³⁸ See *infra* note 44 and accompanying text (explaining that TMDR has been more widely adopted in the international dispute resolution community than it has been in the United States).

³⁹ See, e.g., Sarah Rudolph Cole & Kristen M. Blankley, *Online Mediation: Where We Have Been, Where We Are Now, and Where We Should Be*, 38 U. TOL. L. REV. 193, 202-04 (2006) (providing an overview of the most commonly cited criticisms of online mediation, including the fear that, because “[f]aceless communication over the Internet means the loss of non-verbal communication . . . the likelihood of miscommunication increases.”); see also Brian A. Pappas, *Online Court: Online Dispute Resolution and the Future of Small Claims*, UCLA J.L. & TECH., Fall 2008, at 6-8 (discussing other reasons for Americans’ tepid response to technology mediated dispute resolution). Brian Pappas, Associate Director of Michigan State University College of Law’s ADR Program, recently explained why obstacles continue to face technology mediated dispute resolution as a viable alternative to traditional ADR:

The easiest explanation for why ODR is not widely used is that . . . attorneys tend to be the gatekeepers of ADR processes and also tend to be more resistant than the general public to embracing technological change . . .

. . . It is often hard to teach “old dogs” new tricks, and some disputes may even be harmed by moving them online . . . [I]t is important to be able to see body language to know how people are reacting . . . A lack of personal connections between parties makes it difficult to build trust online.

Id. at 6-7 (emphasis added). On the other hand, many dispute resolution practitioners have embraced at least some communication technologies as an essential component of their professional—and, of course, personal—lives. See, e.g., James Melamed, *We Are All Online Mediators*, *MEDIATE.COM*, (Oct. 2009), http://www.mediate.com/articles/we_are_all_online_Mediators.cfm (acknowledging the fears of traditionalists while at the same time asserting that, despite the traditional focus on face-to-face communication, “most mediators now mail nothing and e-mail everything The reason we are embracing communication technologies is simple: our clients are demanding it.”). In fact, one mediator commented that he “systematically refer[s] divorcing parents” for whom he provides mediation services to their state’s online resources regarding child care and parenting tips. *Id.* Failure to do so, he remarked, “would be, in [his] mind, mediator malpractice.” *Id.*

⁴⁰ Cole & Blankley, *supra* note 39, at 202-203 (discussing the three primary criticisms of TMDR).

⁴¹ *Id.* at 203.

⁴² James P.T. Fatt, *It’s Not What You Say, It’s How You Say It*, *COMM. WORLD*, June-July 1999, at 37, 37-38, available at http://findarticles.com/p/articles/mi_m4422/is_6_16/ai_55580031/ (discussing the importance of nonverbal communication in general and eye contact in particular in the context of Western business and social cultures). Indeed, one author explained how such nonverbal cues inform our understanding of another person’s veracity:

Studies on eye contact and its effect on communication and credibility find that maintaining gaze while communicating is beneficial to credibility, and, conversely, averting eye contact is detrimental to credibility . . .

technology might never—and certainly has not yet—develop to the point that it will always be available and function as promised when it is most needed.⁴³

Although we can debate the merits of these concerns and strong arguments can be made that these reservations can be addressed and overcome, that debate would not answer the question as to why TMDR has not been embraced more universally.⁴⁴ In fact, concerning this specific question, that debate misses the point.

There is another, more compelling reason why TMDR has not been more widely adopted. TMDR will not experience significant growth until TMDR service providers and neutrals begin to follow rather than lead. In other words, TMDR will not grow substantially until platforms and formats mirror technology users' day-to-day practices and patterns. Although it might be true that if we build a baseball diamond the fans will come,⁴⁵ that apparently is not true when it comes to designing TMDR processes.⁴⁶ If we want to design a user-friendly TMDR process that will attract disputing parties and neutrals, then we must look very closely at how these individuals integrate technology into their

Other strange eye behaviors such as shifting eyes, looking down at notes for extended periods, and blinking excessively, have been shown to lower credibility.

Id.; see also Adam Blatner, *About Nonverbal Communications: Part 1: General Considerations*, BLATNER.COM (June 29, 2000), <http://www.blatner.com/adam/level2/nverb1.htm> (discussing the significance and meaning of various forms of nonverbal cues in social interactions). One scientist explains that, "Modern American business culture values a fair degree of eye contact in interpersonal relations, and looking away is sensed as an avoidance or even deviousness." *Id.*

⁴³ Cole & Blankley, *supra* note 39, at 202-03 (discussing the three primary criticisms of TMDR).

⁴⁴ It is important to note that, although there has been resistance to ODR in the United States, ODR has been growing steadily in popularity among members of the international community. See generally *Welcome*, ODR 2010 ARG., <http://www.odr2010.com.ar/ing> (last visited Mar. 11, 2011) (the official website for the ninth annual international forum to discuss "New Technologies of Information and Communication Applied to Conflict"). In fact, 2010 marks the ninth year that members of the international ODR community have gathered to present and discuss a variety of ODR issues. *Id.* This year's program, entitled "Peace Building in the Digital Era," was held in Buenos Aires, Argentina, and featured speakers from sixteen different countries: Argentina, Australia, Brazil, Canada, China, Colombia, England, India, Israel, Italy, Peru, South Korea, Spain, Sri Lanka, the United States, and Venezuela. *Id.*; *Speakers*, ODR 2010 ARG., http://www.odr2010.com.ar/ing/?page_id=482 (last visited Mar. 11, 2011).

⁴⁵ Recall that when actor Kevin Costner (Ray) questions whether anyone would attend baseball games played on a diamond built in the middle of an Iowa cornfield, Gabby Hoffmann (Ray's daughter Karin) and James Earl Jones (Terence Mann) assure him that people will come and pay to watch the games in order to recapture their childhood innocence. *FIELD OF DREAMS* 1:22:52-1:25:51 (Universal Studios 1989). "If you build it, he will come," often misquoted as "If you build it, they will come," is whispered by the voice of Shoeless Joe Jackson (Ray Liotta) to Ray as he walks through the cornfield. *Id.* at 4:41-5:39.

⁴⁶ See, e.g., Pappas, *supra* note 39, at 10 (noting that two years after legislation was passed to create it, Michigan's ground-breaking Cyber Court "was all but a footnote as a lack of funding kept [it] off-line"); see also Amy Lane, *Lack of Funding Keeps Cyber-Court Offline*, CRAIN'S DETROIT BUS. (July 15, 2002, 3:01 AM), <http://www.craindetroit.com/apps/pbcs.dll/article?AID=/20020715/SUB/207150880> (describing the financial hurdles to launching the Michigan Cyber Court). A search of Michigan's judiciary website confirmed that the Cyber Court no longer exists. *Court and Public Resources*, MICH. COURTS, <http://www.courts.michigan.gov/> (last visited Mar. 11, 2011).

daily lives.⁴⁷ And if we want to remain relevant for not only the distant but also the immediate future, then we need to pay particularly close attention to the digital natives—children and young adults raised on technology, as opposed to “digital immigrants” who began using technology later in life—and networked learners who rely on all types of technology—broadband, cell phones, gaming devices and MP3 players—as a primary means of both collecting and acting on information.⁴⁸

Networked individuals are unique in critical ways. They view information as highly available, as ambient.⁴⁹ Likewise, as the volume, velocity, availability, and variety of information has increased, their time orientation has become one of “continuous partial attention.”⁵⁰ Furthermore, networked individuals are able to achieve connection without physical proximity; as a result, their sense of community can be defined as one of “absent presence.”⁵¹ Finally, networked individuals perceive the rewards and challenges of networking for social, economic, political, and cultural purposes, including conflict resolution, differently than their predecessors because networking in this environment offers new layers and new audiences.⁵² For these individuals, embracing the Internet with all of its opportunities for personal connection and communication is anything but artificial.⁵³ “Augmented Reality” and “Virtual Reality” are, quite simply, reality.

We should construct ADR processes from this perspective and build upon the ways in which we already are using technology. We must think creatively about technologies we can successfully integrate into the dispute resolution

⁴⁷ See, e.g., Pappas, *supra* note 39, at 3-4. The case of online gamers is particularly interesting with respect to the types of interpersonal connections that arise with such integration:

[A] 53-year-old, married, former college computer graphics teacher, began spending every free second on Second Life after being diagnosed with diabetes and a failing gallbladder in early 2007. In his real life, [he] is paid \$14 an hour to work as a call-center operator . . . In his virtual life, [he] is a successful entrepreneur with a net worth of 1.5 million lindens . . . [and] is married to one of the [other] participants.

Id. at 3; see also Alexandra Alter, *Is This Man Cheating on His Wife?*, WALL ST. J., Aug. 10, 2007, at W1 (describing in greater detail the online relationship and virtual marriage maintained by a man who is married to a different woman in the real world). In fact, according to a survey published by the Massachusetts Institute of Technology in 2006, “Nearly 40% of men and 53% of women who play online games said their virtual friends were equal to or better than their real-life friends . . . More than a quarter of [them] said the emotional highlight of the past week occurred in a computer world.” *Id.*

⁴⁸ See LEE RAINIE, PEW INTERNET PROJECT, NETWORKED LEARNERS 13, 19 (2009), <http://www.pewinternet.org/~media/Files/Presentations/2009/Networked%20Learners%20pdf%20-%20MVU.pdf> (stating that “55% of online teens use Wikipedia,” and noting that “>75% [of teens] view videos on video-sharing sites”); AMANDA LENHART ET AL., PEW INTERNET & AMERICAN LIFE PROJECT, SOCIAL MEDIA AND MOBILE INTERNET USE AMONG TEENS AND YOUNG ADULTS 3 (2010), http://pewinternet.com/~media/Files/Reports/2010/PIP_Social_Media_and_Young_Adults_Report_Final_with_toplines.pdf (noting that “[o]ne-third of online 18-29 year olds post or read status updates [on Twitter]”).

⁴⁹ Rainie, *supra* note 48, at 38.

⁵⁰ *Id.*

⁵¹ *Id.*

⁵² *Id.*

⁵³ *Id.*; see also *supra* note 47 and accompanying text (discussing how the lines have been blurred between virtual and physical lives).

process.⁵⁴ Particularly in the areas of orientation, information gathering, issue clarification, and option generation, applications are available that could be used to improve the consistency and quality of dispute resolution.⁵⁵ These technologies must be reviewed carefully and critically, however, to ensure the benefits we anticipate are actually realized.

III. COMMERCIALY AVAILABLE TMDR PLATFORMS— READY TO USE OFF THE SHELF

Although an increasing number of individuals and organizations are using technology to enhance the dispute resolution process, this Article will focus on two currently available applications that can reduce the expense associated with traditional ADR processes: Cybersettle and Smartsettle.

A. *Cybersettle*

Cybersettle is a patented online dispute resolution system that purports to “develop and commercialize innovative negotiation technology that creates value and efficiency by automating the settlement of financial disputes and pricing transactions.”⁵⁶ Cybersettle has been especially successful marketing its platform to the insurance industry.⁵⁷ Cybersettle asserts that by reducing the amount of time required to resolve claims, injured parties receive compensation faster and insurance providers avoid administrative expenses and legal fees, which in turn enables them to keep policyholders’ premiums low.⁵⁸ Cybersettle reports that it has facilitated more than \$1.8 billion in settlements.⁵⁹ An

⁵⁴ See Larson, *supra* note 8, at 634 (discussing the different types of technology currently used in daily communication and their potential for integration into a comprehensive TMDR system).

⁵⁵ See, e.g., Lucille M. Ponte, *The Michigan Cyber Court: A Bold Experiment in the Development of the First Public Virtual Courthouse*, 4 N.C. J. L. & TECH. 51, 68-69 (2002) (describing the types of tools that can facilitate online dispute resolution processes); Kimberly Koscielniak & Brian Wassom, *Cyber Court*, MICH. B. J., Jan. 2003, at 48, 48-49 (providing an overview of Michigan’s Cyber Court project). With regard to identifying parties and maintaining confidentiality and site security, “facial recognition software is being used to automatically ‘tag’ and sort photos downloaded to personal computers from digital cameras.” Larson, *supra* note 13, at 153 (describing the current availability of facial recognition software as a consumer product and its origin as a counterterrorism and anti-theft device). Certainly such technology could be used in conjunction with a computer’s built-in camera to compare a “snapshot” of a party logging on to an ODR provider’s website with an already-uploaded, identifying digital photo stored upon the creation of the party’s account with the provider. This would help assuage critics’ concerns that “authenticating the identity of the parties may be difficult [and] mediation could theoretically occur with an impostor sending messages on behalf of one of the parties.” Cole & Blankley, *supra* note 39, at 203-04.

⁵⁶ *Mission*, CYBERSETTLE, <http://cybersettle.com/pub/home/about/mission.aspx> (last visited Mar. 11, 2011).

⁵⁷ *Fact Sheet*, CYBERSETTLE, <http://cybersettle.com/pub/home/about/factsheet.aspx> (last visited Mar. 11, 2011).

⁵⁸ *Products and Services*, CYBERSETTLE, <http://www.cybersettle.com/pub/home/products.aspx> (last visited Mar. 11, 2011).

⁵⁹ *Fact Sheet*, *supra* note 57; see Douglas S. Malan, *A Numbers Game*, CONN. L. TRIB., Jan. 25, 2010, at 1, available at <http://www.cybersettle.com/pub/76/section.aspx/26> (discussing

Accenture⁶⁰ study of the system found that Cybersettle cuts the claim cycle by an average of four to six months and reduces the time from offer to settlement.⁶¹ The Office of the Comptroller of New York City, Cybersettle's first municipal client, estimated that it saved a total of \$70 million between 2004 and 2009.⁶²

The Cybersettle process is known as "double-blind bidding." First, Party A enters three settlement demands, one for each round of negotiations.⁶³ These amounts are never revealed to the other party.⁶⁴ Party B is notified by e-mail, fax, or telephone when a demand has been made and then logs into the website and enters up to three offers.⁶⁵ The system compares the demands to the corresponding offers.⁶⁶ If, during any round, the demand is less than or equal to the offer, a settlement for the average of both amounts is declared.⁶⁷ If no settlement is obtained, Party A can resubmit the claim and enter three new demands.⁶⁸ Party B then will respond with up to three new offers and the cycle begins again.⁶⁹ Either side may request a trained facilitator to assist with negotiations.⁷⁰ Cybersettle maintains that this process eliminates the posturing and strong egos that can compromise the traditional negotiation process and instead allows parties to focus quickly on the ultimate goal of a fair settlement.⁷¹

Even if you are hesitant to try Cybersettle, you cannot deny that the process is straightforward, fast, and very inexpensive. Cybersettle understands that the number of disputes it processes will increase substantially if attorneys are encouraged to resolve their clients' cases using Cybersettle. Accordingly, Cybersettle has created a fee structure that is very attractive to attorneys. The

the growth of Cybersettle as a viable option for attorneys and others seeking to resolve disputes in a cost-efficient and timely manner); *see also* Sally Goldenberg, *Settling Suits Online Is 'Net Gain for City*, N.Y. Post, Aug. 4, 2008, at 2 (reporting on taxpayer's savings due to the use of Cybersettle). "City Comptroller William Thompson has saved taxpayers \$33.4 million through Cybersettle, an online tool his office uses to settle claims before going to litigation, The Post has learned." *Id.* "Settlements made through Cybersettle average nearly \$11,000, compared to a previous average cost of almost \$28,000." *Id.* It takes "an average of six months to one year to resolve [claims online], compared to the roughly four years it took to settle cases [the traditional way]." *Id.*

⁶⁰ "Accenture is a global management consulting, technology services and outsourcing company. Combining unparalleled experience, comprehensive capabilities across all industries and business functions, and extensive research on the world's most successful companies, Accenture collaborates with clients to help them become high-performance businesses and governments." *About Accenture*, ACCENTURE, http://www.accenture.com/Global/About_Accenture/default.htm (last visited Mar. 11, 2011).

⁶¹ *Products and Services*, *supra* note 58.

⁶² *Cybersettle for Governments & Municipalities*, CYBERSETTLE, <http://cybersettle.com/pub/21/section.aspx> (last visited Mar. 11, 2011); *Cybersettle Saves the City of New York Time and Money*, CYBERSETTLE, <http://cybersettle.com/pub/76/section.aspx/25> (last visited Mar. 11, 2011).

⁶³ *How Cybersettle Works*, *supra* note 36.

⁶⁴ *Id.*

⁶⁵ *Id.*

⁶⁶ *Id.*

⁶⁷ *Id.*

⁶⁸ *Id.*

⁶⁹ *Id.*

⁷⁰ *Id.*

⁷¹ *About Cybersettle*, *supra* note 36.

fees are determined by the dollar amounts of the settlement. The fees range from a low of \$100 for disputes that settle for amounts ranging from \$1 to \$1,500 to a high of \$700 for disputes settling for more than \$500,000.⁷² Cybersettle only charges a fee if the dispute is settled online or through facilitation.⁷³

Cybersettle's marketing strategy appears to be successful.⁷⁴ Its double-blind bidding process and its fee structure are, in fact, attracting attorneys. Cybersettle reports that more than 150,000 U.S. attorneys are registered in its system and that approximately 30,000 lawyers have utilized Cybersettle to facilitate settlement of their clients' cases.⁷⁵

Although it may be fast and inexpensive, Cybersettle also is inherently limited. It cannot facilitate productive conversations, and it cannot assist in crafting complex solutions. But many disputes have rather narrowly defined possible solutions and sometimes a fast and final resolution is the most important goal for the parties. In those instances Cybersettle can be an attractive option.

B. *Smartsettle*

Smartsettle, an online dispute resolution system that offers two different programs, has a more comprehensive online dispute resolution and negotiation system than Cybersettle. Smartsettle One provides time saving benefits similar to those offered by Cybersettle for single issue cases between two parties, while Smartsettle Infinity empowers any number of parties to negotiate multi-issue cases utilizing patented optimization algorithms in order to achieve fair and efficient results.

The Smartsettle negotiation process is structured in sessions in which parties attempt to negotiate a settlement based on party determined settlement ranges. Suppose Party A and Party B are using Smartsettle One to negotiate a single numerical issue. The first party to arrive (Party A) begins by defining a private bargaining range within which it expects the parties will negotiate.⁷⁶ This bargaining range is defined by Party A's initial proposal (which will be

⁷² The complete attorney fee schedule is

Settlement Amount	Fee
\$1 - 5,000	\$100
\$5,001 - 10,000	\$175
\$10,001 - 50,000	\$250
\$50,001 - 250,000	\$300
\$250,001 - 500,000	\$500
Above \$500,000	\$700

Cybersettle Attorney Settlement Fees, CYBERSETTLE, <http://cybersettle.com/pub/74/section.aspx> (last visited Mar. 11, 2011).

⁷³ *Id.*

⁷⁴ See *supra* note 59 and accompanying text (commenting on the number of big-name clients who have embraced Cybersettle as an efficient dispute resolution process).

⁷⁵ *About Cybersettle*, *supra* note 36.

⁷⁶ See *Simulation from Insurco's Point of View*, SMARTSETTLE, <http://www.enegotiation.org/index/videos?video=2> (last visited Mar. 11, 2011); *Simulation of Home Reno Case from Homeowner's Point of View*, SMARTSETTLE, <http://www.enegotiation.org/index/videos?video=1> (last visited Mar. 11, 2011).

revealed to Party B) and a walkaway value (which never will be revealed to Party B).⁷⁷ Smartsettle encourages parties to be optimistic with their initial proposal—to make a proposal more favorable to that party than what an objective observer might deem “fair” but a proposal that nonetheless is reasonable.⁷⁸ A party’s walkaway value should represent a worst-case scenario, meaning that the party will not agree to settle for anything less attractive than this amount.⁷⁹ Party A then determines a fair settlement amount to which it is willing to agree in advance.⁸⁰ Party A’s acceptance of that settlement amount remains hidden from Party B.⁸¹ When Party B arrives, it enters amounts in the same manner as Party A, after which the first session ends. An agreement is declared if there is an overlap in accepted values.⁸² If there is more than one mutually successful value, Smartsettle employs a unique formula that encourages parties to be reasonable by rewarding the most generous party.⁸³

If no agreement is reached in a particular session, either party may begin a new session and the process continues.⁸⁴ During each session, parties can make visible concessions or they can request suggestions from Smartsettle, on which they then can place hidden acceptances.⁸⁵ Parties may accept suggestions from Smartsettle and, if both parties accept the same package, an agreement is reached.⁸⁶ Parties can request a division or compromise to be generated by the system to develop a middle ground solution based upon each party’s best offer (i.e., least acceptable proposal).⁸⁷

Participants in a Smartsettle negotiation may pursue several options as the negotiation process unfolds. An online chat utility is available that permits direct communication between the parties.⁸⁸ If parties no longer are willing to make any additional offers or demands, then they can designate a session to be the final negotiation round.⁸⁹ In addition, if they both agree, parties can invoke an arbitration option in which an expert’s opinion regarding a fair settlement amount is used to determine an outcome favoring the party that has been most generous.⁹⁰

The Smartsettle system uses a unique formula that encourages parties to be reasonable throughout the negotiation process by favoring the party that is first to enter the “zone of agreement”—the overlapping area defined by what

⁷⁷ See *Simulation of Home Reno Case*, *supra* note 76.

⁷⁸ *Id.*

⁷⁹ *Id.*

⁸⁰ *Id.*

⁸¹ *Id.*

⁸² *Id.*

⁸³ *Smartsettle One—Online Dispute Resolution and Negotiation System*, SMARTSETTLE, <http://www.smartsettle.com/products/smartsettle-one> (last visited Mar. 11, 2011).

⁸⁴ *Simulation of Home Reno Case*, *supra* note 76.

⁸⁵ See *Smartsettle One*, *supra* note 83.

⁸⁶ See *Resource Planning and Development—VIII. Establish Equity*, SMARTSETTLE, <http://www.smartsettle.com/component/content/article/30-article-sub-sections/59-page-8> (last visited Mar. 11, 2011).

⁸⁷ *Id.*

⁸⁸ See *Simulation of Home Reno Case*, *supra* note 76.

⁸⁹ See *Smartsettle One*, *supra* note 83.

⁹⁰ See *Ways to Use Smartsettle*, SMARTSETTLE, <http://www.smartsettle.com/articles/51-ways-to-use-smartsettle> (last visited Mar. 11, 2011).

Parties A and B, respectively, are willing to accept and pay.⁹¹ The system rewards the party that makes the smallest final move and recognizes the most generous party.

Smartsettle One is a platform designed for single-issue cases. Smartsettle Infinity, designed for more complex negotiations, uses a process virtually identical to that used in Smartsettle One, except that more issues can be addressed and more parties can be involved. Instead of a single value negotiation, parties negotiate with packages of values; suggestions also come as packages. An agreement is reached if both parties accept the same package.

When parties are engaged in more complex negotiations, hidden value can be uncovered by closely analyzing parties' preferences and the possible trade-offs. Smartsettle Infinity asks parties to assign a numeric value to each issue indicating the importance of that issue to the party.⁹² The parties also assign satisfaction ratings (0 to 100 percent satisfied) to options between the best and worst case scenarios defined for each issue.⁹³ Parties define "even swaps" (e.g., Issue 1 - Option A + Issue 2 - Value X is equivalent to Issue 1 - Option B + Issue 2 - Value Y) to enable the system to represent their preferences accurately. The system can generate equivalent options (in terms of satisfaction) in situations where the parties have not accepted the same package previously.⁹⁴ Issues are identified and entered into the system by a neutral facilitator and preference information is kept confidential.⁹⁵

Smartsettle offers more complex platforms than Cybersettle and that complexity is reflected in its pricing. Smartsettle provides an à la carte menu that offers licenses to its more sophisticated platforms at gradually increasing prices. Decision-making software titled "Decider," for example, has a license fee of \$700, and the more robust negotiation program known as "Negotiator" has a license fee of \$1,700.⁹⁶ Smartsettle also offers support services such as technical support (\$20 per hour after one free hour per issue), co-facilitation (\$80 per hour), lead facilitation (\$160 per hour) and complex modeling (\$320 per hour).⁹⁷ If Smartsettle sets up the case for the parties, then each party pays a pre-arranged success fee proportional to the case value or value delivered,

⁹¹ ERNEST M. THEISSEN & PAUL MINIATO, REWARDING GOOD NEGOTIATING BEHAVIOUR WITH SMARTSETTLE 7 (2008), <http://www.smartsettle.com/download/papers/SmartsettleRewards.pdf>. The formula applied is defined as follows:

$$\text{Reference} = (\text{Tc} * \text{Ac} + \text{Ti} * \text{Ai}) / (\text{Tc} + \text{Ti})$$

where

Ac = the least preferred accepted value of Party A at the end of the previous session.

Ai = the least preferred accepted value of Party B at the end of the previous session.

Tc = the size of Party A's move.

Ti = the size of Party B's move.

Id.

⁹² See, e.g., *Resource Planning and Development—VII. Quantify Satisfaction*, SMARTSETTLE, <http://www.smartsettle.com/component/content/article/30-article-sub-sections/58-page-7> (last visited Mar. 11, 2011).

⁹³ See *id.*

⁹⁴ See *id.*

⁹⁵ See *id.*

⁹⁶ *Smartsettle Product Pricing*, SMARTSETTLE, <http://www.smartsettle.com/products/smartsettle-infinity/pricing> (last visited Mar. 11, 2011).

⁹⁷ *Id.*

less other costs such as server access and facilitator fees.⁹⁸ These prices are “fluid” and may be changing soon, according to Smartsettle President and CEO Dr. Ernest Thiessen, and probably should be regarded as illustrative rather than definitive.⁹⁹

C. *Benefits and Pitfalls*

Cybersettle and Smartsettle provide two examples of how a technology-mediated dispute resolution system can expedite negotiations, thus saving time and money—and at least in some instances, arguably improving the outcomes.¹⁰⁰ Indeed, cost reductions can be substantial.¹⁰¹ Whether every kind of dispute is amenable to resolution relying on technology-mediated processes remains to be determined, but there is no question that certain types of disputes can be managed effectively and efficiently using these, and similar, processes.

The cost savings that can be captured when faced with a property damage liability claim, for instance, are obvious. The parameters of the amount in dispute often can be identified quite quickly and the challenge becomes identifying an acceptable compromise. Rather than assigning an individual to investigate the claim, communicate repeatedly with the affected parties, contact the necessary repair and restoration providers, and manage the actual negotia-

⁹⁸ *Id.* Smartsettle charges \$100 per case plus facilitator fees to set up a case on the server and then charges \$5 per case per month for server access. *Id.*

⁹⁹ E-mail from Dr. Ernest Thiessen to David Allen Larson (Aug. 3, 2010) (on file with author).

¹⁰⁰ See generally Schmitz, *supra* note 3, at 200-01 (discussing the many advantages of Online Dispute resolutions systems, including Smartsettle).

The program allows parties to negotiate on their own schedules through asynchronous communications using an e-mail and alert system that tells parties when another has posted a response on Smartsettle’s secure server. Using this system, parties may negotiate with or without the help of a third-party facilitator. Furthermore, they can use a facilitator to pass along their respective proposed solutions without revealing their ultimate preferences.

Id. at 191 (citation omitted).

¹⁰¹ See Joseph W. Goodman, *The Advantages and Disadvantages of Online Dispute Resolution: An Assessment of Cyber-Mediation Websites*, J. INTERNET L., May 2006, at 1, 12 (discussing the advantages of online dispute resolution).

In particular, the benefits of cyber-mediation discussed include cost savings, convenience, and the avoidance of complicated jurisdictional issues.

As with traditional mediation, a benefit of mediation over the Internet is that it can provide substantial savings when compared with traditional litigation, which can be extremely costly. In fact, cyber-mediation may be the only feasible option for individuals who are unable to afford traveling long distances or for those involved in e-commerce disputes for low dollar amounts.

With attorney’s fees being perhaps the greatest expense in traditional litigation, or even sometimes traditional mediation, parties may be able to save a lot of money in cyber-mediation, where hiring an attorney is often unnecessary.

Id. (citation omitted); see also Cole & Blankley, *supra* note 39, at 204 (commenting that, “Online mediation is less expensive, more flexible, and faster than traditional mediation or litigation [because] [t]he parties can be located anywhere and participate in the mediation at their convenience, eliminating travel and scheduling issues.”); Bob Pimm & Teri Kirk, *New Web-Based Alternative Dispute Resolution Systems*, ENT. & SPORTS LAW., Fall 2003, at 29, 30 (citing statistics from the U.S. Department of Justice that, “parties spend, on average, more than \$50,000 per dispute—dangerously close to the average \$80,000 amount in dispute. If the client is owed \$80,000 and it costs \$50,000 to get it through litigation, the balance of \$30,000 will be further devalued by the time-value-of-money discount.”).

tions, the processes described above can generate and compare demands and offers quickly and efficiently.

In the double-blind bidding situation, for example, settlements are proposed instantly. If multi-issue software Smartsettle Infinity is used, then the typical back-and-forth negotiation exchange is expedited significantly. Sophisticated programs like Smartsettle Infinity can assist parties, conveniently and asynchronously, to identify options and possibilities they might not have contemplated themselves that lead to uniquely satisfying solutions.

But even though programs such as Cybersettle and Smartsettle are proving to be helpful and cost efficient, technology has much more to offer. Cybersettle's structured and automated online double-blind bidding system is appropriate only for single-issue disputes and cannot facilitate the resolution of complex, multi-issue conflicts. Smartsettle's Infinity is praiseworthy because it actually does integrate artificial intelligence programming directly into the dispute resolution process. In that sense, it is pushing the envelope as compared to other online dispute resolution systems. Other online dispute resolution systems, such as theMediationroom.com,¹⁰² offer valuable educational services, ready access to trained facilitators and arbitrators, and sophisticated services such as psychometric profiling.¹⁰³ But when it comes to integrating technology into the dispute resolution process itself, most sites tend to provide little more than digital parking places for the storage and transfer of relevant data.¹⁰⁴

As much as I admire Smartsettle and its goal of using technology both to make dispute resolution processes more convenient and to improve outcomes, Smartsettle does require users to educate themselves as to how to use that unique system. This may be particularly problematic for certain parties who are less comfortable with contemporary technologies or accustomed to using dispute resolution processes that rely on the leadership of a third-party neutral.¹⁰⁵ Smartsettle is not intuitive for everyone¹⁰⁶ and does not mirror the ways in which individuals use technology in their daily lives. Perhaps for that reason, Smartsettle has not been able to capture as much of the dispute resolution market as might be anticipated, even though it is using artificial intelligence more robustly than other TMDR providers.

¹⁰² "See You out of Court," MEDIATION ROOM, <http://www.themediationroom1.com/> (last visited Mar. 11, 2011).

¹⁰³ *Psychometric Profiling*, MEDIATION ROOM, http://www.themediationroom1.com/news_archive/article_two/index.html (last visited Mar. 11, 2011).

¹⁰⁴ See generally *AAA Webfile*, A.B.A., <https://apps.adr.org/webfile/> (last visited Mar. 11, 2011) (the American Arbitration Association's online ADR service).

¹⁰⁵ See, e.g., KATSH & RIFKIN, *supra* note 34, at 93 (noting that traditional alternative dispute resolution practices involve third parties); Pappas, *supra* note 39, at 7 (discussing the difficulties of teaching the proverbial "old dog" to perform "new tricks").

¹⁰⁶ At the 2008 Forum on Online Dispute Resolution held in Victoria, British Columbia, Smartsettle sponsored an eNegotiation competition for the participants at that conference. Confirming what the author maintains about children and their ability to understand and use technology effectively, the author's daughter (who was nine-years-old at the time and the only child entered in the competition) finished in third place at that competition, see *9-Year-Old Wins Prize in Smartsettle One Competition*, SMARTSETTLE (May 8, 2010, 7:54 PM), <http://www.smartsettle.com/news-and-events/245-9-year-old-wins-prize>. The author, it must be noted, was favorably impressed by Smartsettle's use of optimization algorithms long before his daughter placed third in that competition.

IV. ADDITIONAL REASONS WHY RELIANCE ON TMDR WILL INCREASE

The cost reductions captured by technology and the desire of digital natives to integrate technology into every aspect of their lives are not the only reasons parties will rely increasingly on TMDR. Foreign nations are embracing TMDR, and this development may encourage, or even force, the United States to increase its use of TMDR.¹⁰⁷

One of the most powerful international economic communities on the planet, the European Union, is improving and expanding its online dispute resolution systems. The European Commission's Digital Agenda (August 2010) explains that because Europe still consists of fragmented national online markets, Europeans are prevented from enjoying the benefits of a digital single market.¹⁰⁸ Commercial and cultural content and services need to move freely across borders, which can be accomplished by eliminating regulatory barriers and facilitating electronic payments and invoicing, customer trust, and dispute resolution.¹⁰⁹

Significantly, the Digital Agenda declares that "[t]he Commission will also launch an EU-wide strategy to improve Alternative Dispute Resolution systems and propose an EU-wide online redress tool for eCommerce and improve the access to justice online."¹¹⁰ Furthermore, the Commission announced an Action Item to "[e]xplore by 2011, via a Green Paper, initiatives on consumer Alternative Dispute Resolution in the EU with a view to making proposals for an EU-wide Online Dispute Resolution system for eCommerce transactions by 2012."¹¹¹

Because they will continue to be fully engaged trading partners with the European Union, U.S. multinational companies will become familiar with the European Union online dispute resolution systems. It is likely that those companies will bring elements of those systems, or the entire online dispute resolution systems themselves, back to the U.S. domestic market.

Other countries also are finding TMDR to be the most efficient solution for particular kinds of problems. Kenya and Nigeria, for example, are turning to the Web to mediate micro-loan agreements.¹¹² This provides an example of how financial negotiations can be conducted online. In Sri Lanka, parties involved in sectarian violence have agreed to mediate their disputes only via the Web because meeting in person can prove to be too dangerous.¹¹³

¹⁰⁷ See generally *Welcome*, ODR 2010 ARG., *supra* note 44 (discussing the growth of ODR in the international community). See also Jason Krause, *Settling It on the Web*, A.B.A. J., Oct. 2007, at 42, 46. (noting that, "[while] ODR is only a small part of the overall dispute resolution picture in the U.S., there is an increasing acceptance from overseas, which may push American parties to embrace it faster.").

¹⁰⁸ EUROPEAN COMM'N, COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS: A DIGITAL AGENDA FOR EUROPE 3 (2010), available at [http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=LEX:52010DC0245\(01\):EN:NOT](http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=LEX:52010DC0245(01):EN:NOT).

¹⁰⁹ *Id.* at 11-12.

¹¹⁰ *Id.* at 13.

¹¹¹ *Id.*

¹¹² Krause, *supra* note 107, at 46.

¹¹³ *Id.*

Although the threat of similarly extreme violence many not exist for many negotiations in the United States, there nonetheless are many dispute resolution situations (disputes that include a history of domestic violence, for example) where it may be advisable to physically separate the disputing parties.

Six years ago, I predicted that societal changes would lead to a greater reliance on technology for dispute resolution.¹¹⁴ As global demand for non-renewable sources of energy has increased, so have the cost of fuel and, inevitably, the cost of travel.¹¹⁵ It simply is too expensive for parties always to meet face-to-face in order to resolve a dispute, and technology-facilitated processes offer an alternative.¹¹⁶ Additionally, given the significant increase in airline security concerns and precautions, few would argue that long distance travel is as convenient, or feels as safe, as it once did.¹¹⁷

International developments, travel costs combined with personal security and safety concerns, additional costs associated with face-to-face meetings such as time investment, and the desires and demands of a generation raised on tech-

¹¹⁴ David Allen Larson, *Technology Mediated Dispute Resolution (TMDR): Opportunities and Dangers*, 38 U. TOL. L. REV. 213, 214 (2006).

¹¹⁵ See generally *International Energy Outlook 2010*, U.S. ENERGY INFO. ADMIN. (July 27, 2010), <http://www.eia.doe.gov/oiarf/ieo/index.html> (discussing statistical trends and presenting projections for international fuel consumption through the year 2035). The Department of Energy's 2010 Outlook for international energy consumption through the year 2035 projects that the demand for fuel in developing countries will increase 84 percent and that fuel consumption in general by the year 2035 still will rely overwhelmingly on non-renewable resources—80 percent of all energy consumed will be in the form of fossil fuels. *Id.*

¹¹⁶ See Goodman, *supra* note 101, at 12-13 (listing the avoidance of travel as one of the many benefits of online mediation).

In addition, substantial cost savings may result because online mediation does not require parties to pay for long-distance phone calls or teleconferencing.

Perhaps the most recognized benefit of online mediation is that the disputants do not have to travel lengthy distances to negotiate. Since online disputes can arise between individuals from great distances, and even different countries, at least one of the parties will be required to travel far if they decide to rely on a traditional dispute resolution procedure. Since parties can participate in cyber-mediation from their respective business locations or residences, this may lead to reduced costs and the expenditure of less time. There is no need to rent a neutral facility to conduct the mediation and relevant documents and materials are readily available and do not have to be transported great distances.

Id. (citation omitted).

¹¹⁷ See, e.g., Michael Elliott, *The Shoe Bomber's World*, TIME, Feb. 16, 2002, at 46, available at <http://www.time.com/time/world/article/0,8599,203478,00.html> (describing the attempt of the so-called "shoe bomber" to detonate a homemade bomb he smuggled onto an airplane that contained "enough high explosives to blow a hole in the fuselage of the aircraft"); Angie C. Marek, *No Holiday on Ice Here: A Crash Probe Highlights the Dangers of Flying in Winter*, U.S. NEWS & WORLD REP., May 7, 2006, at 30, 30-31, available at <http://www.usnews.com/usnews/news/articles/060515/15icing.htm> (discussing the bureaucratic obstacles to passing appropriate safety regulations for commercial aircrafts and crashes that might have been prevented had they been in effect); Michael Hanlon, *More Dangers of Flying*, DAILY MAIL, <http://www.dailymail.co.uk/health/article-17386/More-dangers-flying.html#> (last visited Mar. 11, 2011) (outlining the various health problems associated with air travel); Rob Owen, *'Frontline' Explores the Dangers of 'Flying Cheap'*, TUNED IN J. (Feb. 8, 2010, 12:01 AM), <http://community.post-gazette.com/blogs/tunedin/archive/2010/02/08/frontline-quot-explores-the-dangers-of-flying-cheap.aspx> (discussing crash of Continental Flight 3407 in 2009 and how the rise of regional airlines with lower safety standards than major commercial carriers has increased the probability of accidents).

nology are requiring us to think critically about whether dispute resolution and problem solving truly requires face-to-face interaction.

V. THE CHALLENGES OF TECHNOLOGY-MEDIATED DISPUTE RESOLUTION

Despite the many advantages of TMDR, it certainly is not without its challenges.¹¹⁸ In fact, when one first considers the many ways in which a TMDR process can be compromised or even fail, the prospect of using technology for dispute resolution may appear daunting.

A. Power Imbalances

Although many individuals possess the skills necessary to engage in TMDR successfully, power imbalances result from the fact that parties' familiarity and comfort level with relevant hardware and software can be quite different.¹¹⁹ In fact, something as seemingly innocuous as a difference in typing skills may have a dramatic effect on a technology-facilitated dispute resolution process when the parties are required to communicate primarily by text.¹²⁰ I suspect that I am not the only one, for instance, who has been engaged in a live chat online and found himself overwhelmed by the volume of material being sent by a much more proficient typist. The inability to keep pace with a rapidly evolving text-based dialogue can prove catastrophic to a dispute resolution process.¹²¹ A technophobe might not only fear that he or she is disadvantaged relative to a technophile, that technophobe very well might be right.

This concern is not unique to TMDR, however. Any party would be disadvantaged equally if he could not participate fully in a face-to-face conversation.¹²² The language being used for the face-to-face process, for instance, might not be one party's native language or one party simply might not be as articulate or comfortable interacting verbally as another party.¹²³ If the process

¹¹⁸ See *supra* notes 39-43 and accompanying text (elaborating on commonly cited criticisms of TMDR).

¹¹⁹ See, e.g., Cole & Blankley, *supra* note 39, at 206-07 (discussing the types of "access issues" that can arise in an ODR situation, particularly when one of the parties does not own his own computer or is not as familiar with certain types of technology); Larson, *supra* note 8, at 636-37 (describing the "digital divide" among different age groups—particularly between younger people who have grown up with computer technology and Baby Boomers who had to acquire computer skills as adults—as well as between genders and among ethnic groups); Pappas, *supra* note 39, at 11 (commenting on the "digital divide" among different ethnic segments of the American populace).

¹²⁰ Larson, *supra* note 8, at 636-37 (noting the difference between users weaned on technology and users who learned to navigate the Technology Revolution as adults); Pappas, *supra* note 39, at 7 (noting that "the baby-boomer generation did not grow up online and many if not most still prefer to settle their disputes in person. It is often hard to teach 'old dogs' new tricks . . .").

¹²¹ See Cole & Blankley, *supra* note 39, at 204 (explaining the negative effects that a power imbalance—whether real or perceived—can have on dispute resolution).

¹²² See *supra* note 42 and accompanying text (describing the importance of nonverbal cues to Western interactions).

¹²³ See, e.g., Tony Attwood, *What Is Asperger Syndrome?*, OASIS @ MAAP (2005), <http://aspergersyndrome.org/Articles/What-is-Asperger-Syndrome-.aspx> (providing an overview of Asperger syndrome, a disorder that affects an individual's understanding of verbal and nonverbal communication). Beyond the discomfort that someone who is simply shy or

involves a third party neutral, then it is incumbent upon the neutral to ensure that all parties are able to use the relevant software and hardware—just like the neutral must ensure that all parties understand all of the stages and procedures in a traditional face-to-face dispute resolution process. This requirement means that not all practicing neutrals will be qualified to work as neutrals when the process is technology-facilitated. The neutral not only must be able to use the technology herself, but also must be prepared to assist parties that are struggling to understand how to use the technology properly.

What does this mean for cost savings? It means that the process may not be quite as fast as originally anticipated, that more time may have to be spent training the parties, and that the cost savings will be reduced. It is difficult to estimate the increased cost, however, because it will depend upon the skill set of the disputing parties. But neutrals always should anticipate at least some additional time will be required—unless the parties are both skilled repeat players.

If the technology-mediated dispute resolution process does not involve a neutral and the parties instead engage in a direct negotiation, then the issue becomes a little more interesting. We can argue that it is each party's own responsibility to ensure that she can use the technology effectively. When a party feels uncomfortable or uncertain, that party should not agree to rely on that technology. If a party proceeds in spite of his or her lack of understanding, then she assumes a risk that endangers any cost savings that otherwise might have been gained. The risk is that because she cannot utilize the technology platform effectively, she also cannot negotiate or advocate effectively. That party either will agree to a less-than-optimum settlement or no settlement will be reached. The process will have failed and whatever costs incurred by that failure now will have to be absorbed.

Is it the dispute resolution platform provider's responsibility to ensure that its users understand the technology? Companies like Smartsettle or Cybersettle already have a great incentive to ensure that its customers can use their technology effectively. If the parties cannot understand the technology and the dispute consequently is not addressed effectively, then customers will not continue to use that technology. These two companies therefore provide examples, illustrations, and training exercises on their websites.¹²⁴

But should TMDR process designers be responsible for, and even legally liable for, any failure of the parties to use the TMDR process tools effectively? Assuming that the developer did not make any fraudulent claims or misrepresentations, negligence might be the most likely basis for liability. In such a case, the complaining party would have to prove that he was owed a duty by the developer, that the developer failed to meet a reasonable standard of care, and that the failure was the actual (or direct) and proximate cause of an

uncomfortable around strangers, for example, an adult with Asperger syndrome may have difficulty "explaining thoughts and ideas using speech . . . [and] has a strong desire to seek knowledge, truth and perfection with a different set of priorities than would be expected with other people." *Id.*

¹²⁴ For example, Smartsettle offers extensive information, explanations, and training exercises. *Smartsettle Training*, SMARTSETTLE, <http://www.smartsettle.com/training> (last visited Mar. 11, 2011).

injury.¹²⁵ Although a paying customer should be able to establish that he was owed a duty of care, it might be difficult to prove that a program designer simply selling its dispute resolution platform has breached that duty of care. And if a program developer merely makes a program available, then so long as the technology itself does not fail, it would be difficult to establish that the direct and proximate cause of the failed negotiation was due to the actions of the developer as opposed to the behavior of the negotiating parties themselves. If a program designer sold educational or support services that promised to train users to successfully use its programs, in addition to the dispute resolution software, then the case for liability becomes a little stronger unless the designer makes it clear that becoming well versed in the software still does not guarantee settlement.

It already has been noted that the different skills and comfort levels of the parties, when it comes to using technology, clearly can impact TMDR. Additionally, differences in language and culture can exacerbate those technology-based power imbalances.¹²⁶ We know that cultural and language differences control perceptions and affect traditional dispute resolution processes.¹²⁷ There is no reason to believe that these differences will be any less significant when parties rely on technology-facilitated communication.¹²⁸ As in the case of parties with different technology skills, dispute resolution neutrals and the parties

¹²⁵ See DAN B. DOBBS ET AL., *TORTS AND COMPENSATION: PERSONAL ACCOUNTABILITY AND SOCIAL RESPONSIBILITY FOR INJURY* 109-10 (6th ed. 2009).

¹²⁶ See, e.g., Cole & Blankley, *supra* note 39, at 203 (explaining that because the nonverbal cues associated with face-to-face communication are lacking, “the risk of miscommunication is aggravated further if the parties are located in different countries with different cultures or languages.”).

¹²⁷ See Josefina M. Rendon, *Under the Justice Radar?: Prejudice in Mediation and Settlement Negotiations*, 30 T. MARSHALL L. REV. 347, 358 (2005) (examining types of prejudices that occur in mediation and negotiations, including language barriers, power imbalance, stereotyping, representational imbalance, party devaluation based on race or other reasons, and violation of trust by someone on the same side); see also John L. Graham et al., *Explorations of Negotiation Behaviors in Ten Foreign Cultures Using a Model Developed in the United States*, 40 MGMT. SCI. 72, 86-88 (1994) (examining the differences among cultures with regard to negotiation techniques). In one study, for example, researchers found that study participants from Mexico “achieved higher profits . . . when they took a competitive approach [to negotiations].” *Id.* at 86. Clearly, a competitive approach such as this could be counterproductive in certain dispute resolution processes that focus on “win-win” results.

¹²⁸ See Rafal Morek, *The Regulatory Framework for Online Dispute Resolution: A Critical View*, 38 U. TOL. L. REV. 163, 175 (2006) (citing Sharanya Rao, *The Cultural Vacuum in Online Dispute Resolution*, ODR.INFO (2004), <http://www.odr.info/unforum2004/rao.htm>) (discussing the “cultural vacuum” created by ODR systems).

ODR processes do not sufficiently accommodate for or facilitate diverse cultural issues between parties in the international environment. As suggested by Rao, there is a “cultural vacuum in online dispute resolution.” Almost 70% of ODR providers offer their services solely in English, whereas only 32.8% of Internet users speak English. Out of the seventy-six sites surveyed by Tyler and Bretherton, sixty-one sites were monolingual, nine sites offered services in two languages, and six sites offered services in three or more languages. The majority of multilingual ODR projects are funded by the European Union.

Id. (citation omitted); see also ANTONELLA DE ANGELI & RABIA KHAN, *MAPPING THE DEMOGRAPHICS OF VIRTUAL HUMANS 1* (2007), available at http://www.bcs.org/upload/pdf/ewic_hc07_stpaper6.pdf (citing A. J. Cowell & K. M. Stanney, *Manipulation of Non-Verbal Interaction Style and Demographic Embodiment to Increase Anthropomorphic Computer*

themselves must attempt to resolve any inequities that result from cultural and language differences.¹²⁹ Although this duty will affect cost savings, it is a duty that is not unique to TMDR and does not place TMDR at a disadvantage in terms of costs.

B. Who (or What) Actually Controls the TMDR Process?

Another issue that must be addressed concerns the extent to which the dispute resolution process will be controlled by software.¹³⁰ Although mathematical algorithms embedded within certain applications such as Smartsettle have the desirable potential to increase consistency and fairness, to the degree that the software defines what the parties can and cannot accomplish, does the software (the “code”) in essence become the “law”?¹³¹ Where rules and choices are subtly guided or limited by technology, what happens to the notion of self-determination?¹³²

Parties that rely on TMDR must examine carefully the ways in which a particular technology affects or limits choices, behaviors, and decisions. It may be very difficult, for example, to discern software engineers’ biases when the parties and neutrals are so far removed from the application development process.¹³³ When parties are asked to choose an option, for example, how are those options determined? If a party cannot make a decision and a default

Character Credibility, 62 INT’L J. HUMAN-COMPUTER STUD. 281-306 (2005)) (summarizing a study that found users of relational agents prefer agents that match their own ethnicity).

When looking at the importance of such demographic elements in embodiment, studies have shown that users prefer interacting with agents that either match their own ethnicity, or agents that are young looking. The design of pedagogical agents’ ethnicity and gender do influence learner perception of agent personality, motivational qualities, and perceived influence on the learning process. Students also perceived agents of the same ethnicity to be more engaging and affable. In particular, African-American learners were more likely to choose a pedagogical agent of the same ethnicity, and have a positive attitude towards this chosen agent after the lesson.

Id. (citation omitted).

¹²⁹ See, e.g., Michelle LeBaron, *Cross-Cultural Communication*, BEYOND INTRACTABILITY.ORG (July 2003), http://www.beyondintractability.org/essay/cross-cultural_communication/ (discussing the need for cultural sensitivity to facilitate effective dispute resolution). One anecdote elaborates on such inequities thus:

[A] German executive working in the United States became so upset with visitors to his office moving the guest chair to suit themselves that he had it bolted to the floor. Contrast this with U.S. and Canadian mediators and conflict-resolution trainers, whose first step in preparing for a meeting is not infrequently a complete rearrangement of the furniture.

Id.

¹³⁰ See, e.g., Malan, *supra* note 59 (expressing concerns that the use of Cybersettle and other similar TMDR providers that rely on software programs may amount to the unlicensed practice of law).

¹³¹ *Id.*; see also Cole & Blankley, *supra* note 39, at 205 (remarking that, “[o]ne of the strongest criticisms . . . [is] that . . . [ODR] agreements are not clearly enforceable. Without a mechanism to enforce these agreements, consumers may be unwilling to use the process. . . . [These issues] are greatest in international e-commerce disputes where courts may be unwilling to enforce private settlements.”).

¹³² See *supra* note 36 and accompanying text (discussing the importance of self-determination to the process of mediation).

¹³³ See, e.g., Cole & Blankley, *supra* note 39, at 207-10 (explaining that one of the primary concerns with the use of TMDR is the current lack of regulation and oversight with regard to quality control and ethical standards). There have been attempts by various organizations to

option is available, upon what considerations was that default option based? Is the program designed to guide parties to a settlement regardless of whether that is their desire under these circumstances? As a result, it is important that process designs—and the qualifications of those who create them—be as transparent as possible.

If the developers' motivations were not transparent, then in an ideal world parties and neutrals would invest the time and energy necessary to understand how their choices were limited by potential biases. This likely would not be an insignificant undertaking, however, because it would be unrealistically time-consuming and expensive.¹³⁴ Thus, costs unique to TMDR are ensuring transparency at the outset, the costs associated with completing this inquiry or the more intangible cost of proceeding without a full understanding of how the software might affect the final outcome. The obvious alternative, however, is to refuse to use the technology until the developer adequately explains what limitations are inherent in the program.

C. *Is There a Role for Artificial Intelligence Devices, Robots, and Avatars In TMDR?*

A closely related issue concerns the deference that disputing parties will give artificial intelligence devices integrated into a dispute resolution process. The next subsection describes how robots are being used to teach children and questions the long-term effect that robot teachers have on children. Will children who are being taught by robots view technology not merely as their instructor but also their "master?"¹³⁵ Similarly, when artificial intelligence devices become not the teacher, but the facilitator and, therefore, the perceived authority in a dispute resolution proceeding, will parties be too willing to defer to that authority? The simple answer is that robots and avatars cannot be left to their own devices.¹³⁶ Although significant tasks can be delegated, humans still

address concerns about potential biases by implementing certain standards for ODR providers:

SquareTrade, for instance, adopted ethical guidelines for its mediators derived from those of the Society for Professionals in Dispute Resolution [They] are not particularly complex or detailed, but *they do require the mediator to remain impartial*, . . . disclose any potential conflicts of interest, . . . and uphold the integrity of the process.

Id. at 209 (emphasis added).

¹³⁴ It might require significant time to deconstruct a software program in an effort to identify its biases. Cataloging all the options that are available and then determining if other possible options were not included, and why they were not included, could be a significant undertaking.

¹³⁵ See *infra* note 136.

¹³⁶ See, e.g., Larson, *supra* note 13, at 136 (noting that ethical implications related to the use of robots and other artificially intelligent devices require human oversight of such technology); see also *Military Use of Robots Increases*, SCI. DAILY (Aug. 5, 2008), <http://www.sciencedaily.com/releases/2008/08/080804190711.htm> (explaining that human monitoring of artificially intelligent devices and robots is essential to their utility and effectiveness). Professor Bill Smart of Washington University, for example, has commented that using robots in the context of military operations "[is] a chain of command thing. You don't want to give autonomy to a weapons delivery system. You want to have a human hit the button." *Id.*

must mind the proverbial store.¹³⁷

D. Artificial Intelligence

In addition to software applications currently available for TMDR, we should think creatively about technologies not currently being used that might be useful in the world of dispute resolution. Advancements in artificial intelligence, the availability of virtual environments for interactions, and the explosive growth of social media networks are transforming the ways in which we communicate and, thus, will transform the ways in which we resolve disputes and solve problems.¹³⁸ Artificially intelligent devices—which can assume the physical form of relationally interactive robots or avatars, exist in virtual environments as avatars, or take no form whatsoever—already perform a variety of important functions in society.¹³⁹ The ability to behave in an intelligent manner, and the more impressive emerging capacity to “learn” and evaluate information in much the same way that humans do, means that robots and avatars will play an increasing role in ADR.¹⁴⁰ If this is unsettling, then please keep in mind that programs such as Smartsettle, which relies on optimization algorithms, and Cybersettle, which uses automated blind bidding, already have introduced a form of artificial intelligence into dispute resolution processes.

Relational agents are “computer agents designed to form long-term, social-emotional relationships with their users.”¹⁴¹ Computer scientists are “investigating the use of these agents in task domains in which human-agent relationships actually improve task outcomes, such as in coaching, counseling, psychotherapy, and healthcare.”¹⁴² Interactive relational agents have the ability to use speech and synchronized nonverbal behavior such as hand gestures, head

¹³⁷ See *Military Use of Robots Increases*, *supra* note 136; see also Charlie Savage, *U.N. Report Highly Critical of U.S. Drone Attacks, Warning of Use by Others*, N.Y. TIMES, June 3, 2010, at A10, available at http://www.nytimes.com/2010/06/03/world/03drones.html?_r=1&ref=unmanned_aerial_vehicles (reporting on a new study released by the United Nations that recommends a reduction in the use of unmanned “drones,” robotic devices currently being used by the U.S. military in the Middle East). In fact, even when humans are “minding the store,” the use of artificially intelligent devices still can have devastating effects. *Id.* To wit, a recent United Nations Human Rights Council report explained that: “[B]ecause [drone] operators are based thousands of miles away from the battlefield, and undertake operations entirely through computer screens and remote audio-feed, there is a risk of developing a ‘Playstation’ mentality to killing.” Human Rights Council, Special Rapporteur on Extrajudicial, Summary or Arbitrary Execution, ¶ 84, U.N. Doc. A/HRC/14/24/Add.6 (May 28, 2010), available at <http://www2.ohchr.org/english/bodies/hrcouncil/14session/reports.htm>.

¹³⁸ See generally Larson, *supra* note 13 (reviewing developments in artificial intelligence and other forms of technology as used in health care, military affairs, and education and arguing that these various applications would translate well into the field of alternative dispute resolution).

¹³⁹ See generally *id.*

¹⁴⁰ *Id.* at 141-45 (describing how artificial intelligence works using algorithms—also known as “machine learning”—to simulate the type of thought process and memory that the human mind has).

¹⁴¹ See Timothy Bickmore, *Relational Agents*, NUHC, http://www.ccs.neu.edu/research/hci/projects/projects_tb.html (last visited Mar. 11, 2011).

¹⁴² *Id.*

nods, and posture shifts.¹⁴³ If the user offers “I am hurt,” “I am tired,” or “I am a little stressed out,” then a relational agent engages the user in a relationship-building dialogue that includes social dialogue, meta-relational dialogue, empathy exchanges, humor, and reciprocal self-disclosure.¹⁴⁴

Researchers at Bristol Robotics Laboratory in the United Kingdom are exploring “how, and to what extent, one can achieve the illusion of psychological attending and understanding [in a robotic agent] even though it lacks ‘true’ intelligence.”¹⁴⁵ Their goal is to “find new approaches towards enhancing human-likeness by generating genuine, non-repetitive facial behavior that conveys a certain underlying emotional state.”¹⁴⁶ If one believes that nonverbal cues are essential to effective communication, then this obviously will enhance the robot’s effectiveness.¹⁴⁷

Robots are being delegated increasingly complex responsibilities throughout society.¹⁴⁸ Robots now can interact with and engage people, teach them simple skills such as household tasks, help them to expand their vocabulary, or, when programmed to interact with children, elicit elementary imitation and demonstrate how to take turns.¹⁴⁹ The most advanced robots are “fully autonomous, guided by artificial intelligence software like motion tracking and speech recognition, which can make them just engaging enough to rival humans at some teaching tasks.”¹⁵⁰ Expected eventually to be able to learn themselves, today’s robots are particularly well suited to tasks that require patience and repetition, such as repetitive therapies for developmental problems like autism and teaching a foreign language.¹⁵¹ Robots already are “working” in classrooms, and South Korea, for example, is deploying robot teacher aides by the hundreds and experimenting with robot English language teachers.¹⁵²

The results from the classroom are very encouraging. RUBI is a bandana-wearing computer with a frozen happy-face smile and large, plastic eyes that is

¹⁴³ See Timothy Bickmore et al., *Establishing the Computer-Patient Working Alliance in Automated Health Behavior Change Interventions*, 59 *PATIENT EDUC. & COUNSELING* 21, 22 (2005), available at <http://www.ccs.neu.edu/home/bickmore/publications/PEC04.pdf>.

¹⁴⁴ See *id.* at 23. “Social dialogue” is interaction that is analogous to small talk or pleasantries exchanged in the initial stages of a conversation that helps the agent to establish rapport with the user, while “meta-relational dialogue” is communication that elicits the user’s feelings about the relationship being established. *Id.* at 26.

¹⁴⁵ Chris Rollins, *Realistic Robots Approach the Edge of the Uncanny Valley*, *SCI. 2.0* (Nov. 24, 2008, 3:31 PM), http://www.science20.com/welcome_my_moon_base/realistic_robots_approach_edge_uncanny_valley.

¹⁴⁶ *Id.*

¹⁴⁷ See *supra* note 42 and accompanying text; see also *supra* note 126 and accompanying text (discussing the impact nonverbal cues have on our understandings and perceptions of people with whom we communicate).

¹⁴⁸ See generally Larson, *supra* note 13 (describing the various applications of robotic technology).

¹⁴⁹ Benedict Carey & John Markoff, *Students Meet Your New Teacher, Mr. Robot*, *N.Y. TIMES*, July 11, 2010, at A1, available at <http://www.nytimes.com/2010/07/11/science/11robots.html?th&emc=th>.

¹⁵⁰ *Id.*

¹⁵¹ *Id.*; see also Larson, *supra* note 8, at 675-77 (discussing how children with autism have had success interacting with avatars in a collaborative virtual environment).

¹⁵² Carey, *supra* note 149.

working in a preschool at the University of California, San Diego.¹⁵³ It has a screen torso mounted on a pair of shoes, mechanical arms, and a lunchbox-sized head that contains video cameras, a microphone, and voice capability.¹⁵⁴ RUBI teaches Finnish to its preschool students, who score significantly better on tests than students engaged in less interactive learning, such as language tapes.¹⁵⁵ The conclusion is that RUBI's students do approximately as well as students taught by a human teacher.¹⁵⁶ The key to making the critical social interaction successful is not designing a robot that closely resembles a human, which might be too "creepy," but rather paying close attention to timing during the interaction and physical rhythm.¹⁵⁷ As the children and the robot mimic each other's physical movements, they begin to trust each other—or, at least, the child begins to trust the robot.¹⁵⁸

It is not difficult to imagine how relational agents can be employed in ADR processes. An infinitely patient relational agent that can encourage recalcitrant parties to make disclosures they otherwise would find difficult to share can serve an invaluable function. Although you may hesitate when you consider whether you will be able to make very private disclosures to a virtual personality, children and young adults who regularly interact with other individuals using virtual personalities in environments such as Second Life—an Internet-based world that enables users to interact with each other through avatars—likely will be quite comfortable communicating in this context.¹⁵⁹

It should not be difficult to imagine how artificial intelligence devices could be employed to assist in orientation, information gathering, issue clarification, and option generation. An attractive, engaging avatar could provide an engaging, multimedia orientation, for example, that never would omit a critical explanation or component concerning the dispute resolution process that soon would follow. I suspect that many readers have participated in online surveys that are, simply, information-gathering tools. We consequently understand that a well-designed online information-gathering tool can be extremely efficient and valuable. Programs can be designed that ask continually more probing questions in response to a party's answers that would focus and expedite the issue-clarification process. And there are few other places where one can let his imagination soar than in cyberspace, a prime venue for the generation of creative resolutions to disputes. Much of this can be accomplished, or at least initiated, asynchronously and the time and travel savings for the parties and the neutral will be significant.

¹⁵³ *Id.*

¹⁵⁴ *Id.*

¹⁵⁵ *Id.*

¹⁵⁶ *Id.*

¹⁵⁷ *Id.*; see also James E. Young et al., *Toward Acceptable Domestic Robots: Applying Insights from Social Psychology*, 1 INT'L J. SOC. ROBOTICS 95, 98 (2009), available at <http://www.springerlink.com/content/p8452j71kt410472/fulltext.pdf> (explaining that, "the more human-like a robot is, the more believable and comfortable people find it. . . . [A]s likeness increases there is a breaking point beyond which familiarity drops and robots become eerie.").

¹⁵⁸ See Carey & Markoff, *supra* note 149.

¹⁵⁹ See Pappas, *supra* note 39, at 3-4 (describing one Second Life user's online and virtual marriage to an avatar within Second Life, despite his real world marriage to a real person).

We already can find examples of avatars, “bots,” and embodied conversational agents interacting with humans in a variety of contexts including, for example, as babysitters in the home, nurses in clinics, and caretakers in elder-care facilities.¹⁶⁰ As we increasingly rely on artificially intelligent devices in our homes, hospitals, and daily lives, the prospect of conversing with a virtual personality or a robot will become more palatable.

E. If Robots Can Keep Us Healthy, Then They Also Can Help Resolve Disputes

Looking again to the health care industry, websites are springing up that promise complicated services such as medical diagnosis. Yourdiagnosis.com, for instance, announces that it will provide a “complex analysis of all information gathered about your symptoms and will produce a list of all possible and probable medical diagnoses.”¹⁶¹ The stated purpose of the site is to allow individuals to participate actively in their health care management along with their doctors or health care professionals.¹⁶² The concern, of course, is that patients will not take this information to a health care professional and instead will treat themselves. Thus, a serious question for the future of TMDR concerns the extent to which we are comfortable relying solely on technology-facilitated resolution and under what circumstances, if any, we believe a human must review a settlement before it is implemented.

Keeping the preceding concerns in mind, there nonetheless are numerous tasks that can be delegated to a robot or an avatar that not only might lead to cost savings, but also might result in a better outcome. One way to imagine how robots and avatars can be employed in dispute resolution is to continue to explore how they are being used in other contexts.

In addition to providing for our physical needs, robots and avatars increasingly are relied upon to meet our psychological and mental health needs.

The growing popularity of the Internet among the general public has opened up an exciting new avenue for the delivery of mental health services. Cybertherapy, Net Counseling, E-Therapy and a host of other terms are being coined to describe this new direction in mental health. Lured by the promise of a global client base, many mental health professionals are setting up web sites and virtual offices from which to practice. . . .

The Avatar Process Training Group, APT, is one of three online training groups being developed as a means of investigating the feasibility of providing training and supervision in online service delivery. . . .

¹⁶⁰ See, e.g., A.L.I.C.E. ARTIFICIAL INTELLIGENCE FOUND., <http://www.pandorabots.com/pandora/talk?botid=f5d922d97e345aa1> (last visited Mar. 11, 2011); *ELIZA—A Friend You Could Never Have Before*, ELIZA, <http://www-ai.ijs.si/eliza/eliza.html> (last visited Mar. 11, 2011) (rudimentary artificially intelligent therapist); *Joan—Our Artificially Intelligent, Speaking, Videocentric Avatar*, ICOGNO, <http://www.icogno.com/joan.html> (last visited Mar. 11, 2011); *Thoughts*, JABBERWACKY, <http://www.jabberwacky.com> (last visited Mar. 11, 2011).

¹⁶¹ *Your Immediate Diagnosis*, YOUR DIAGNOSIS, <http://yourdiagnosis.com/> (last visited Mar. 11, 2011).

¹⁶² *Our Mission*, YOUR DIAGNOSIS, [http://yourdiagnosis.com/About Us.htm](http://yourdiagnosis.com/About%20Us.htm) (last visited Mar. 11, 2011).

The main objective of these groups is to provide a means of training mental health professionals in the dynamics of online services delivery . . . APT uses software that places group members in a three dimensional virtual reality world with avatars to represent them. This software allows for a wide range of emotional expression, movement, and realtime full duplex voice communications.¹⁶³

Although most practitioners do not claim that cybertherapy will replace conventional forms of psychotherapy, reports have been published that substantiate the value of this form of treatment. In 2008, *The American Journal of Psychiatry* released a study evaluating the efficacy of computer-based training for cognitive-behavioral therapy (CBTCBT) addressing substance dependence.¹⁶⁴ The study followed seventy-seven substance-dependant subjects who received general drug counseling or a combination of computer counseling and traditional therapy.¹⁶⁵ The multimedia program was based on elementary-level computer learning games, and material was presented in a range of formats that included “graphic illustrations, videotaped examples, verbal instructions, audio voiceovers, interactive assessments, and practice exercises.”¹⁶⁶ The researchers found that “[p]articipants assigned to the CBT4CBT condition submitted significantly more urine specimens that were negative for any type of drugs and tended to have longer continuous periods of abstinence during treatment.”¹⁶⁷

Alternative dispute resolution practitioners should recognize that if individuals struggling with serious issues like addiction can improve their prospects for recovery by engaging in computer-based multimedia interactions, then there is no reason to think that parties struggling to resolve disputes would not benefit from similar opportunities. When disputing parties are presented with a variety of media and perspectives through which they can approach a problem, the probability of identifying an acceptable solution will increase.

A 2009 study published in *The Lancet* evaluating the clinical effectiveness of an Internet-based psychotherapy program for depression found that those in the program completed five or more therapy sessions at a substantially higher rate than expected with in-person therapy.¹⁶⁸ The clinical benefits of the program were greater than generally observed with computer-based self-help programs, and similar to those obtained through traditional in-person psychotherapy.¹⁶⁹

“[T]he Internet has enormous potential for psychotherapy, especially for reaching people who do not have access to in-person care.”¹⁷⁰ One of the key benefits of online therapy is that “[p]eople may be more willing to talk about

¹⁶³ Gerald R. Quimby, *Avatar Process Training Group Project*, SELF HELP MAG., <http://www.selfhelpmagazine.com/ppc/viewpoint/avatar.html> (last visited Mar. 11, 2011).

¹⁶⁴ Kathleen M. Carroll et al., *Computer-Assisted Delivery of Cognitive-Behavioral Therapy for Addiction: A Randomized Trial of CBT4CBT*, 165 AMER. J. PSYCHIATRY 881, 881 (2008), available at <http://ajp.psychiatryonline.org/cgi/content/full/165/7/881>.

¹⁶⁵ *Id.* at 882.

¹⁶⁶ *Id.*

¹⁶⁷ *Id.* at 881.

¹⁶⁸ Gregory E. Simon & Evette J. Ludman, *It's Time for Disruptive Innovation in Psychotherapy*, 374 LANCET 594, 594 (2009).

¹⁶⁹ *Id.*

¹⁷⁰ Elizabeth Landau, *Therapy Online: Good as Face to Face?*, CNNhealth.com (Aug. 31, 2009, 9:17 AM), <http://www.cnn.com/2009/HEALTH/08/31/online.internet.therapy.cbt>.

things that are embarrassing or stigmatizing if they're not interacting face to face."¹⁷¹ If individuals are encouraged to make private disclosures online when in the context of therapy, then there again is no reason to think that they would not be similarly encouraged in the dispute resolution context. Evidence of the growing appeal of online therapy is the fact that Second Life has offered virtual counseling services to Residents for a number of years.¹⁷²

One of the most prestigious and respected health care providers in the world recently concluded that it needed to establish a strong presence in the popular virtual world of Second Life. The Mayo Clinic in Rochester, Minnesota is one of at least sixty medical centers to conclude that sometimes it is better to follow than to lead.¹⁷³ In other words, it makes sense to go to meet the patients (and the customers) where they reside rather than always expecting them to come to you. The Mayo Clinic hosts Second Life medical-based conferences, for example, that range from a seminar on Marfan syndrome to a lecture on abnormal heartbeats.¹⁷⁴ Visitors can take a virtual tour of the famous Gonda building, experience its slow moving doors, view its Dale Chihuly sculptures, and visit a virtual bookstore.¹⁷⁵ It is, according to one cardiologist, a way in which someone "surrounded by wheat fields in southern Minnesota" can reach a much wider audience.¹⁷⁶ This observation is consistent with what I maintain throughout this Article—dispute resolution service providers can dramatically expand their influence by being attentive to the ways in which individuals have integrated technology into their lives and by then adapting their service delivery systems to the ways in which individuals already are using technology. If avatars and robots have a role to play in the delivery of health services, then these entities and applications certainly will be helpful for dispute resolution and problem solving.

F. *Risks of Robots and Avatars*

Even though I am enthusiastic about the possibilities, I hope to maintain at least a degree of critical objectivity. When considering using a robotic agent,

¹⁷¹ *Id.* (quoting Dr. Gregory Simon, the psychiatrist who wrote the editorial that accompanied *The Lancet* study).

¹⁷² See, e.g., Ashley Phillips, *Asperger's Therapy Hits Second Life*, ABC NEWS (Jan. 15, 2008), <http://abcnews.go.com/Technology/OnCall/story?id=4133184&page=1> (reporting on a project conducted by the University of Texas that treats patients with Asperger syndrome in Second Life); Tracy Smith, *Real-Life Fears Faced in Online World*, CBS NEWS (Jan. 29, 2008), http://www.cbsnews.com/stories/2008/01/29/earlyshow/contributors/tracysmith/main3763968.shtml?source=RSSattr=Health_3763968 (describing how virtual therapy in Second Life helped a woman overcome her extreme agoraphobia). Virtual therapy in Second Life can earn practitioners actual money: one practitioner, whose "brick-and-mortar practice is outside Atlanta . . . charges a very real \$100 per session." *Id.*; see also D. Craig Kerley, *Avatar-based Therapy*, DRKERLEY.COM, <http://www.drkerley.com/avatatherapy.html> (last visited Mar. 11, 2011).

¹⁷³ See Maura Lerner, *Mayo Clinic Adds Its Own Fantasy Island*, STAR TRIBUNE, Aug. 11, 2010, at 1A, available at <http://www.startribune.com/lifestyle/health/100401679.html?elr=KARksUUUoDEy3LGDio7aiU>.

¹⁷⁴ *Id.*

¹⁷⁵ *Id.*

¹⁷⁶ *Id.*

for example, we must examine the ethical implications.¹⁷⁷ Robots presently are being used to provide care and companionship for older individuals. Secom offers “My Spoon,” an automatic feeding robot, Sanyo markets an electric bathtub robot that automatically washes and rinses its user, and the Mitsubishi Wakamura robot provides monitoring services, delivers messages, and gives reminders about taking medication.¹⁷⁸ Although these robots can help the elderly maintain independence, they also might leave them in the exclusive care of machines.¹⁷⁹ One must ask whether these entities truly provide comfort and assistance to their users or whether they isolate the users by leading others to believe that the users no longer need attention.¹⁸⁰

Similarly, if an artificial device causes us to overlook our responsibilities as dispute resolvers and problem solvers, then the losses or injuries that result must be considered one of the costs of technology. Although difficult to quantify, if parties feel they are being neglected at any stage of a dispute resolution process, then the process will suffer and even may fail. Again, those costs must be absorbed. The fact that avatars and robots are being employed does not mean that we do not have to monitor their activities.¹⁸¹ This required vigilance certainly will not erase the time and cost savings, but it will reduce those savings at least slightly.

Babysitting robots already are being used and it certainly is prudent to ask whether these human surrogates will have a detrimental impact on the children.¹⁸² Child-minding robots play video games, offer verbal quizzing and

¹⁷⁷ See *supra* notes 136-37 (discussing the ethical implications inherent to the use of artificial technology).

¹⁷⁸ Steve Connor, *Robot Wars: The Rise of Artificial Intelligence*, INDEP. (London), Dec. 19, 2008, at 18, available at <http://www.independent.co.uk/news/science/robot-wars-the-rise-of-artificial-intelligence-1203693.html> (reporting on the different robots currently available for consumer use).

¹⁷⁹ *Id.*

¹⁸⁰ See Timothy Bickmore et al., “It’s Just Like You Talk to a Friend” *Relational Agents for Older Adults*, 17 INTERACTING WITH COMPUTERS 711, 711 (2005), available at http://www.ccs.neu.edu/research/rag/publications/05_IWC_BTCLCKHT.pdf (summarizing a study which found that relational agents designed for older adults were well liked, were accepted, and increased the physical activities of the older adults); see also TIMOTHY BICKMORE & ROSALIND W. PICARD, TOWARDS CARING MACHINES 1 (2004), available at <http://www.ccs.neu.edu/home/bickmore/publications/CHI04.pdf> (summarizing a study which found people felt they were cared for when behaviors associated with caring were implemented into relational agents).

These findings are significant given that the feeling of being cared for has been widely documented to have important implications in human-human interaction, especially in education and in medicine. In addition to the benefits known to be associated with eliciting caring feelings in those domains, one can also imagine more controversial uses of this technology, perhaps to explicitly deceive somebody into thinking that they are cared for, and then to exploit them.

Id.

¹⁸¹ See *supra* notes 136-37 and accompanying text (noting that humans still must “mind the store” even though robots or other artificially intelligent devices are being used).

¹⁸² Brandon Keim, *I, Nanny: Robot Babysitters Pose Dilemma*, WIRED (Dec. 18, 2008, 1:02 PM), <http://www.wired.com/wiredscience/2008/12/babysittingrobo> (citing research conducted by psychologist Harry Harlow that indicates a lack of maternal care in the formative years may result in social and emotional problems in one’s adult years).

speech recognition, and utilize facial recognition.¹⁸³ The robots can be directed by either PC or mobile phone and the operator can observe and communicate verbally with the child from a remote location.¹⁸⁴ Radio frequency identification tags are available to alert parents when a child moves out of range.¹⁸⁵ Yet there clearly are risks. “[B]ecause of the physical safety that robot minders provide, children could be left without human contact for many hours a day or perhaps for several days, and the possible psychological impact of the varying degrees of social isolation on development is unknown.”¹⁸⁶

We certainly have not reached the point where we have to worry whether the dispute resolving robots to which we have delegated dispute resolution functions, and which we have left to act on their own, are addressing adequately all the parties’ needs. The TMDR systems available today are far more limited. If a dispute is multidimensional, then a double-blind bidding system will be of little assistance. Even a more sophisticated negotiation system such as Smartsettle Infinity may require facilitation or arbitration services from a human. Artificial intelligence devices have not advanced to the point where they can manage independently the myriad of situations that can arise during a dispute resolution process.

G. Sectors Ready for TMDR, the Need for Regulation, and the Cost of Robots

Successful TMDR/ODR providers such as Cybersettle and Smartsettle have identified industries and businesses amenable to technology mediated dispute resolution. The insurance industry, as noted earlier,¹⁸⁷ is a prime example. There also are specific, identifiable cultures and populations that are well-positioned for TMDR/ODR. These communities are not only well-prepared to utilize TMDR/ODR, but they also can facilitate and accelerate the development and adoption of TMDR/ODR. The deaf community provides an example of such a population because it has relied on technology such as text-based communication, videophones, and vlogs (video logs) to communicate for generations.¹⁸⁸ Not only does this community present an opportunity to find consumers and clients receptive to TMDR, it also provides practitioners with an opportunity to learn how the concerns about technology that have delayed the widespread adoption of TMDR can be overcome.

Another issue that must be considered as we contemplate the expansion of dispute resolution into cyberspace is the relative lack of regulation. Although some rules have been established for specific online behaviors such as gambling, privacy, child protection, and terrorism, there is an ongoing conflict concerning the need for, and the scope, of regulation. We can argue whether

¹⁸³ Noel Sharkey, *The Ethical Frontiers of Robotics*, 322 *Sci.* 1800, 1800 (2008), available at <http://www.sciencemag.org/content/322/5909/1800.full?sid=6ab97951-27d2-4ce3-aa51-7ddb8b15e6e6>.

¹⁸⁴ *Id.*

¹⁸⁵ *Id.*

¹⁸⁶ *Id.*

¹⁸⁷ *About Cybersettle*, *supra* note 36.

¹⁸⁸ See David Allen Larson & Paula Gajewski Mickelson, *Technology Mediated Dispute Resolution and the Deaf Community*, 3 *HEALTH L. & POL’Y* 15, 19 (2009).

regulation should be avoided because it will stifle innovation in the still-developing cyberspace environment. But the idea of little or no regulation may be too unsettling, and perhaps government regulation is the only way we can create the stability and trust needed for effective dispute resolution.

Even if we can agree that some regulation is necessary, that decision only leads to more questions. For example, should nation states establish the rules of engagement or should we collectively delegate authority to an international TMDR entity?¹⁸⁹ Perhaps the “players” should make their own rules, but there are many players in this game.¹⁹⁰ It is unclear whether the patchwork of regulation that inevitably will result will resolve the concern that an entirely unregulated environment is doomed to fail. If we conclude that it is necessary to create a central regulatory body for activities in cyberspace, then we will have to finance both the creation and the maintenance of that entity.¹⁹¹ And if one of the reasons why we need this body is to regulate TMDR, then this macroeconomic expense must be recognized as an inherent cost of TMDR.

Finally, a significant part of this Article refers to relational agents in the form of robots and avatars which begs the question, “What does it cost to design, build, and program a relational robot?”

I am not a computer scientist, so I called upon Dr. Timothy Bickmore, the computer scientist who created the relational robots used in several of the studies cited in this Article.¹⁹² Dr. Bickmore explained that on the one hand, robots can be designed and built for next to nothing. But robots designed and programmed to engage in complex interactions such as explaining post-discharge care instructions and procedures to departing hospital patients, which involves an understanding of multiple medications and protocols, can cost close to \$1 million.¹⁹³

Once completed, however, the robots can be used repeatedly, twenty-four hours a day, seven days a week, and can save nurses and doctors an extraordinary amount of time. Additionally, because the robots are not being pressured

¹⁸⁹ See generally Thomas Schultz, *Does Online Dispute Resolution Need Governmental Intervention? The Case for Architectures of Control and Trust*, 6 N.C. J.L. & TECH. 71, 72 (2004) (arguing that government is the most trustworthy regulator for emerging online dispute resolution programs and that minimal regulation can provide effective accountability).

ODR, like all of e-commerce, needs to have mechanisms to build consumer trust in the goods or services—here legal services in the form of dispute resolution—and to ensure consumer protection. The regulation of legal services, including dispute resolution, need not be delegated wholly to the professional organizations that incorporate a degree of self-interest. *Id.* at 71. See generally Morek, *supra* note 128 (providing the history and current state of the regulatory framework for ODR).

¹⁹⁰ See Morek, *supra* note 128, at 167 (explaining that certain ODR providers have adopted voluntarily ethical guidelines that track with guidelines suggested by the ABA for traditional ADR practitioners and practices).

¹⁹¹ See TASK FORCE ON ELEC. COMMERCE & ALTERNATIVE DISPUTE RESOLUTION, AM. BAR ASS'N, ADDRESSING DISPUTES IN ELECTRONIC COMMERCE: FINAL REPORT AND RECOMMENDATIONS 25 (2002), available at <http://www.abanet.org/dispute/documents/FinalReport102802.pdf> (recommending the creation of an educational and informational entity—referred to as the iADR Center).

¹⁹² See *supra* notes 143 and 180.

¹⁹³ E-mail from Timothy Bickmore to David Allen Larson (Aug. 2, 2010) (on file with author).

to tend to other tasks—as their human counterparts are—they can work slowly with every patient to ensure that the patient understands what will be required in the upcoming days, week, or months and, in this sense, improve the outcome. And please keep in mind that avatars residing in virtual environments, which can be constructed more quickly and inexpensively, can be programmed to perform similar tasks.

VI. CONCLUSION

Technology-mediated dispute resolution systems can reduce dispute resolution costs. Existing online systems such as Cybersettle and Smartsettle One are particularly well-suited for resolving single-issue disputes effectively and efficiently. And Smartsettle Infinity can uncover hidden value and generate solutions in multi-issue situations that the parties themselves might never have discovered.

Technology can eliminate the need for many of the costs associated with traditional face-to-face dispute resolution. Parties might no longer need to revise work schedules, dress formally for meetings, arrange child care, or incur travel costs. They also might avoid the concern for personal safety that often accompanies that travel.

Dispute resolvers and problem solvers can look to the health care industry for examples of how artificial intelligence devices can assume complex tasks. When these devices are given responsibility for tasks that require patience and repetition, for instance, both neutrals and parties will benefit from the cost savings. Artificial intelligence devices, which can take the form of robots and avatars or take no physical form whatsoever, already are relied upon for numerous tasks throughout society. One must not, however, ignore the fact that unless we are mindful, the delegation of tasks to artificial intelligence devices can create both tangible and intangible losses that may outweigh any benefits.

The United States may be forced to embrace TMDR more quickly than anticipated. The European Union's declared intent to implement an online dispute resolution system by 2012 may inspire comparable action in the United States. But even if it does not, the need for American multinational companies to familiarize themselves with the European Union's TMDR processes may result in those companies bringing the most attractive elements of those processes back to the domestic American market.

Technology's potential, however, remains relatively untapped. Dispute resolution program developers need to design programs that track the ways in which individuals already are using technology. A generation raised on technology soon will enter adulthood and that generation is well-prepared for technology mediated dispute resolution. But if developers create unique programs that force users to master the developers' own idiosyncratic requirements, professionally designed technology mediated dispute resolution will not be widely embraced. In order to spare a dime in these tough times, dispute resolution providers need to work with developers to harness TMDR's true potential.

