

WHAT WE KNOW AND NEED TO KNOW ABOUT ONLINE DISPUTE RESOLUTION

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Online Dispute Resolution (ODR) is the application of information and communications technology to the prevention, management, and resolution of disputes.¹ ODR originally emerged in the mid-1990s as a response to disputes arising from the expansion of eCommerce.² During that time the web was extending into commercial uses, becoming an active, creative, growing, and, at times, lucrative space. Such an environment, with significant numbers of transactions and interactions (where relationships are easily formed and easily broken) seemed likely to generate disputes. At the same time, it was also clear that disagreements emerging from online activities could not be resolved through traditional offline channels. With parties likely to be at a distance from each other and incapable of meeting face-to-face, these new disputes could only be resolved online. This meant that new tools and resources that exploited the capabilities of digital communication and information processing by computers had to be developed. Now, some twenty years later, ODR is the fastest growing area of dispute resolution, and it is increasingly being applied to other areas, including offline and higher value disputes. This rapid expansion merits a discussion of what we have learned about ODR so far, and what questions we still need to answer.

I. WHAT WE KNOW ABOUT ONLINE DISPUTE RESOLUTION

One thing we know about Online Dispute Resolution (ODR) is that it has evolved greatly in its fairly short life. Initial ODR processes generally mimicked offline alternative dispute resolution (ADR) processes.³ Early experiments in resolving disputes online were often labeled “Online ADR” or “E-ADR.” In the first significant ODR pilot project, with eBay in the late 1990s, an experienced human mediator used email to interact with the disputants using the same strategies with which he engaged disputants offline (e.g., assisted storytelling

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1. See Arthur M. Monty Ahalt, *What You Should Know About Online Dispute Resolution*, PRAC. LITIGATOR 22 (Mar. 2009), https://www.virtualcourthouse.com/index.cfm/feature/1_7/what-you-should-know-about-online-dispute-resolution.cfm (stating that ODR allows multiple disparate policies to settle disputes using the Internet).

2. See *id.*

3. See Ethan Katsh, *Online Dispute Resolution: Some Implications for the Emergence of Law in Cyberspace*, 21 INT’L REV. L. COMPUTERS & TECH. 97, 99 (2007).

and joint problem solving).⁴ This was a reasonable mindset at the time and consistent with a theme that was often found in other contexts, namely that “[w]hen a new online technology is created for any process, the initial impulse is to create online mirror images of the ‘live’ or offline process.”⁵

Approximately twenty years of experience has taught us that ODR is no more “Online ADR” than the online versions of banking, education, or gaming are simply the offline versions of those systems moved online. Once a process moves online, its very nature begins to change. Or, as Marshall McLuhan once wrote, “when a new technology comes into a social milieu it cannot cease to permeate that milieu until every institution is saturated.”⁶ That is what has been occurring with ODR and ADR over the last two decades. Some ODR approaches may resemble face-to-face ADR processes and ADR practitioners may employ ODR tools to supplement face-to-face meetings, but the goal of ODR is not simply to digitize inefficient offline processes. Technology changes the nature of the interaction between the parties and introduces new possibilities for helping them achieve resolution. We may learn from offline approaches in designing ODR systems, but the larger challenge is to take advantage of what we can do with technology that we could not do before. As a result, as the full potential of ODR is realized over time, future applications are likely to diverge more and more from how disputes were handled in the past.

Why is this? Because technology is moving us further and further away from the models and values of ADR that emerged in the 1970s and that are still prevalent today. ADR placed great value on resolving disputes face-to-face, emphasized the values of neutrality and confidentiality, and focused more on the resolution of individual disputes than on their prevention. ODR processes, on the other hand, are delivered online and, increasingly, rely on the intelligence and capabilities of machines. Most communications exchanged online are automatically recorded, thus leaving a “digital trail,” which presents opportunities to collect and use data in novel ways. This has made it possible for extraordinarily large numbers of disputes to be handled at very low cost, removing the problem of capacity and price associated with a human third party decision-maker or facilitator. This has also meant that a large amount of data on disputing patterns is now available, and algorithms can now analyze that data quickly and efficiently, gleaning patterns and lessons that a human would not be able to discern. These characteristics allow for better quality control over the functioning of dispute resolution processes, as well as insights into the sources of various disputes. They allow for efforts to provide online dispute prevention (ODP) as well as resolution (ODR). At the same time, this ever growing digital

4. Ethan Katsh et al., *E-Commerce, E-Disputes, and E-Dispute Resolution: In the Shadow of “eBay Law,”* 15 OHIO ST. J. DISP. RESOL. 705, 707 (2000).

5. ONLINE DISPUTE RESOLUTION: THEORY AND PRACTICE 260 (Ethan Katsh et al. eds., 2012).

6. MARSHALL MCLUHAN, UNDERSTANDING MEDIA: THE EXTENSIONS OF MAN 161 (1964).

data archive can mean less privacy in ODR processes, a dramatic development for an activity in which confidentiality has long occupied a central role.

As ODR has grown in use, the ADR model in which a human mediator alone manages the flow of information between the parties has gradually been supplanted by a model in which technology is looked at as a “Fourth Party,”⁷ something that can be of value in both online and offline disputes. The Fourth Party may, in less complex disputes (such as many eCommerce disputes), replace the human third party by helping the parties identify common interests and mutually acceptable outcomes. Templates and structured forms can be employed that allow users to choose from various options and, by comparing the choices made by the parties, can highlight potential areas of agreement. More commonly, the Fourth Party assists, enhances, or complements the mediator or arbitrator.⁸ For example, consider the specific informational tasks performed by third party neutrals. These might include brainstorming, evaluating, explaining, discussing, identifying, defining, organizing, clarifying, listing, caucusing, collecting, aggregating, assigning meaning, simulating, measuring, calculating, linking, proposing, arranging, creating, publishing, circulating and exchanging, charting, reminding, scheduling, monitoring, etc. Some of these are simple or clerical but some involve making decisions at appropriate times and in appropriate ways. Technology can assist with all of these efforts.

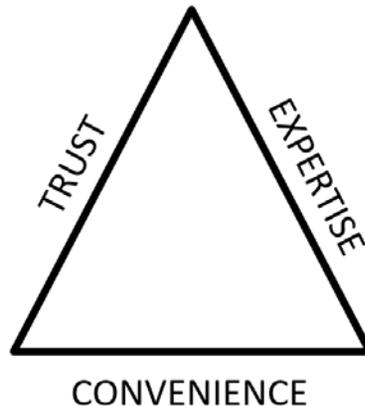


Figure 1: Empirical Research Opportunities in ODR

One way of understanding the opportunities ODR opens up for empirical research is to envision a triangle in which the sides represent convenience, expertise and trust (Figure 1). Any technological system, if it is to be used, must include all three elements but not necessarily to the same degree. All three are

7. ETHAN KATSH & JANET RIFKIN, *ONLINE DISPUTE RESOLUTION: RESOLVING CONFLICTS IN CYBERSPACE* 93 (John Wiley ed., 2001).

8. See Janet Rifkin, *Online Dispute Resolution: Theory and Practice of the Fourth Party*, 19 *CONFLICT RESOL. Q.* 117, 119 (2001).

needed if the system is to attract users and survive over time, but the shape of the triangle can change and, by doing so, emphasize visually that more of one element is present than another. ODR began with a triangle that had a much longer convenience side. The earliest ODR systems were convenient because they enabled communication at a distance, often asynchronously, so that participation was possible at any time. In so doing, the technology removed many long established physical constraints imposed by time and space. ODR was not only extrajudicial but in a realm where physical constraints could be overcome. However, in the early days the expertise side of the triangle was quite limited in that there was no software that was assisting any of the parties in making decisions.

Over time, there has been a lengthening of the expertise side of the triangle, thus moving ODR even further away from the face-to-face ADR model. Expertise is now embedded in advanced software that takes advantage of the computer's processing capabilities, which are improving all the time. It is this accelerating processor speed that makes machines appear to be getting "smarter." It has been understood from the beginning that ODR was dependent upon software, but the software that tended to be employed in the earliest experiments was software that optimized convenient communication. Focusing on convenience and online-only activities also was not threatening to human mediators and arbitrators. However, as ODR software has become more advanced, and ODR has expanded its application to offline disputes, it has raised concerns that it may take on cases that previously required human attention.

Another set of lessons have grown out of the challenges of resolving disputes at scale. In the first few years of ODR, high volume platforms, such as eBay and PayPal, learned to utilize forms or structured templates to collect cases from users, and then developed software to process the data and manage the conversation as the dispute progressed.⁹ A company called Cybersettle created a simple algorithm for handling monetary claims, and another company called Smartsettle developed a fairly complex software platform that could mathematically optimize resolutions across many negotiating points.¹⁰ The dispute resolution triangle still was longest on the convenience side, but the expertise side was steadily lengthening.

Empirical research requires the availability of data. For a process like ODR, which collects data with every click of the mouse, we have, ironically, relatively limited empirical data about ODR processes. Until recently, ODR was employed mostly in the private sector. With a few exceptions,¹¹ large scale and private

9. See DARIN THOMPSON, *THE GROWTH OF ONLINE DISPUTE RESOLUTION AND ITS USE IN BRITISH COLUMBIA* 1.1.3 (2014).

10. See ARNO R. LODDER & JOHN ZELEZNIKOW, *ENHANCED DISPUTE RESOLUTION THROUGH THE USE OF INFORMATION TECHNOLOGY* 75–76 (2010).

11. See generally J. N. MATIAS ET AL., *REPORTING, REVIEWING, AND RESPONDING TO HARASSMENT ON TWITTER 5* (detailing the process a user must undergo to attain "authorized reporter" status).

eCommerce and social networking sites have not allowed empirical studies of their dispute resolution efforts. When they did conduct research and revealed the results, users objected to how data was being employed.¹² As ODR expands into the public sector, such as in courts and administrative agencies, we should be able to learn more about what works and does not work in ODR. These early observations from public implementations will be discussed in more detail below.

This Paper provides an overview of the present and insight into the future by focusing on three large-scale, data-producing and quite different ODR ventures. The first and most well-known involves the online auction site eBay, a web site that handles approximately sixty million disputes a year.¹³ The second is the Internet Corporation for Assigned Names and Numbers (ICANN) domain name arbitration process¹⁴ that, in the last sixteen years, has handled over 50,000 disputes between owners of a domain name and holders of a trademark that is identical or similar to the domain name.¹⁵ The third is a more recent experiment involving online property tax appeals, a local process in North America that affects every homeowner. These three examples provide data both on what we know or are learning as well as on what questions await answers.

A. *eBay and the Value of Disputes*

It has been estimated that from 3–5% of eCommerce transactions end in a dispute.¹⁶ For sites without a feedback or reputation system that users can consult before making a purchase, the percentage would be even greater. Reputation systems allow users to make judgments as to which sellers provide the greatest chance of a successful transaction, and therefore lowest risk of a dispute. Based on global eCommerce transaction volume, that means there are

12. See, e.g., Inder M. Verma, *Editorial Expression of Concern and Correction*, 111 PROC. OF THE NAT'L ACAD. OF SCI. OF THE UNITED STATES OF AM. 10779 (2014) (clarifying that authors of an empirical study gathered user data in accordance with the U.S. Department of Health and Human Services Policy for the Protection of Human Research Service, even though this did not fully conform with the principles of obtaining informed consent and allowing participants the opportunity to opt out).

13. See THOMPSON, *supra* note 9.

14. *Uniform Domain-Name Dispute Resolution Policy*, ICANN, <https://www.icann.org/resources/pages/help/dndr/udrp-en> (last visited Mar. 24, 2016).

15. *List of Proceedings Under Uniform Domain Name Dispute Resolution Policy*, ICANN, <https://archive.icann.org/en/udrp/proceedings-list.htm> (last visited Mar. 24, 2016).

16. COLIN RULE, *ONLINE DISPUTE RESOLUTION FOR BUSINESS: B2B, ECOMMERCE, CONSUMER, EMPLOYMENT, INSURANCE, AND OTHER COMMERCIAL CONFLICTS* 79 (2002) [hereinafter *ONLINE DISPUTE RESOLUTION FOR BUSINESS*]; Colin Rule, *Here Are the Keys to Crack the Code of the Collaborative Economy*, VENTURE BEAT (June 11, 2014, 11:00 PM), <http://venturebeat.com/2014/06/11/collaborative-economy/> [hereinafter Rule, *Keys to Crack the Code*].

likely more than 700 million eCommerce disputes each year, growing to more than a billion disputes per year in 2017.¹⁷

The goal for a large eCommerce marketplace like eBay, however, is not to resolve an exceptionally large number of disputes. The goal is to maximize the number of successful transactions, and resolving disputes is essential to increasing that volume. By monitoring the buying and selling behaviors of users and extending the expertise side of the triangle, eBay can provide fast and fair resolutions that encourage buyers to engage in more transactions. This collection and analysis of the data generated by very large numbers of disputes can enable techniques and approaches that are not possible in face-to-face offline dispute resolution.

In the ADR world, various studies have measured satisfaction rates of users of different ADR systems. In actuality, these are measurements that derive from what the parties say about how they feel after participating in a mediation or arbitration. Companies like eBay, by having access to every click made by a user, can examine satisfaction in a different and more granular manner. In 2010, eBay and PayPal conducted a study¹⁸ that was not intended to measure satisfaction in the traditional manner, by surveying disputants before and after participating in a dispute resolution process. Rather, it would compare the actual behavior of participants before and after the process, something it could easily measure with data they routinely collected.¹⁹ In other words, eBay would not look at what users said but at their actions as buyers or sellers after participating in an online dispute resolution process.²⁰

eBay randomly assigned several hundred thousand users to two groups and compared their buying and seller behavior for three months before and after the ODR experience.²¹ This activity ratio indicated not only how more or less active the party became on the site after winning or losing a dispute, but could also calculate how much the company gained or lost financially as a result of someone participating in the ODR experience.²² It did this by knowing the value of each transaction the person engaged in before and after the dispute resolution process.²³

The study designers had hypothesized that parties who “won” their dispute (e.g., received a reimbursement) would have increased activity and that parties

17. *Worldwide Ecommerce Sales to Increase Nearly 20% in 2014*, EMARKETER (July 23, 2014), <http://www.emarketer.com/Article/Worldwide-Ecommerce-Sales-Increase-Nearly-20-2014/1011039> [hereinafter *Ecommerce Sales 2014*].

18. ONLINE DISPUTE RESOLUTION FOR BUSINESS, *supra* note 16; Rule, *Keys to Crack the Code*, *supra* note 16.

19. *Ecommerce Sales 2014*, *supra* note 17.

20. Colin Rule, *Quantifying the Economic Benefits of Effective Redress: Large E-Commerce Data Sets and the Cost-Benefit Case for Investing in Dispute Resolution*, 34 U. ARK. LITTLE ROCK L. REV. 767 (2012).

21. *See id.* at 771.

22. *See id.*

23. *See id.*

that “lost” their dispute would have decreased activity.²⁴ It assumed, in other words, that parties that won would be more satisfied than parties that lost and would adjust their transaction volume accordingly. This did occur; but the most meaningful lesson of the study, and the most counter-intuitive, was that participation in the ODR process led to increased activity even from the losers.²⁵ What it found was that:

[t]he only buyers who decreased their activity after filing their first dispute were buyers for whom the process took a long time, more than six weeks. This lesson affirmed feedback we had heard previously indicating that buyers preferred to lose their case quickly rather than have the resolution process go on for an extended period of time.²⁶

eBay’s ODR system is one that attends to all three sides of the triangle. The few clicks necessary to file a complaint enhances convenience, the capability to analyze data, extract information not previously accessible, and use that data to improve the user experience provides a kind of expertise not possible with systems relying on human labor. Trust is, in a sense, the overarching and primary goal and the data on usage patterns can bring to light new information as to what is needed to build trust and attract and maintain users. It is also, in a way, technological support for the maxim “justice delayed is justice denied.”

B. Domain Name Disputes

At the heart of the opportunity to improve empirical research in ODR is the presence of data in a form that can be processed. In theory, since everything done online is recorded, the landscape for research in ODR should be much broader than empirical research in ADR. In our second example, data is being collected but research is still limited. This is not because the data is proprietary but because the system is not collecting data in an easily accessible, useable, and structured manner.

This second large-scale ODR experience concerns disputes about domain names. Domain names, such as modria.com or odr.info, are essentially online addresses and each domain name must be unique if the system is to work. Just as there cannot be two “Main Streets” in a town, there cannot be two domains with the same name. If there were, clicking on a URL or IP address would not lead us where we wanted to go.

The domain name system was invented in 1984 but only grew rapidly starting in the mid-1990s.²⁷ In 1990, there were just eight thousand domain

24. *See id.*

25. *See id.*

26. *Id.* at 776.

27. Ian Peter, *History of the Internet Protocols*, NETHISTORY, <http://www.nethistory.info/History%20of%20the%20Internet/protocols.html> (last visited Mar. 24, 2016).

names, but by 2000 there were over a million.²⁸ Today, there are over two hundred and ninety million top level domains, such as .com, .net, and .org.²⁹ Gradually, during the 1990s, companies realized that domain names were valuable and became worried that their trademarks would be damaged if someone registered a domain name that was the same as the trademark.

In 1998, an entity named the Internet Corporation for Assigned Names and Numbers (ICANN) was established to manage the domain name system.³⁰ One of the first efforts ICANN undertook was to develop a dispute resolution system to resolve disputes between domain name holders and trademark owners. This system, called the Uniform Dispute Resolution Policy (UDRP), is referred to as non-binding arbitration since anyone dissatisfied with the decision can start over again by filing a complaint in court.³¹ In practice, this happens infrequently.

Arbitrators under the UDRP can order a domain name to be transferred to a trademark owner if the arbitrator finds that the domain name was registered in “bad faith.”³² The policy provides a few standards for finding “bad faith.” On the other hand, there would not be “bad faith” if the domain name holder could show “proof of a legitimate, non-commercial or fair use of the domain name.”³³ In such an instance, the domain name holder could keep it even if it appeared to be similar to the trademark.

ICANN requires that organizations that provide arbitrators publish the decisions.³⁴ The provider organization is also selected by the complainant and, while there are several providers, almost all of the cases are heard by an arbitrator from either the World Intellectual Property Organization (WIPO) or the National Arbitration Forum (NAF).³⁵ Statistics show that both organizations rule in favor of trademark holders approximately 85% of the time.³⁶

Particularly recently, WIPO has been much more transparent in how it selects arbitrators³⁷ and has also established a system for querying its database in

28. HISTORY OF gTLD DOMAIN NAME GROWTH, ZOOKNIC INTERNET INTELLIGENCE, <http://www.zooknic.com/Domains/counts.html> (last visited Mar. 24, 2016).

29. Sean Michael Kerner, *Domain Names Top 294 Million in 2015*, ENTER. NETWORKING PLANET (July 2, 2015), <http://www.enterprisenetworkingplanet.com/netsp/domain-names-top-294-million.html>.

30. *Register Accreditation: History of the Shared Registry System*, ICANN, <https://www.icann.org/resources/pages/history-2012-02-25-en> (last visited Mar. 24, 2016).

31. *UDRP Is Not Federal Arbitration*, BALOUGH LAW OFFICES, LLC: BLOG, <http://www.balough.com/udrp-not-federal-arbitration/#.VmUFMYQ4mCQ> (last visited Apr. 5, 2016).

32. UNIFORM DOMAIN NAME DISPUTE RESOLUTION POLICY, ICANN, <https://www.icann.org/resources/pages/policy-2012-02-25-en> (last visited Mar. 24, 2016).

33. *Id.*

34. *Id.*

35. See discussion *infra* Part I.C.

36. *Case Outcome (Consolidated): All Years*, WORLD INTELLECTUAL PROP. ORG. (WIPO) (last visited Mar. 24, 2016), http://www.wipo.int/amc/en/domains/statistics/decision_rate.jsp?year=

37. Letter from David Roache-Turner, Head, Domain Name Dispute Resolution Section, WIPO Arbitration and Mediation Center, to Andrew, <http://domainnamewire.com/wp-content/WIPO-statement.pdf> (last visited Mar. 24, 2016).

a manner that can generate lists of decisions involving a particular issue or category of cases.³⁸ For example, one can search for domain name decisions involving celebrities and domain names with a negative term attached to the trademark owner's name, e.g. walmartsucks.com. Data, at least for WIPO, now exists in a form that could easily be researched in novel ways. Unfortunately, the National Arbitration Forum provides no similar capabilities. It merely enables one to conduct a full-text search of the decisions decided by NAF.³⁹ A separate organization provides a means for a full-text search of the decisions of both providers.⁴⁰ There are, in other words, obstacles to research aimed at all UDRP decisions.

In the limited studies conducted on the domain name dispute resolution process, NAF has been widely criticized for assigning arbitrators non-randomly and, in some instances, to arbitrators who rule in favor of trademark owners more than 95% of the time.⁴¹ There have been increasing numbers of domain name disputes handled by the two organizations but the percentage of disputes relative to the large number of domain name disputes is decreasing. In other words, a smaller and smaller percentage of domain names are being challenged.

The domain name process has been a success in terms of convenience. It is much less expensive than going to court and decisions are usually made in fewer than forty days. Questions of fairness, however, are still present. Approximately half of all respondents fail to respond. This may be because the respondent feels that its case is weak or, alternatively, feels that it is unlikely to receive a fair hearing. Arbitrators in such cases are still allowed to find for the domain name holder but such an outcome is unusual. The rules authorize the trademark owner to select the provider so it is not a surprise that NAF is often selected. ICANN accredits the providers but imposes almost no standards that would persuade domain name holders that the process is fair. The technology employed by both providers is largely focused on communicating and sharing documents, leaving the expertise side of the triangle almost non-existent.

C. Online Property Tax Assessment Appeals

Most citizens in North America are familiar with the process of receiving a property tax bill in the mail every year, with a valuation based on their local assessor's estimated value of their property. Taxes are levied against almost all

38. *Index of WIPO UDRP Panel Decisions*, WIPO, <http://www.wipo.int/amc/en/domains/search/legalindex/> (last visited Mar. 24, 2016).

39. *See Domain Name Dispute Proceedings and Decisions*, ARBITRATION MEDIATION INT'L, <http://www.adrforum.com/SearchDecisions> (last visited Mar. 24, 2016).

40. *See, e.g., UDRP Search Engine*, DOMAINFIGHT.NET, <http://domainfight.net> (last visited Mar. 24, 2016).

41. *Important Statistics About UDRP Panelists from WIPO and NAF*, DEFENDMYDOMAIN.COM (Apr. 26, 2010, 11:37 am), <http://defendmydomain.com/important-statistics-about-udrp-panelists-from-wipo-and-naf>.

properties across the United States and Canada, including commercial, industrial, and residential holdings. Property taxes fund government with citizen payments set according to each citizen's ability to pay, as measured by property wealth. As the International Association of Assessing Officers (IAAO) explains, "... property tax is the only tax used in every state of the United States, the District of Columbia, and every Canadian province. In fact, the property tax remains the most important source of own-source and total revenue for local governments in the United States."⁴²

Property Tax Assessors utilize software called Computer Assisted Mass Appraisal (CAMA) to calculate and track the values of every property within their jurisdiction and to send out all the tax bills to citizens.⁴³ These CAMA systems are advanced, but traditionally they have not focused on processing appeals. By law, every taxpayer has the right to appeal their property tax bill if they feel the amount is inaccurate.⁴⁴ There is usually a window of time after the bills are sent out when the taxpayers can request an informal review of their assessed valuation. Many assessment jurisdictions within North America are now using ODR systems for their property tax assessment appeals, and because these assessments are being conducted by public bodies, information about the number of cases filed, the time to decision, and outcomes are being shared with the public. One such assessment jurisdiction is the Property Appeals Assessment Board, or PAAB, in the Canadian province of British Columbia.

PAAB launched its ODR system for property tax appeals in its 2012 assessment season. After four years of managing appeals through the system and refining its flows, PAAB reported that it achieved a 75% amicable resolution rate for cases filed in the ODR system, meaning the assessed amount was adjusted by mutual agreement and the case was closed. This rate was approximately 10% higher than the amicable resolution rate achieved via teleconference the year before. Of the 25% of ODR cases that didn't resolve, 13% required adjudication and 12% were dismissed (for not complying with PAAB response deadlines). An earlier survey of users of the process indicated that 52% were satisfied with the time it took to resolve the appeal, 84% felt the ODR software was easy to use, and 78% were satisfied with the overall ODR experience. Preference surveys conducted by the B.C. provincial government also indicated that a majority of citizens preferred to access government processes online as opposed to face-to-face or over the phone.⁴⁵

42. INT'L ASS'N OF ASSESSING OFFICERS, STANDARD ON PROPERTY TAX POLICY 6 (2010).

43. See, e.g., *The Job of the Assessor*, N.Y.S. DEP'T OF TAXATION & FIN. (May 2012), https://www.tax.ny.gov/pubs_and_bulls/orpts/assessjo.htm (stating that assessors use CAMA techniques to analyze sales and estimate values for multiple properties).

44. See, e.g., S.C. CODE ANN. § 12-60-2520(a) (2014) (granting taxpayers the right to object to a property tax assessment).

45. See SAM B. EDWARDS III & DIOGO SANTOS, REVOLUTIONIZING THE INTERACTION BETWEEN STATE AND CITIZENS THROUGH DIGITAL COMMUNICATIONS 203-04 (2014).

These results are broadly in line with other assessment districts in North America that have implemented ODR for their informal review requests and formal appeals. Moving property tax assessment appeals online has empowered citizens by giving them more convenient access to redress and by shortening the path to resolution. As such, it is in line with other early stage ODR experiments, which had a longer convenience side of the ODR triangle. The outcomes of the process are still determined by human powered reviews, meaning the software-powered expertise is not yet driving the bulk of the resolutions. However, as more data is gathered over the life of the process, patterns in decisions may enable more algorithmic resolutions in the near future. The strong preference numbers also indicate that the system is trusted by citizens, especially as it is provided at no cost to individual filers and is maintained by the PAAB itself.

II. WHAT DO WE NEED TO KNOW ABOUT ODR?

ODR, like ADR, is a range of processes. ODR is a how, not a what. In time, most dispute resolution processes will likely migrate online, and ODR will be relevant to almost every kind of dispute. Professor Frank Sander's oft-cited concept of the multi-door courthouse⁴⁶ is an apt model for ODR systems designers, because online processes can offer a nearly infinite range of "doors" customized for nearly every kind of dispute. In addition, Professor Sander's suggestion that ADR providers "fit the forum to the fuss"⁴⁷ is also particularly relevant to ODR since there are both more "fusses" and more "forums" in the online environment, necessitating a wider range of redress processes to handle the broader spectrum of potential issues.

A. *More Disputes*

The demand for ODR derives largely from the growth in online disputes, such as disputes arising from eCommerce transactions or "on demand economy," disputes that cannot be managed face-to-face. There is also likely an increasingly inadequate supply of human mediators and arbitrators as numbers of disputes increase, as well where face-to-face options might be available but the disputes involve low values. The following assertions contain a number of hypotheses about the growth in the number and range of disputes, many of which can be tested empirically.⁴⁸ The first assertion is verified largely by what we know about eCommerce disputes but at least some of the other assertions in the list represent untested hypotheses and provide a framework for future research.

46. Address by Frank E.A. Sander at the National Conference on the Causes of Dissatisfaction with the Administration of Justice (Apr. 7-9, 1976), reprinted in Frank E.A. Sander, *Varieties of Dispute Processing*, 70 F.R.D. 111 (1976).

47. Frank E.A. Sander & Stephen B. Goldberg, *Fitting the Forum to the Fuss: A User-Friendly Guide to Selecting an ADR Procedure* 10 NEGOT. J. 49 (1994).

48. See ETHAN KATSH & ORNA RABINOVICH, *DIGITAL INJUSTICE* (forthcoming 2016).

1. The number of disputes increases whenever transactions and relationships increase.
2. The more novel the activity, the greater the likelihood of disputes. The first iteration of an innovative product or activity rarely anticipates all the disputes that it will generate.⁴⁹
3. The more valuable the item or issue in question, the more likely it is that a problem or grievance will turn into a dispute.
4. The more data that is not only collected but is processed and communicated, the more opportunities for disputes will occur. The more data that is collected, the more bad data there is.
5. Speed and time pressures lead to disputes. If value is likely to erode quickly, as is often the case with technology, pressure to protect and aggressively extend its value increases.
6. Increased complexity in relationships and systems create more opportunities for disputes. In the words of computer scientist Peter Neumann, “Complex systems break in complex ways.”⁵⁰ When informing shareholders about a federal investigation of problems in correcting errors, Experian stated that “We might fail to comply with international, federal, regional, provincial, state or other jurisdictional regulations, due to their complexity, frequent changes or inconsistent application and interpretation.”⁵¹
7. The easier it is to complain (by filling out an online form or sending an email), the more disputes there will be.
8. The lack of transparency in algorithms leads to disputes.
9. The less attention given to preventing disputes, the more disputes there will be.

B. *More Forums*

Alongside the challenge of more disputes is the opportunity for developing more and novel avenues for resolving disputes. “More” does not simply mean a

49. “Models are useful in estimating project costs and timing. For example, if a model predicts that the bug discovery rate drops rapidly after an initial flurry of discoveries, this fact can be used to determine when software is ready for release: once the rate has reached an acceptable level, the software can be shipped. Such estimation can have significant economic effects upon an enterprise: ship too early and pay a price in service calls; ship too late and potentially lose customers who might look elsewhere.” Sandy Clark et al., *Familiarity Breeds Contempt: The Honeymoon Effect and the Role of Legacy Code in Zero-Day Vulnerabilities*, 2010 ANNUAL COMPUT. SEC. APPLICATIONS CONFERENCE 251 (2010), http://www.acsac.org/2010/openconf/modules/request.php?module=oc_program&action=view.php&a&id=69&type=2.

50. John Markoff, *Killing the Computer to Save It*, N.Y. TIMES, Oct. 30, 2012, at D1, www.nytimes.com/2012/10/30/science/rethinking-the-computer-at-80.html?_r=0.

51. Jeff Horwitz, *Alleged Abuses Put Credit Agencies on the Hot Seat*, BOSTON GLOBE, June 17, 2014, <http://www.bostonglobe.com/business/2014/06/16/miss-consumers-harmed-credit-reporting-giant/itY78fc4FbKAoz6KNO7qHO/story.html>.

larger selection of what is already in existence. “More” in this context translates into the adoption of digital tools and systems that provide solutions to problems (small and large), as well as the use of information technologies in new ways that anticipate and prevent disputes. By generating more disputes, technology has made access to injustice easy. Technology also presents opportunities to develop new forms and formats that facilitate access to justice.

While some private companies may resist providing data about numbers or types of disputes handled, all have some incentive to provide information about the processes they employ to handle disputes. Facebook, for example, provides a series of screen shots of the process one can use to file a complaint.⁵² The increasing number of ODR companies and governmental entities are also likely to post descriptions of their systems. There has recently been a growth spurt of ventures that are either already in operation or in various stages of development and which are all likely to serve as data sources. These include the following:

1. Private firms: Modria, Youstice, SmartSettle, Picture it Settled, Mediateitonline.com, NetNeutrals, Virtual Mediation Lab
2. The Hague Institute for Innovations in Law (Hiil)⁵³
3. British Columbia Civil Resolution Tribunal⁵⁴
4. UNCITRAL
5. EU Directive on ODR⁵⁵
6. UK Online Small Claims Court⁵⁶
7. Stop Errors in Credit Use and Reporting (SECURE) Act—Proposed legislation in United States to facilitate error correction in credit reports.

C. *Opportunities for Research Distinguishing ODR from ADR*

ODR presents so many novel capabilities and opportunities for dispute resolution that it requires a new research agenda to better define its optimal application. Simply applying prior face-to-face models for processes and ethical

52. Mary Novak, *Facebook's User Conflict Resolution System: An Illustrated Walkthrough*, JUST COURT ADR (Aug. 27, 2014), <http://blog.aboutrsi.org/2014/uncategorized/facebook-users-conflict-resolution-system-an-illustrated-walkthrough/>.

53. The Dutch Legal Aid Board has recently launched the *Rechtwijzer*, which is an end-to-end online divorce platform available to any Dutch couple. *Rechtwijzer 2.0: Technology that Puts Justice in Your Hands*, Hiil, <http://www.hiil.org/project/rechtwijzer> (last visited Mar. 24, 2016).

54. *What Is CRT?*, CIVIL RESOLUTION TRIBUNAL, <https://www.civilresolutionbc.ca/what-is-the-crt/> (last visited Mar. 16, 2016).

55. Beginning in January 2016, all merchants in the EU will be required to post a link on their websites to the EU ODR complaint system. Certified ODR providers will also be able to resolve cross-border ecommerce disputes.

56. ONLINE DISPUTE RESOLUTION ADVISORY GRP., CIVIL JUSTICE COUNCIL, ONLINE DISPUTE RESOLUTION FOR LOW VALUE CIVIL CLAIMS (Feb. 2015), <https://www.judiciary.gov.uk/wp-content/uploads/2015/02/Online-Dispute-Resolution-Final-Web-Version1.pdf>.

rules is inadequate. There are many unanswered questions around ODR, and it will take time to both define the necessary questions, as well as analyze data collected from ODR to determine best practices. While many new research needs will likely become apparent over time, here is an initial list of the issues researchers will need to tackle in the near future to distinguish ODR from traditional ADR practice:

1. What will be the dispute systems design in the online environment?
2. Models for building trust, convenience, and expertise via technology
3. Skills needed for effective ODR service delivery
4. Use of data for prevention of disputes, when ODR provides much earlier access to disputants in the overall dispute lifecycle
5. Similarities and differences between technology-assisted negotiation and mediation
6. Areas of overlap between ODR and ADR, including the optimal use of technology inside of a face-to-face dispute resolution process
7. Use and role of apology in online processes
8. Sense of participation and voice in asynchronous, text-based interactions
9. Statistics on the percentage of agreements reached and upheld, especially in comparison to ADR and particular forms of ADR. There is a long standing statistic that face-to-face mediation leads to agreements in approximately 85–90% of time. Is online mediation similar? What variables can be isolated in online mediation that can affect the success rate?
10. Demographics: What are the demographics of those who are providing ODR? Is ODR replicating the same demographic patterns that ADR has been consistently critiqued for over the past 30 years: mostly white middle class people providing services, especially when they are volunteers, for lower income populations, disproportionately urban people of color? Is technology making headway in broadening who is giving and receiving services?
11. Breadth of data collection: it should be easier to gather data from a broad range of sectors (family, commercial, criminal, civil, education, environmental, public policy, etc.) and from across the globe. This will provide very useful comparative data and also in an increasing globalized world and the reality of the use of the Internet within and across borders. It can also provide a valuable overview of the landscape by types of technology, type of demographic, type of dispute resolution process, etc.
12. What types of technologies are being used most (i.e., video conferencing, texting, emailing, mobile phones, chat rooms, etc.)?
13. What barriers have people experienced in adopting technology? To employing ODR? For neutrals? For disputants? Breaking down these categories by demographics such as gender, age, race, ethnicity,

language, and—for disputants—being a respondent or complainant, being an individual or a business, etc.

14. What types of processes that involve dispute resolution but are not typically seen as ADR are increasing in use with the help of technology? One critique of the ADR field from those external to it is that there are other professions that handle disputes that have not usually been included in “the ADR profession” and yet are routinely turned to for handling disputes. This has narrowed the field and the professionalization process. Since ODR provides even more opportunity for inclusion, access, and creativity, it is an opportunity to gather data that would help us learn about who and how people are using technology to resolve or prevent disputes. Here are a few examples: preachers, rabbis, imams, and other religious leaders; facilitators; peacemakers; peace negotiators; youth program leaders; school vice principals; discipline system staff; customer service representatives; human resource personnel; probation officers; lawyers who are not serving in the capacity of neutrals; dispute system managers inside organizations; dispute system designers; etc.
15. Links between the collection of data in ODR and access to justice
16. Transparency in face-to-face processes versus ODR use of algorithms
17. How to conduct effective training in ODR; how it differs from ADR training; and whether ADR training should be a pre-requisite for ODR practitioners

III. CONCLUSION

Looking into the future, it is clear that the lines between ODR and ADR will continue to blur until it will be very hard to tell one from the other. Technology is insinuating itself into every area of our lives, changing our notions of the way global society should operate, and the way we resolve disputes will be no different. Eventually ODR may be the way we resolve most of the problems in our lives, with algorithmic approaches even more trusted than human powered resolutions. The only question is how long this transformation will take to play out.

The pace of that change will largely be determined by how quickly we can consolidate the lessons learned from ODR projects to date, and conduct new research to answer the remaining questions about how ODR can be made most effective. A decade ago the notion of ODR as the default means of redress for both online and offline disputes sounded like science fiction, but with the pace of technological change, such an assertion now seems almost likely. At some point soon, it may seem obvious that such an outcome was inevitable.

Human ingenuity has found solutions to previously insoluble problems for many decades. Now, as we wrestle with the ramifications of a fully and digitally connected world, we face new challenges that were unimaginable a generation ago. Advancing the practice and understanding of ODR may provide expanded

access to justice for citizens around the world, which will help achieve the objectives that purely face-to-face ADR services have been unable to deliver.