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Mind the Gap: Bringing Technology to the Mediation Table

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Abstract:

As technology impacts every aspect of our lives, all professions are exploring how to benefit from use of technology. Mediation is no exception. Since the mid-1990s, the field has explored applying technology to resolve conflict. At an early point this exploration narrowed in on substituting physical convening with wholly-online processes. Conflating "technology" with "online," however, left an entire practice area unaddressed, a gap we need to mind: application of technology to support traditional, in-person mediation processes. Indeed, today, most mediation processes are largely bereft of technology.

This Article suggests that by not minding the gap, traditional mediation forgoes opportunities to improve its processes and its outcomes. Furthermore, it risks rendering the mediation profession and process unappealing to the next generation of potential clients and mediators. Conversely, by minding—and closing—the technological gap by incorporating helpful technologies into mediation practice and process, the field can realign with the changing characteristics of mediators and parties, and thrive. This Article details ways in which technology can support in-person mediation, highlights areas of mediation practice particularly ripe for technological support, and suggests mindsets for considering technological solutions to mediation challenges. Finally, it suggests areas in which applying technology to mediation might help the field progress past some of its historical challenges and impasses.

MIND THE GAP: BRINGING TECHNOLOGY TO THE TRADITIONAL MEDIATION TABLE

INTRODUCTION: CHANGING WORLD, CONSTANT PROCESS

In a world ceaselessly immersed in technology, one shared human experience is change. Over the past couple of decades, all of us have changed, in many ways.[1]

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1. The categories of change discussed below follow Noam Ebner, *Negotiation is Changing*, 2017 J. DISP. RESOL. 99, 110-11 (2017) ("The past decade has seen a great deal of writing on technology and its sweeping effects. Some of this literature has painted the altered landscape on which humankind now operates, and lauded the potential the technological revolution heralds for humans. Other parts of this literature were clearly written with a disapproving grimace or a concerned frown. Each author's frame or state of mind notwithstanding, there appears to be broad consensus around the degree of change that

Behaviorally, we have changed the way we do many things—whether it is our banking, our shopping, or our search for a life partner. Cognitively, we have changed the ways in which we seek, access, verify, process, and analyze information; we have changed the way we navigate from one place to another, and changed the degree to which we are able to concentrate on tasks.[2] Emotionally, we face new conditions of connection, belonging, and loneliness,[3] as well as new challenges to empathy.[4] Communicatively, we engage with new people and networks using new platforms and methods, learning new communicative etiquettes and new languages.[5] In considering these changes from a mediation perspective—namely, how might they affect mediators and parties behaviorally, cognitively, and emotionally in mediation?—three other change-areas become apparent: we have changed with regard to how we negotiate, how we engage in conflict, and how we engage in resolving it.

Some of this change, which generally owes to the effects of living in a technologically-immersed world, directly relates to our day-to-day use of technology (e.g., shifting to online shopping). Another, less overt, layer of changes are secondary effects of our exposure to, and use of, technology (e.g., our decreasing ability to focus on tasks). Combined, they not only account for the evolutionary shifts in human activity at the individual and societal level, but also drive immense changes in various professions. Entire industries and professional fields have risen or disappeared as a result of technological developments.[6] Those maintaining their traditional structures have seen their practitioners dramatically change their practices in response to technological advancements—proactively, or after feeling the effects of changing client preferences.[7]

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has occurred, the likelihood this would continue to grow, and the profound impact of this on people and society. Reading through this literature, it is possible to break down some changes we have gone through into three categories:
a) Changes in the way people do things, or *individual behavioral changes*;
b) Changes in the very nature of who we are, and how we think and feel or *psychological, cognitive and physical changes*; and
c) Changes in the ways we engage with others, or *interactional changes*.").

2. *Id.* at 116 ("Human capacity for paying deep attention seems to be on a downswing, and the price we pay is measured in lost terms of efficiency, productivity and intelligence.").

3. Sherry Turkle—a professor at MIT whose research focuses on the impact of the internet on society and on people's relationship with technology—has summed this up: "We are increasingly connected to each other, but oddly more alone: in intimacy, new solitudes." SHERRY TURKLE, ALONE TOGETHER: WHY WE EXPECT MORE FROM TECHNOLOGY AND LESS FROM EACH OTHER 19 (2011).

4. Lauren Newell has detailed causes and effects of declining empathy, particularly with regard to younger people; she notes that empathy has declined on tests conducted on US college students since 2000. Lauren A. Newell, *Rebooting Empathy for the Digital Generation Lawyer*, 34 OHIO ST. J. DISP. RESOL. 1, 58-59 (forthcoming 2019; page numbers relate to draft available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3012108).

5. Ebner, *supra* note 2, at 100 (" . . . many of us are, by now, familiar with a substantial dictionary of internet-age abbreviations; similarly, emoticons have emerged from a smiley and a frowning face into a highly nuanced set of emoji mini-images, capable of supporting entire messages, full conversations, and even literature.").

6. *See, e.g.*, Scott D. Anthony, *Kodak's Downfall Wasn't About Technology*, HARV. BUS. REV. (July 15, 2016), https://hbr.org/2016/07/kodaks-downfall-wasnt-about-technology (describing Kodak's fatal mistakes transitioning out of paper and into digital photos).

7. *See generally* EVERETT M. ROGERS, DIFFUSION OF INNOVATIONS (5th ed. 2003) (describing diffusion theory; the notion that innovation succeeds within a social system requiring observation and research of other parallel social groups). Professor William Henderson applies diffusion theory within the legal industry and edits an online publication on the changing legal industry called Legal Evolution, *see*

And mediation?

Time-travelling mediators from the past, visiting a mediation room today, could only distinguish past from present by parties' style of clothing, or perhaps the room décor. The process, strategies, and tools being used at the table would provide little temporal clue. The field of mediation has proved surprisingly resistant to technological influence, an island of stability in a sea of change. While we might celebrate our resilience, we might do better to recognize that "stability" includes a lack of forward progress. In the context of traditional, face-to-face mediation, we have seen few technologically-driven developments in process or in practice. This is curious, given advances in other fields, changes in our clients and their needs, and the field's appreciation for adaptability and creativity.

This is not to say that mediation has not seen any recommendations for incorporating technology, and indeed, some innovations have been implemented by individual practitioners. These have been few and far between, however, and their adoption sporadic. One particularly unfortunate reason for this is that many ideas that *could* have benefited mediation were essentially *misfiled*, in a categorizational accident, leaving twenty-first century mediation practice using twentieth century tools—and not that century's most sophisticated tools, at that.

In a nutshell, this misfiling—whose evolution will be detailed in Part I—shunted all discussion of technology in mediation towards exploration of wholly-online mediation, in which parties communicate remotely. There is little discussion in the literature, and few examples in practice, of applying technology in in-person mediation settings. Thus, a gap formed between technology–rich and –dependent processes convened online, and technology-less processes convened in physical rooms. This Article aims to encourage the field to begin minding—and bridging—this gap.

Part I surveys the literature discussing technology and mediation, suggesting reasons for its limited scope. Part II zooms out to provide context, describing changes in individuals, society, and professions as our world becomes increasingly technology–dependent and –immersed. Part III outlines the risks the mediation profession incurs by failing to embrace technology in contemporary practice. Part IV focuses on the positive and on the practical, describing the benefits of incorporating technology in mediation and providing examples of existing and potential technological enhancements to the mediation field, individual mediators' practice, and parties' experience. Part V goes beyond individual practice to suggest that minding the technological gap might provide the field with new momentum in areas of internal, conceptual, and market impasse.

PART I: TECHNOLOGY & MEDIATION

Part I.A: Technology in the Mediation Literature

It would be an understatement to say that the vast majority of mediation literature ignores technology. Surveying the mediation literature, we found that use of

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Bill Henderson, *Law Jobs for Humans*, LEGAL EVOLUTION (Apr. 14, 2019), https://www.legalevolution.org/.

technology in mediation is rarely mentioned in the foundational books on approaches to mediation or conducting mediation processes.[8] While it is challenging to persuasively point out the invisible, we will endeavor to do so. Choose your favorite source of mediation inspiration or wisdom, scan it for a mention of technology, and you will find no more than a few pages, if that. True, many of these books were originally written before the full force of the past generation's technological upheaval was evident; still, even books originally published later on—or later editions of the earlier books, published well into the twenty-first century—ignore technology or address it minimally.

This holds true for fundamental journal articles on mediation as well. Again, much of this literature either predated much of technology's surge, beginning in the 1990s, or predated some of its widespread effects. However, follow-ons to these articles or re-articulations of their ideas and findings have appeared much deeper into the technological era, and technology is rarely mentioned. We point this out not to criticize any of these texts—so foundational to our own growth in the field—but rather to show they are indicative of a wider trend in the field's literature and practice.

Reviewing the more contemporary scholarship authored in the twenty-first century, we surmised that increasing awareness of technology's increasing role in society would lead to increasing exploration of its potential in the mediation room. Indeed, in surveying law reviews focused on Alternative Dispute Resolution (ADR), social science journals on conflict resolution, the literature on Online Dispute Resolution (ODR), and other sources, we found several dozen articles and chapters focused on combining technology and mediation. However, upon closer examination, we found only one early book chapter,[9] and two recent articles, *significantly* addressing the use of technology in traditional, in-person mediation.[10]

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8. To avoid muddying the waters, we stress that we do not view literature on mediating technology-related disputes (e.g., mediating between parties to a joint venture developing software over the intellectual rights to the product) as being pertinent to our discussion, despite some shared keywords. In these cases, technology does not impact the process, it is merely the substantive matter in dispute. Our focus is on the *use* of information and communication technology to access, exchange, and analyze information to *support* mediation processes in *any* subject area.

9. ETHAN KATSH & JANET RIFKIN, ONLINE DISPUTE RESOLUTION: RESOLVING DISPUTES IN CYBER SPACE 117-34 (2001).

10. And, we note, that even these do so in a limited fashion, with the articles noting only some uses relevant to our discussion and focused on something other than the technology itself. Amanda E. Cravens, *Needs Before Tools: Using Technology in Environmental Conflict Resolution*, 32 CONFLICT RESOL. Q. 3 (2014). This article focused on the specific area of environmental conflict resolution, a specialized context in which technology is likely to play a role in scientific fact-finding processes convening large groups of people. The author focused less on the use of technology than on the process of deciding on and choosing a technological solution. We will incorporate some of her suggestions in Part IV. Also *see* Allan E. Barsky, *The Ethics of App-Assisted Family Mediation*, 34 CONFLICT RESOL. Q. 1 (2016). Though primarily focused on software for conducting wholly online processes (ODR platforms) and online communication (email, videoconferencing, etc., the article also noted several technological applications that could be used in the mediation room (e.g., software for developing negotiation solutions), so we include it on this short list, and the relevant items it includes are discussed in Part IV. We note, that the focus of the article was primarily on ethical issues involved in using technology, rather than on exploring use of the technology itself. Other articles touched on the outskirts of the topic of mediation and technology, such as internet articles discussing the use of social media and other technology for *marketing* in-person mediation. See our distinction between core process activity and activity on the outskirts of practice, in Part IV. Other pieces mentioning technology's potential contribution to in-person mediation processes largely did so as an aside, quickly resuming discussion of online processes

What, then, was the focus of the occasional paper that *did* discuss technology and mediation, whether in the ADR, conflict, or ODR literature? Here is where we discovered the precise delineation of the gap we call on mediators to mind. With very few exceptions, the literature addressing technology and mediation focuses on one topic: *using technology to convene wholly-online mediation, in which parties and mediator communicate and share information at a distance*.[11] The few exceptions to this, those papers that even *mention* that technology could be useful to in-person mediation, do so nearly exclusively with the same narrow focus on online communication—suggesting that having parties connect at-a-distance might be helpful between sessions of traditional mediation processes, or offer a substitute convening option when one or more parties cannot physically attend an in-person mediation.[12] Or, to nutshell over a decade's writing on mediation and technology: We can now successfully convene mediation processes at a distance. This has many benefits. Can technology contribute anything to in-person mediation? A little extra communication at-a-distance, between in-person sessions.

How did we reach the point where mediation is either wholly online, or technology-bereft? And, can that gap be bridged? Can technology offer more to traditional, in-person mediation? This question has largely been set aside by those fields that might have taken an interest in it—in particular, the ADR, mediation, and ODR fields. To justify our contention that it is time to bridge the gap, we will pin its formation to a crossroads in these fields' evolution in the technological era.

Part I.B: Conflation of Technology in Mediation with ODR

We begin with the development of the ODR field. Most of the literature discussing technology in mediation stems from suggestions, made in the mid-1990s, that the growing number of people engaging in ecommerce, and the growing number of online transactions, would lead to a corresponding growth in the number of online disputes. How would these be resolved? Might the technology that facilitated the original interaction (and, perhaps, had some role in that interaction's deterioration into dispute) be used to support resolution processes?[13] Would that not be the epitome of the ADR maxim to "fit the forum to the fuss?"[14] Pilot projects and

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or online communication within several sentences. *See, e.g.*, Melissa H. Conley Tyler & Mark W. McPherson, *Online Dispute Resolution and Family Disputes*, 12 J. FAM. STUD. 165 (2006).

11. *See, e.g.*, Joseph W. Goodman, *The Pros and Cons of Online Dispute Resolution: An Assessment of Cyber-Mediation Websites*, 2 DUKE L. & TECH. REV. 1 (2003); David A. Larson, *Online Dispute Resolution: Do You Know Where Your Children Are?*, 19 NEGOT. J. 199 (2003); Louise Ellen Teitz, *Providing Legal Services for the Middle Class in Cyberspace: The Promise and Challenge of On-Line Dispute Resolution*, 70 FORDHAM L. REV. 985 (2001); Andrea M. Braeutigam, *What I Hear You Writing Is. . . Issues in ODR: Building Trust and Rapport in the Text-Based Environment*, 38 U. TOL. L. REV. 101, 116 (2006); Susan S. Raines, *Mediating in Your Pajamas: The Benefits and Challenges for ODR Practitioners*, 23 CONFLICT RESOL. Q. 359 (2006); Anne-Marie G. Hammond, *How Do You Write 'Yes'?: A Study on the Effectiveness of Online Dispute Resolution*, 20 CONFLICT RESOL. Q. 261 (2003); Susan Summers Raines, *Can Online Mediation be Transformative? Tales from the Front*, 22 CONFLICT RESOL. Q. 437 (2005).

12. COLIN RULE, ONLINE DISPUTE RESOLUTION FOR BUSINESS: B2B, ECOMMERCE, CONSUMER, EMPLOYMENT, INSURANCE, AND OTHER COMMERCIAL CONFLICTS 284 (2002).

13. Ethan Katsh & Leah Wing, *Ten Years of Online Dispute Resolution (ODR): Looking at the Past and Constructing the Future*, 38 U. TOL. L. REV. 19, 20 (2006).

14. This was introduced by Frank E. A. Sander and Stephen B. Goldberg in *Fitting the Forum to the Fuss: A User-Friendly Guide to Selecting an ADR Procedure*, 10 NEGOT. J. 49 (1994).

experimental programs combining technology with dispute resolution ensued, and first the notion, and then the field, of ODR[15] developed.

The purpose of this paper is not to elaborate on ODR—indeed, it is to spotlight areas that have been lost in ODR's shadow—so we will not detail its evolution in full. However, we note that in its earliest days, rather than focusing on any particular path, ODR did not preclude including in its purview technology assisting mediators working at a physical table.

However, despite a few early mentions of technological support for physically-convened mediation,[16] ODR as a field quickly set in-person processes aside, developing instead a number of core foci: Online dispute systems (private, such as eBay's Resolution Center, or public, such as court ODR systems); application of artificial intelligence to dispute resolution (using information gathered from parties to automate steps in the process, provide guidance, or even determine optimal outcomes for disputes);[17] and replication of ADR processes by convening and conducting them wholly online (focusing largely on using technology as a communication intermediary for party-party and party-mediator interaction).[18]

Of these core foci,[19] the replication of traditional mediation practice in an online environment, and more specifically e-mediation, initially received a great deal of attention. It was during this period, in the early 2000s, that articles focusing on applying technology to mediation appeared in law and ADR journals—focusing, as we have prefaced, on conducting wholly online mediation processes[20] to the near-exclusion of other applications.[21] Suggestions for "hybrid" processes did not

15. One author attempted to broaden and diversify the ODR field's scope of exploring technology's use and effects in dispute resolution by rebranding the field "Technology Assisted Dispute Resolution" (TADR). This term, which may have primed people towards a wider view of technology than its online applications alone, never caught on. *See* David Allen Larson, *Artificial Intelligence: Robots, Avatars and the Demise of the Human Mediator*, 25 OHIO ST. J. ON DISP. RESOL. 105 (2010); David Allen Larson, *Technology Mediated Dispute Resolution (TMDR): A New Paradigm for ADR*, 21 OHIO ST. J. ON DISP. RESOL. 629 (2006).

16. *See* KATSH & RIFKIN, *supra* note 10, at 117-34. While many of their suggestions involve utilizing online communication in resolving these disputes, they note other uses of technology as well; these are discussed here in Part IV.

17. While there is no need to limit the use of such applications to online processes – such software can work equally well in a physical room with both parties and the mediator providing input – it has largely been conflated with, and put to work in, online processes. One exception to this is use of the SmartSettle software by in-the-room family mediators, *see* SMARTSETTLE FAM. RESOLS., https://smartsettlefamily.com/ (last visited Feb. 21, 2019).

18. Ayelet Sela has designated software platforms involving proactive involvement of AI (including software emanating from ODR's AI focus and some of the platforms emerging from its online dispute systems focus, as discussed above) "principal ODR," as opposed to "instrumental ODR" platforms, which facilitate communication between parties without AI intervention; these were developed as part of ODR's ADR replication focus. *See* Ayelet Sela, *Can Computers Be Fair? How Automated and Human-Powered Online Dispute Resolution Affect Procedural Justice in Mediation and Arbitration*, 33 OHIO ST. J. ON DISP. RESOL. 91, 100 (2016).

19. Of course, there is overlap between these three foci, and there are currently many other areas of ODR exploration. We anticipate that the fourth significant area of development will be using data for online dispute prevention. *See* ETHAN M. KATSH & ORNA RABINOVICH-EINY, DIGITAL JUSTICE: TECHNOLOGY AND THE INTERNET OF DISPUTES 51-54 (1st ed. 2017). However, no matter how you rank the major and minor trends of attention in ODR, supporting in-room processes with technology has hardly been in the race.

20. *See* the literature listed in *supra* note 12.

21. For example, the International Journal of Online Dispute Resolution, published annually since 2014, has yet to include an article focused squarely on utilizing technology in the traditional mediation room. While the topic is not precluded from the Journal's scope, it is not specified on a list of 14 topics

involve using technology in the traditional room, but rather using online communication tools as an interactional mode in-between, and distinct from, the (primary) face-to-face meetings.[22]

And thus, the gap was formed between technology-rich online mediation, and technology-bereft in-person mediation.[23] The gap has continued to expand. What follows can be supported only anecdotally, but based on our experience working in mediation, ODR, and the wider conflict world, we note that practitioners and academics alike are quick to conflate *anything to do with technology in mediation*, with ODR. Moreover, they tend to have broad opinions about, or attitudes toward, ODR (generally, highly enthusiastic or scathingly critical) without discerning between the wide variety of ideas, processes and tools gathered under this umbrella, and without discerning between online *interactions* and technological *tools*. Either expecting others to address the issue, or simply preferring not to explore it at all, the field of mediation, in theory and in practice, has largely ignored the potential for incorporating technological tools in the physical mediation room.

Part I.C: Blind to the Gap: In Theory & in Practice, Technology's Chair at the Table is Empty and Invisible

The evolution of the mediation and ODR fields explain the formation of the gap in theory and in practice regarding the use of technology for supporting in-person mediation. We now introduce two elements that channeled developments through this particular evolutionary path, laying the foundation for our contention that allowing the gap to persist would be detrimental to the mediation field.

Mediator age and generational affiliation: In those years most ripe for integrating technology into mediation and working with the ODR field to improve traditional mediation—give or take, the first decade of the twenty-first century—most mediators belonged to a decidedly non-technological generation.[24] With practitioners tending to engage in mediation as a second or third career, their average age is relatively advanced.[25] We will expand on generational tendencies with regard to

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the Journal seeks to address. *See International Journal of Online Dispute Resolution*, ELEVEN JOURNALS INT'L PUB., https://www.elevenjournals.com/tijdschrift/ijodr/detail (last visited Feb. 21, 2019).

22. *See, e.g.*, RULE, *supra* note 13.

23. KATSH & RIFKIN, *supra* note 10, at 117 wrote "Yet, the tree of ODR is likely to develop at least two branches. In addition to the obvious branch of the exclusively online process . . . there is the branch of ODR as it will be used in offline based arbitrations and mediations." In developing this notion, they focus primarily on using online communication, although they do note some other options that will be noted in Part IV. In our identification of the gap, we contend that this second branch never developed significantly, beyond occasional suggestions for adding online communication to in-room processes.

24. Marc Prensky coined the term "digital immigrant" to describe older individuals who grew up without ubiquitously connected technology. He contrasts this with the term "digital native" describing individuals who grew up as "native speakers" of the digital language of computers, video games, and the Internet." *See* Marc Prensky, *Digital Natives, Digital Immigrants*, 9 ON THE HORIZON 1, 1-2 (2001), http://www.marcprensky.com/writing/Prensky%20-%20Digital%20Natives,%20Digital%20Immigrants%20-%20Part1.pdf.; *see infra* Part II.

25. *See, e.g.*, *The Fifth Mediation Audit: A Survey of Commercial Mediator Attitudes and Experience*, CTR. FOR EFFECTIVE DISP. RESOL. 4 (May 15, 2012), https://www.cedr.com/docslib/TheMediatorAudit2012.pdf (stating the average age of male mediators practicing with the Center for Effective Dispute Resolution was 56 (i.e., born in 1956) and the average age of female mediators was 49 (i.e., born in 1963)); Gina Viola Brown & Andrea Kupfer Schneider, *Gender Differences in Dispute Resolution Practice: Report on the ABA Section of Dispute Resolution Practice Snapshot Survey*, 47 AKRON L. REV. 975, 979 (2014) (stating that 80% of mediators were born before 1959). *But see,* Alyson Carrel, *ADR as*

technology in Part II below; here, it is sufficient to note that members of the pre-technology generation generally resist technological adoption, and are largely disinclined towards *driving* the technological innovation that would have transformed mediation.

Conflation runs contrary: In that same formative period, as the professional world shifted from in-person and phone communication to e-mail interactions, research in the negotiation and communications fields identified and lamented a lost ability to gauge meaning and nuance, owing to the absence of non-verbal cues in text-based communication.[26] Simple, cheap, videoconferencing had yet to appear,[27] and most of the existing ODR platforms relied on text.[28] This led to skepticism regarding online mediation's capacity for supporting the deeply human interaction of mediation. We have already noted the conflation of "technology" with "ODR," and its focus on "online communication." We suggest that this tendency flowed both ways: Perceived limitations in online communication led mediators to view ODR skeptically; this attitude extended to the notion of technology in mediation more generally.

Our impression is that the gap in practice is as wide as the gap in theory, if not wider. This impression is based on our work with mediation centers, elicitive conference workshops we have conducted on technology and mediation, and a great many conversations about technology with individual practicing mediators. The conclusion we have drawn from this work is that, on the whole, technology plays little to no role in most practitioners' activities. Of course, some mediators mentioned using technology on the outskirts of their work, such as having a website for advertising, and using email to schedule meetings or to send out drafts of agreements. Still, when it comes to the mediation *process* itself, technology is absent

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1st Career, 21 DISP. RESOL. MAG. (2015) (describing a new cohort of mediators choosing to start a dispute resolution career immediately or soon after completing law or graduate school).

26. Thompson, Ebner and Giddings (writing in the context of negotiation) have noted that this response to text-based interaction was widespread, even though very little research had been conducted on those cues now missed so dearly: "Nonverbal communication remained a virtual non-topic in the negotiation literature until text-based communication, primarily in the form of email, spread as a vehicle for negotiation and deprived negotiators of many nonverbal elements. All at once, the loss of the contextual cues that support conveying of meaning, intent, empathy and understanding in face-to-face conversations—belonging mainly to the realm of nonverbal communication—was lamented as an interactional loss, and the result described as a great challenge in negotiating via email" Jeff Thompson et al., *Nonverbal Communication in Negotiation*, *in* THE NEGOTIATOR'S DESK REFERENCE 452-53 (2017). For a survey of challenges presented by email communication to negotiators, summarizing much of the research conducted and disseminated in the period under discussion, *see* Noam Ebner et al., *You've Got Agreement: Negoti@ting Via Email*, *in Rethinking Negotiation Teaching: Innovations for Context and Culture* 89 (2009); Noam Ebner, *Negotiating Via Email*, *in* THE NEGOTIATOR'S DESK REFERENCE 115 (Vol. 2, 2017).

27. Writing as late as 2012, Ebner noted the dearth of video in ODR: "One clear trend emerging from a review of e-mediation service providers is that the age of video has not yet arrived. The state-of-the-art of e-mediation is very solidly text-based." Noam Ebner, *E-Mediation*, *in* ONLINE DISPUTE RESOLUTION: THEORY & PRACTICE 357, 382 (2012). He anticipated that this trend would reverse itself shortly as people gained experience utilizing free videoconferencing software for personal uses.

28. Ebner, *supra* note 27, at 377 ("Text communication, as a vehicle for mediation has its pros and cons and this issue is oft-debated in the literature. However, it is, in practice, the most prevalent form of communication in e-mediation"); Arthur Pearlstein et al., *ODR in North America*, *in* ONLINE DISPUTE RESOLUTION: THEORY & PRACTICE 438 (2012) (" . . . text, whether synchronous or asynchronous, is by far the preferred ODR communication medium. Most service providers offer parties the ability to conduct text communication through their web platforms, while others prefer utilizing email for communication, document transfer, etc.").

from the physical table, with many processes including no technology in the mediation room more sophisticated than the legal pad.[29]

In these elicitive conversations, asking groups and individuals what role mediation plays in their practice, we have noticed how the themes voiced by practitioners reflect the themes in the literature: "I've never thought of that," "you can't do mediation through online communication," and "I don't believe in ODR." We also note that we often encounter different types of resistance and deflection, particularly as we ask mediators how they *feel* about using technology in mediation.[30]

One powerful argument that often comes up in these conversations can be summed up as "If it ain't broke, don't fix it!" Our time-tested processes work, mediators tell us, and they help parties more often than not. Why change things? As practitioners of these same time-tested processes ourselves, we cannot help but recognize the power of this approach and its underlying truths. However, powerful as it is, maintaining this approach cannot assure that what worked yesterday will not be "broke" tomorrow. In fact, it might be "broke" today.[31]

Writing in 2019, closing in on two decades since the gap's formation, we suggest the mediation field, in theory and in practice, remains under the effect of an evolutionary turn the ODR and mediation fields unintentionally took early on, as well the effects of early tendencies and characteristics of mediators at the time. This has led to the perception that technology is largely irrelevant to in-person mediation, to the extent that technology is perceived at all. With a binary relationship between technology and mediation—all or nothing, ODR or in-person *sans* technology, respectively—it is simply not on the maps of mediation scholars or practitioners.

Over the course of the past two decades, however, a lot has changed. We suggest that the reasons underlying the gap, to the extent that they were ever valid, have by now faded; it is time to close the gap.

By this point, we have all had a decade or two of experience incrementally incorporating technology in our personal lives. This does not transform us all into technologists, but most of us are certainly more adept with technology than we were

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29. We note, that when pressed to identify a technology that played a role in their practice, a surprising number of mediators respond, "the fax machine," primarily used to send agreements or reports to courts.

30. Our sensitivity to recognizing these nuances and their emotional underpinnings stems from our own experience in mediation as well as in pedagogical roles we have held in our universities, working with experienced classroom teachers and helping them transition to teaching online (Ebner) or to incorporating instructional technology in their physical classrooms (Carrel). The nature of the external rationalizations justifying resistance (e.g., "Online teaching is never as good as classroom teaching" or "these fancy gadgets will just distract students and waste class time") and of the underlying emotional concerns that teachers discuss upon deeper reflection (e.g., lack of personal efficacy with technology, concern with technological failure and its reflection on the teacher) is remarkably similar to those raised in our conversations with mediators. Research conducted with educators has validated the key role played by teachers' emotions and attitudes *towards* technology in their decisions to *adopt* technology. *See* Sarah Katherine Howard & Adrian Mozejko, *Teachers: Technology, Change and Resistance*, *in* TEACHING AND DIGITAL TECHNOLOGY: BIG ISSUES AND CRITICAL QUESTIONS 307-17 (2015) (explaining how three factors affect teachers' likelihood to incorporate technology in the classroom: school culture, confidence using technology, and pedagogical beliefs about technology; the second factor is most dominant). While no research has yet explored factors affecting mediator likelihood to adopt technology in mediation practice, our experience suggests that the same three factors will emerge, and that with regard to the last two, the factor of personal attitude toward technology will be more significant in determining mediators' professional application of technology.

31. Part III highlights the fault lines where we anticipate seeing signs of "broke." "If it ain't broke..." also does not take into account the very real critiques of the field, which cast doubt on its assumed "wholeness;" we address technology's potential contribution to addressing these issues in Part V.

in the past. We should be prepared to bring that familiarity with technology into our professional life and begin exploring its potential benefits. Similarly, our understanding of technology is far more *nuanced* than before. Each of us has the experience of preferring one communication medium to another (e.g., email over texting), preferring one social media platform over another (e.g., having a Facebook page but not seeing the point of Snapchat) and choosing amongst hardware options, in general or for specific tasks (e.g., you may prefer a laptop to a desktop, in general; you may read news on your phone but prefer to write your emails out on a laptop). We have gained experience, therefore, in not throwing out the baby of helpful technology with the bathwater of the many confusing options available and the "noise" they create. We can now apply the discernment we have developed, in choosing the technology to adopt in our professional activity.

Many professionals, in many other industries, have faced and are facing a similar call to action. In Part II, we set the mediation field's future evolution with technology in a wider context, by examining how technology is driving change in individuals, society, and the professions.

PART II: TECHNOLOGY-DRIVEN CHANGES IN TODAY'S SOCIETY

The past few decades have been characterized by two complementary phenomena: The pace of technological development has increased, and many aspects of the human experience have become facilitated by technology, or occur in a technology-immersed environment. Discussing these phenomena provides context for our suggestion that, to remain viable and helpful in the new world, traditional mediation practice must evolve by adopting technology.

Part II.A: Increasing Advancement of Technology

The accelerating pace of change is best exemplified by Moore's Law. This maxim incorporates Intel co-founder Gordon Moore's report in the mid-1960s that the number of transistors on computer processing chips were doubling every two years, and the prediction that this exponential growth in processing power would continue.[32] Moore's law, somewhat simplified, explains why your new cell phone is half the size of your old device, yet has twice the processing power. This increasing rate of processing power is driving innovation and technological advancement faster than ever before.[33] This can be exemplified by considering technologies so recently considered cutting edge—such as email, twenty years ago, and the iPhone, which debuted only twelve years ago—and the degree to which they have become ubiquitous in the personal and professional spheres.[34] Technologies that once

32. *See, e.g.*, *After Moore's Law: Double, Double, Toil and Trouble*, ECONOMIST (Mar. 10, 2016) ("In 1965 Gordon Moore, who would later become one of the founders of Intel, a chipmaker, wrote a paper noting that the number of electronic components which could be crammed into an integrated circuit was doubling every year. This exponential increase came to be known as Moore's law").

33. *Id.* (Moore's Law "has long been said to be responsible for most of the advances in the digital age – from PCs to supercomputers – due to it being used in the semiconductor industry to guide long-term planning and set targets for research and development.").

34. *See generally* Mobile Fact Sheet, PEW RES. CTR. (Feb. 5, 2018), http://www.pewinternet.org/fact-sheet/mobile/ ("The vast majority of Americans – 95% – now own a cellphone of some kind. The share of Americans that own smartphones is now 77%").

seemed like science fiction, such as artificial intelligence (AI), are common in personal applications such as Netflix or Amazon and smart home technologies such as Alexa or Google Home.[35] And, we note, we are only at the *beginning* of this period of accelerated technological development, rather than at its end; our immersion in technology, and its effects, will only continue to deepen.

Part II.B: Increasing Immersion in Technology

One overall effect of this immersion is that many of us have become more familiar, comfortable, and adept with incorporating technology into elements of our personal and professional day-to-day lives. Furthermore, for many of us, in many situations, utilizing technology is the default mode of operation; technology's *absence* in certain domains now causes us to raise an eyebrow, or complain. This effect is spread unevenly across society, with each of us walking an individual evolutionary path with technology. However, to say the very least, many of us have experienced some of this effect.

Deeper changes exist beneath the behavioral surface expressed by increased comfort with, and use of, technology. These deeper changes have formed the identity of a generation, altered the human experience of individuals of all generations, and revolutionized the operations of entire professions. We will explore change through these three perspectives: generational, individual, and professional.

Part II B. 1. Generational Distinctions

A generational approach to contemporary societal change suggests that while we have all undergone change processes, overall change is most sharply exposed by contrasting characteristics of the millennial generation, "America's youth born between 1982 and 2000,"[36] to its predecessors.

Born into an increasingly technologically-immersed world, millennials are "digital natives," as compared to those who experienced the pre-digital world and "immigrated" to the digital world at a later age.[37] This not only affects their comfort with utilizing technologies, it also shapes their expectations regarding technology, business practices, information gathering, and many other issues pertinent to mediation.

The millennial generation is currently coming into its own. It is now the largest population group,[38] aged 19-37 at the time of writing. As professors and teachers,

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35. *See generally* Robert Safian, *5 Lessons of the AI Imperative, from Netflix to Spotify*, FAST CO. (Sept. 11, 2018), https://www.fastcompany.com/90234726/5-lessons-of-the-ai-imperative-from-netflix-to-spotify; Blake Morgan, *How Amazon Has Reorganized Around Artificial Intelligence and Machine Learning*, FORBES (July 16, 2018), https://www.forbes.com/sites/blakemorgan/2018/07/16/how-amazon-has-re-organized-around-artificial-intelligence-and-machine-learning/#74545f6d7361.

36. *See Millennials Outnumber Baby Boomers and Are Far More Diverse, Census Bureau Reports*, U.S. CENSUS BUREAU (June 25, 2015), https://www.census.gov/newsroom/press-releases/2015/cb15-113.html [hereinafter *Millennials Outnumber Baby Boomers*].

37. *See* Prensky, *supra* note 25. Interestingly, being a "digital native" does not correlate with actual proficiency using technology to problem-solve. *See* Paul A. Kirschner & Pedro De Bruyckere, *The Myths of the Digital Native and the Multitasker*, 67 TEACHING & TCHR. EDUC. 135, 136 (2017).

38. Kirschner & De Bruyckere, *supra* note 38, at 136. *Millennials Outnumber Baby Boomers*, *supra* note 37 (Millennials "now number 83.1 million and represent more than one quarter of the nation's population. Their size exceeds that of the 75.4 million baby boomers").

we note they include most of our undergraduate and advanced-degree seeking students, and our younger colleagues at work; outside academia, they are likely to be peers, and even superiors. In a few short years millennials will dominate the workforce and its management structures. In the mediation context, millennials are already a significant portion of our clients, as well as our mediation students, trainees, and co-mediators.

Spotlighting this generational shift lays the groundwork for more specific comments on acute mismatches between traditional mediation practice and the millennial generation as consumers and as practitioners. While stereotyping people according to their generation is potentially unconstructive and as detrimental as any other stereotype, this highly visible generational shift allows us to apply specific research-based findings to sketch out the challenging mediation landscape of the future in Part III.

Part II.B.2: Individual Change

When discussing changes incurred by living in a technological world, it is, of course, easiest to point to people conveniently younger than oneself and note how *they* have changed. However, looking inward, we can all frankly say that, no matter our age at its outset, over the course of this past decade, our immersion in a technologically-driven world has catalyzed a great deal of personal change in the way each of us think, act, communicate, spend our time, and more. These changes are uneven—we have not all been affected to the same degree, changed in the same ways, or reached the same end-points—yet tangible.

In a previous article in this *Journal*,[39] Ebner has detailed human change identified by researchers in different fields, highlighting those changes particularly relevant to negotiation behavior. If people are changing, he suggested, they are changing as negotiators as well; perhaps, even, negotiation itself is changing. The same could be said for conflict: We are changing with regard to the places we fight in, the things we fight over, the people we fight with, and the dynamics of our fighting. Taken together, these observations indicate that mediation, as well, is changing, with parties changing in terms of how they dispute, how they negotiate, and how they ultimately resolve conflict. Finally, mediators are also changing, with regard to their professional and personal preferences, the ways in which they work with parties, and their practices in engaging with conflict. The questions of how conflict and mediation are changing more generally each warrant deep exploration; the need to review and update our processes and practices is evident even *before* bringing technology itself into the mix. This Article does not address these wider issues, instead carving out and focusing on those aspects of change that relate directly to the use of technology.

As we apply this focus, and consider specific uses of technology and their direct effects on our lives as individuals, it is hard to find any technology-free area of our lives. Technology is always around us; we can only unplug by making a concentrated effort. If you are not currently proving this point by reading this Article on your smartphone, you need to look no further than that device, sitting right now on your desk or in your pocket, similar to all of the seventy-seven percent of U.S adults

39. Ebner, *supra* note 2.

who owned a smartphone in 2017.[40] The smartphone has become an extension of our bodies and minds.[41] In a 2017 survey, ninety-three percent of respondents stated that their smartphone was helpful; forty-six percent said they *couldn't live without it*.[42]

Of course, technology had been creeping ever-closer to hand before the smartphone, with users shifting from office computers to home desktops to laptops to tablets. With smartphones in our pockets, however, we have become *constantly* in contact with a device that is *constantly connected* to the internet. Oncoming technologies will increase and deepen our constantly-connected lifestyle through "wearables" (devices connected to us more directly than our phones: smartwatches, glasses, and, ultimately, chip implants);[43] connected environments (in which we are not required to carry or wear a device in order to connect: Apple's CarPlay, Amazon's Alexa, etc.); and the Internet of Things (connecting our vehicles, home systems, and everyday appliances to the internet, to control, monitor, and harvest their data at a distance).

In adopting this extent of connectedness, we have changed in many ways. Of particular interest to our context, are those changes closely connected to mediation participation—changes in how people communicate, interact, transact, place trust, and collect and analyze information.

Adopting new ways of communicating with specific others (text, email, etc.) is one category of change; another dramatic change is that we now *broadcast* information about our activities, location, and opinions on social media, without connecting with anyone individually.[44] With this Article's focus on technologically-driven activities beyond communication and information *sharing,* we note that in those other activities too, our new connectedness has deeply changed our capacities, expectations, and behavior. It provides us with new ways for *accessing* information. Through social media, we catch up with family and friends, and follow the

40. *See* Andrew Perrin, *10 Facts About Smartphones as the iPhone Turns 10*, PEW RES. CTR. (June 28, 2017), http://www.pewresearch.org/fact-tank/2017/06/28/10-facts-about-smartphones/.

41. Karina Vold, *Is Your Smartphone an Extension of Your Mind?*, MOTHERBOARD (Mar. 2, 2018), https://motherboard.vice.com/en_us/article/qvemgb/is-your-smartphone-an-extension-of-your-mind (suggesting that technology, as an extension of human cognition, might deserve the same legal protections granted to brains and bodies). Also *see* Ebner, *supra* note 2, at 116 (describing the smartphone as an extension of the human body, with a hotline to the brain: "Ever feel your phone buzz in your pocket notifying you of an incoming message – only to find, upon checking the screen, that you had not received one? . . . Phantom vibration syndrome is not only commonly experienced; it is *real* - to our minds and bodies. . . . This phenomenon . . . is yet another step along the road to becoming cyborgs; your body is calibrating its degree of sensitivity for optimally connecting your neural pathways to your phone").

42. *See* Perrin, *supra* note 41.

43. For examples of ways in which technology is becoming increasingly connected to our person, *see* Andrea M. Matwyshyn, *The 'Internet of Bodies' is Here. Are Courts and Regulators Ready?*, WALL ST. J. (Nov. 12, 2018), https://www.wsj.com/articles/the-internet-of-bodies-is-here-are-courts-and-regulators-ready-1542039566 (describing smart pills, self-tuning brain implants, hard wired prosthetic limbs, etc.); Jeff Baenen, *Wisconsin Company Holds 'Chip Party' to Microchip Workers*, CHI. TRIB. (Aug. 2, 2017), https://www.chicagotribune.com/bluesky/technology/ct-wisconsin-company-microchips-workers-20170801-story.html.

44. *See, e.g.*, Aaron Smith & Monica Anderson, *Social Media Use in 2018*, PEW RES. CTR. (Mar. 1, 2018), http://www.pewinternet.org/2018/03/01/social-media-use-in-2018/ ("Roughly two-thirds of U.S. adults (68%) now report that they are Facebook users, and roughly three-quarters of those users access Facebook on a daily basis.").

news in real-time.[45] We search for information on the Internet or ask personal assistants such as Siri or Google to tell us what the weather will be or how to cook the perfect hard-boiled egg.[46] We can access more information, and do so more quickly today than ever before.[47] This information might take the form of facts, the object of the previous set of questions, or of meta-data or analysis; for example, you might ask Siri to provide you a list of the most Googled terms in 2014. As a result, it is not just our ability to *share* and *access* information that technology has affected, but we can now use technology to *analyze* that information, gaining understanding to better inform our decisions. It is one thing to check the balance of your 401k online; it is another to click a button on the screen and see your future financial condition projected, specific risk factors explained, and visualization graphs portraying the impact of different approaches to retirement savings on our retirement security. We can even *automate* those decisions by empowering the technology to make them itself. For instance, we can automate increasing our pension contributions in years that stock market results have adversely affected our retirement security.

In summary: While we have each undergone a unique personal evolution vis-a-vis technology, it is safe to say that we have each also dramatically changed the ways in which we communicate, share, access, and analyze information. In Part III, we discuss the potential consequences of this shift remaining unreflected in mediation practice and process. Before that, however, we pause to consider that mediation is not the first profession to cope with these issues. How has the sweeping wave of technology affected other professions, particularly those with characteristics pertinent to mediation?

Part II C. The Impact of Technology on the Professions

As technology has advanced, professions have adapted to maintain their relevance and effectiveness. While technology can improve services by streamlining more efficient, user-driven processes, this does not always happen in a smooth, linear, or painless manner. The taxicab and hotel industries evince how advances in technology can fundamentally disrupt an industry as easily as they can improve its processes.[48] One thing is nigh-axiomatic, though: In the current era, *no* profession

45. *See, e.g.*, Russell Heimlich, *Using Social Media to Keep in Touch*, PEW RES. CTR. (Dec. 22, 2011), http://www.pewresearch.org/fact-tank/2011/12/22/using-social-media-to-keep-in-touch/ ("Roughly two thirds (67%) of social media users say that staying in touch with current friends and family members is a major reason they use social media sites like Facebook, Twitter, MySpace or LinkedIn").

46. *See, e.g.*, Geoffrey Fowler, *I Live with Alexa, Google Assistant and Siri. Here's Which One You Should Pick.*, WASH. POST (Nov. 21, 2018), https://www.washingtonpost.com/technology/2018/11/21/i-live-with-alexa-google-assistant-siri-heres-which-you-should-pick/?utm_term=.6bc9f2e4bf77.

47. *See, e.g.*, Bernard Marr, *How Much Data Do We Create Every Day? The Mind-Blowing Stats Ev eryone Should Read*, FORBES (May 21, 2018), https://www.forbes.com/sites/bernardmarr/2018/05/21/how-much-data-do-we-create-every-day-the-mind-blowing-stats-everyone-should-read/#b53c6a760ba9.

48. MIT created an algorithm for uber and lyft that would "eliminate the need for 75% of all NYC taxis," *see* Leanna Garfield, *Uber and Lyft Carpools Could One Day Replace Most New York City Taxis*, BUS. INSIDER (Jan. 3, 2017), https://www.businessinsider.com/uber-lyft-carpools-traffic-mit-study-2017-1. A recent report "found that 42% of Airbnb users have replaced a traditional hotel stay with an Airbnb property," *see* Suzanne Bearne, *'Airbnb is Forcing Everyone to Up Their Game': How Hotels are Changing Tack*, GUARDIAN (Apr. 11, 2018), https://www.theguardian.com/business-to-business/2018/apr/11/airbnb-is-forcing-everyone-to-up-their-game-how-hotels-are-changing-tack.

is impervious to technology's direct or indirect effects. "Once a new technology comes into a social milieu," wrote Marshall McLuhan, "it cannot cease to permeate that milieu until every institution is saturated."[49] People ignore this at their own peril, even if their gut reaction to technology's effects on their field is primarily negative. Technology's capacity to improve existing services is, in itself, *justification* for exploring it; its capacity to render these services obsolete makes doing so *imperative*.

Full surveys of other fields' evolution in response to technological development is beyond the scope of this Article.[50] However, we note that even traditionally conservative professions—historically large, slow-turning ships—have made significant advances in incorporating technology in their practices. We will briefly spotlight developments in the fields of law and healthcare, given that they share mediation's deep respect for client autonomy and choice, fierce preservation of clients' privacy and security, and sense of deep responsibility for clients' wellbeing and positive outcome.

Both fields experience technology-driven disruptive pressures from without. The legal field has seen the rise of LegalZoom (an online service offering cheap, unbundled legal services)[51] and DoNotPay (a free app allowing users to contest parking tickets and file suit in small-claims courts across the U.S.).[52] The healthcare field has seen the rise of online pharmaceuticals, the booming online fitness and supplements market, and, most recently, the advent of home DNA testing for diagnosis of genetic tendencies, nutritional recommendations, and more.

Both fields use technology to connect providers and clients across physical distance. The legal field has seen the growth of virtual law firms and online client portals which provide clients with easy access to their documents, case status, and bills, without office visits. Similarly, medical practitioners and institutions offer telehealth services, convening providers and patients via video or text–based systems, and patient portals provide patients access to their records and facilitate queries to their caregivers.

Finally, both fields are significantly evolving by using technology for purposes other than online communication. In the legal field, technology helping lawyers

49. MARSHALL MCLUHAN & LEWIS H. LAPHAM, UNDERSTANDING MEDIA: THE EXTENSIONS OF M AN 161 (1964).

50. For a full analysis of the changes in professions stemming from technological advances, *see* DANIEL SUSSKIND & RICHARD SUSSKIND, THE FUTURE OF THE PROFESSIONS: HOW TECHNOLOGY WILL TRANSFORM THE WORK OF HUMAN EXPERTS (2015).

51. *See* Amit Chowdhry, *How LegalZoom Provides Businesses with Affordable Legal Assistance*, FO RBES (Oct. 9, 2017), https://www.forbes.com/sites/amitchowdhry/2017/10/09/how-legalzoom-provides-businesses-with-affordable-legal-assistance/#3444dc1232de.

52. *See, e.g.*, Caroline E. Brown, *LegalZoom: Closing the Justice Gap or Unauthorized Practice of L aw?*, 17 N.C. J.L. & TECH. 219 (2016).

utilize information are most apparent in the areas of case management,[53] legal research,[54] E-discovery,[55] and data analytics.[56] The medical field underwent more dramatic, comprehensive, industry-wide, and rapid evolution, in replacing traditional charting and recording practices with electronic health records (hereinafter EHRs) retaining every individual's entire medical history. EHRs open up countless new possibilities for accessing, sharing, and analyzing information.[57] Allowing access to patients and their doctors through online portals, they also enable doctors to share information with colleagues treating the same patient, thus sparing patients time and effort, improving inter-provider communication, and protecting patients from misdiagnoses owing to inaccurate or incomplete information.[58] In addition, storing this data electronically allows it to be aggregated, anonymized, and analyzed, resulting in more informed diagnoses.[59] EHRs also provide a large pool of information that, in the aggregate, can predict healthcare outbreaks before they occur.[60]

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53. *See, e.g.*, *Embracing Technology Changes in Your Law Practice*, L. FUEL (July 13, 2018), http://www.lawfuel.com/blog/embracing-technology-changes-in-your-law-practice/.

54. Recently, legal software harnessed the power of artificial intelligence and machine learning to generate query results. Such programs can also assess the research in drafted pleadings to ensure lawyers cited cases correctly and used the most significantly relevant cases. *See, e.g.*, Steve Lohr, *A.I. is Doing Legal Work. But It Won't Replace Lawyers, Yet*, N.Y. TIMES (Mar. 29, 2017), https://www.nytimes.com/2017/03/19/technology/lawyers-artificial-intelligence.html; Karen Turner, *Meet 'Ross,' the Newly Hired Legal Robot*, WASH. POST (May 16, 2016), https://www.washingtonpost.com/news/innovations/wp/2016/05/16/meet-ross-the-newly-hired-legal-robot/.

55. Discovery has become immensely difficult in the digital age, largely owing to the terabytes of information (e-mails, text messages, photos, videos, etc.) that can pertain to any case. *See* Gabe Friedman, *Poll: Data Volume Still Largest Obstacle in eDiscovery*, BIG L. BUS. (Aug. 19, 2015), https://biglawbusiness.com/poll-data-volume-still-largest-obstacle-in-ediscovery/. With technology-assisted review, software can detect duplicates in a matter of seconds, and pull out only those documents containing new information, saving lawyers hundreds of hours of work. *See* Edward Sohn, *Top Ten Concepts to Understand About Predictive Coding*, ASS'N CORP. COUNS. (May 22, 2013), https://www.acc.com/legalresources/publications/topten/ttctuapc.cfm ("technology-assisted review also includes tools that identify near-duplicate documents and latest-in-thread emails").

56. Data analytics is the analysis of large amounts of information to glean insights and trends. Legal data analytics software can analyze thousands of court filings and their results to predict case outcomes—how a judge might rule given her place on a specific bench, in a specific case, or in a specific jurisdiction—allowing improved legal decision making. *See, e.g.*, Laura Olsen, *Data-Driven Decisions: Using Legal Analytics to Up Your Game*, ST. B. WIS. (Apr. 4, 2018), https://www.wisbar.org/newspublications/insidetrack/pages/article.aspx?Volume=10&Issue=6&ArticleID=26261 (describing the various questions data analytics in the legal context can answer: "What is the likelihood that a pending bill will be enacted? How likely is Judge Smith to grant a motion for stay? What is the average time to trial in a trademark suit in the Northern District of New York? Has my expert's testimony ever been challenged and if so, what was the outcome? How much experience does Judge Jones have with wage cases? How often are her cases reversed on appeal? Does my opponent generally settle cases, and if so, how early?").

57. *See, e.g.*, Ben Moscovitch, *How the Increased Use of Electronic Health Records Intersects with Patient Safety*, PEW (June 4, 2018), https://www.pewtrusts.org/en/research-and-analysis/articles/2018/06/04/how-the-increased-use-of-electronic-health-records-intersects-with-patient-safety.

58. *See, e.g.*, Nir Menachemi & Taleah H. Collum, *Benefits and Drawbacks of Electronic Health Record Systems*, 4 RISK MGMT. & HEALTHCARE POL'Y 47, 49-50 (2011).

59. Consider a veteran doctor who has diagnosed thousands of cases of skin conditions. Looking at a patient's skin, she relies on her vast experience to inform her diagnosis. However, were she to access a database of skin-condition diagnoses from over a *million* cases, her diagnosis would be more informed and precise. *Id.* at 51.

60. *Id.* For example, see the website allowing one to track flu symptoms. FLU NEAR YOU, https://fluneraryou.org (last visited Feb. 24, 2019). *See* Rumi Chunara et al., *Flu Near You: An Online Self-Reported Influenza Surveillance System in the USA*, 5 ONLINE J. PUB. HEALTH INFORMATICS 133 (2013).

The healthcare field, similar to the legal and mediation fields, is greatly concerned with client security and confidentiality. While EHRs engender risk of security breaches allowing unauthorized individuals access to patient information,[61] the healthcare industry chose *not* to reject EHRs, instead demanding greater regulation to protect information.[62]

We share developments in the legal and healthcare fields to demonstrate the adaptation to, and adoption of, technology in other professions, beyond that which facilitates online communication. Comparable dynamics have occurred in most professions, with technology-driven internal and external forces transforming traditional practice and market behavior.

PART III: DOWNSIDES OF IGNORING TECHNOLOGY

Before considering the benefits awaiting the mediation field from incorporating technology into conventional, face-to-face practices, we highlight the downsides of maintaining the technology-devoid status quo.

Part III.A: Meeting the New Bar

Our first contention is that by ignoring technology's potential contributions to in-person mediation, mediators miss opportunities for optimally meeting best practices as laid out in the Model Standards of Conduct for Mediators (Model Standards).[63] Currently, the friction between mediation practice and the Model Standards is relatively low-key, yet clearly present. With every passing day, as the world becomes increasingly technologically immersed and connected, the potential for significant friction increases.

Self-Determination: The first standard of the Model Standards states that "A mediator shall conduct a mediation based on the principle of party self-determination. Self-determination is the act of coming to a voluntary, uncoerced decision in which each party makes free and informed choices as to *process* and outcome. Parties may exercise self-determination at any stage of a mediation, including mediator selection, process design, participation in or withdrawal from the process, and outcomes."[64] Far from using technology to support self-determination, we suggest that mediators often constrain it (with benevolent intentions, of course) by constraining the use of technology. When engaging mediators on their relationship to technology in the mediation room, one common theme is that mediators uniformly wage war on the mobile phone, deeming these to be nothing but a distraction to the process. Many have told us they ask parties to turn off their phones, or at least silence them and put them away, and only respond to their prompts if absolutely necessary. Some declared this to be a mainstay of their process ground rules. Many share

61. For one such case, *see* Kevin Rawlinson, *NHA Left Reeling by Cyber-Attack: 'We are Literally Unable to do Any X-Rays'*, GUARDIAN (May 12, 2017), https://www.theguardian.com/society/2017/may/13/nhs-cyber-attack-patients-ransomware.

62. *See generally* William Smart, *Lessons Learned Review of the WannaCry Ransomware Cyber Attack*, UK DEP'T. HEALTH & SOC. CARE (Feb. 1, 2018), https://www.england.nhs.uk/wp-content/uploads/2018/02/lessons-learned-review-wannacry-ransomware-cyber-attack-cio-review.pdf.

63. *See* AM. ARB. ASS'N, AM. BAR ASS'N, & ASS'N FOR CONFLICT RESOL., MODEL STANDARDS OF CONDUCT FOR MEDIATORS (2005) [hereinafter MODEL STANDARDS].

64. *Id*. at STANDARD I (*emphasis added*).

anecdotes of enforcing this rule in different ways. To be sure, there is some literature on the distracting effects of smartphones.[65] However, by zooming in on distraction to the exclusion of all other effects, mediators either ignore potential uses of technology, or, more actively and coercively, deny the benefits of these uses to parties. In telling parties to turn off their devices we essentially limit their access to their primary tool for storing and accessing data about their daily lives, interactions, and communication, as well as for connecting to troves of information on the internet that, if readily available, might help them reach more informed decisions.[66] Parties have grown to rely on these tools for support in their everyday conversation and decision-making. With technology increasingly connected to, if not embedded in, individuals, the notion of banning its use, or limiting it, with justifications such as "focusing" or "respecting each other," will become more obviously out of place, if not practicably impossible. Even today, though, in restricting parties' ability to use smartphones, we inadvertently diminish their self-determination to a certain extent.

Impartiality: Standard II.B.1 of the Model Standards states that "A mediator should not act with partiality or prejudice based on any participant's personal characteristics, background, values and beliefs, her performance at a mediation, or any other reason."[67] In his 2016 annotations of the Model Standards through the perspective of ODR, ADR and ODR expert Daniel Rainey states that "just as the mediator may show overt or unintended bias towards a party due to clearly observable cultural signs or express opinions, the mediator may show bias toward a party who does or does not agree with the mediator's bias regarding the use of [information and communication technology] for mediation."[68] In other words, a mediator might show bias by disapproving of or vetoing a party's desire to use a smartphone or laptop to access information or another process-related purpose.[69]

Do No Harm: It would not be revolutionary to suggest that a well-accepted, if unwritten, ethical standard of mediation is "do no harm." Quick to focus on the downside of technology in the room, mediators may not be aware that separating people from their ever-present devices causes physiological stress responses.[70]

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65. To the best of our knowledge, no research on this has been carried out in mediation settings. For research conducted in a negotiation context, *see* Aparna Krishnan et al., *The Curse of the Smartphone: Electronic Multitasking in Negotiations*, 30 NEGOT. J. 191, 191-208 (2014) (finding adverse effects of certain smartphone-related distractions on negotiators). And, we note, that researchers have focused on downsides given their hypotheses that these would exist in certain areas; they simply did not go looking for benefits of smartphone presence, even though some of these seem self-evident.

66. Note, that from the self-determination perspective, we are focusing only on parties' *own* tools and information, setting aside for the moment potential software or apps specifically designed for mediation, with benefits and utilities that might counter the distractive qualities of non-task specific behaviors using smartphones. *See* Part I.C.

67. *See* MODEL STANDARDS, *supra* note 64, at STANDARD II.

68. Am. Arb. Ass'n, Am. B. Ass'n & Ass'n for Conflict Resol., Daniel Rainey, *Model Standards of Conduct for Mediators [Annotated for ODR August 2016]*, at 2 (2005), http://danielrainey.us/wp-content/uploads/2016/08/MODEL-STANDARDS-ANNOTATED-FOR-ODR-AUGUST-2016.pdf.

69. "It is the mediator's responsibility to safeguard the mediation process by conducting the mediation in a balanced fashion while reducing obstacles to communication which the parties encounter . . . the mediator is without the authority to impose a resolution or adjudicate an aspect of the dispute. It is therefore up to the parties to determine and reach consensus about the use of technology in the mediation, not the mediator." *See Opinion 2015-001*, FL. SUP. CT. MEDIATOR ETHICS ADVISORY COMM. (Apr. 7, 2015), https://www.flcourts.org/content/download/216867/1967148/MEACOpinion2015-001.pdf.

70. *See, e.g.*, Seunghee Han et al., *Understanding Nomophobia: Structural Equation Modeling and Semantic Network Analysis of Smartphone Separation Anxiety*, 20 CYBERPSYCHOLOGY, BEHAV., & SOC.

Generally speaking, mediators seek to create an environment that reduces physiological effects of stress and increases a sense of belonging, in order to help parties reach agreement.[71] However, people experience a sense of loss and fear when their smartphone is turned off or removed from their reach.[72] Beyond causing immediate distress to parties, this may do harm to process and outcome as well, as the stress response triggered by separation from technology involves manifestations directly affecting mediation, impeding creativity, limiting openness to new ideas, and reducing the ability to trust others.[73]

We have seen how, from the perspective of updating and increasing adherence to ethical standards, the intuitive, technology-averse approach commonly practiced may not be appropriate. We suggest, therefore, that our duties toward parties require reconsidering mediators' practice of discouraging party-initiated use of technology. And, we note, this is only an analysis of mediators' response to one type of technology; we have not yet even begun to consider technology's potential *positive* effects on process and outcome.

The potential clashes we have noted between the Model Standards and current mediation practice are not individually sufficiently acute to warrant a designation of "unethical behavior." However, cumulatively, they suggest there is an increasing friction that must be addressed sooner rather than later.

Part III.B: Maintaining the Status Quo is Risky Business

Beyond its contribution to living up to our own values, reconsidering the field's relationship with technology is important—indeed, we suggest, urgent—for maintaining the field's future viability. We will elaborate on four risks mediation entails by remaining a low-to-no-tech profession:

1) The changing nature of potential mediation clients
2) The changing nature of potential mediators
3) Current trends in courts and other organizations
4) Current trends in commercial transactions

Part III.B.1: The Changing Nature of Potential Mediation Parties

In Part II, we described technology's impact through several different lenses—generational, individual and professional. Conveying this to the mediation setting, we now examine effects of these changes on parties to mediation, their expectations, and their consumer behavior.[74]

NETWORKING 419, 419 (2017) (describing nomophobia, or "the feelings of discomfort or anxiety caused by the nonavailability of a mobile device enabling habitual virtual communication") (citing A.L.S. King et al., *Nomophobia: Dependency on Virtual Environments or Social Phobia?*, 29 COMPUTERS IN HUM. BEHAV. 140-44 (2013)).

71. *See generally* Jill S. Tanz & Martha K. McClintock, *The Physiologic Stress Response During Mediation*, 32 OHIO ST. J. DISP. RESOL. 29 (2017).

72. *See* Seunghee Han et al., *supra* note 71.

73. *See* Tanz & McClintock, *supra* note 72.

74. This is not the first time an article describes the impact technology is having on society and how that, in turn, impacts our field. Ebner, *supra* note 2, has explored how society is changing and how that might impact negotiation. Several years earlier, David Larson reviewed the changing communication patterns of children as they increasingly relied on text-based communication and became increasingly comfortable with virtual interaction with other humans, as well as with avatars and robots. These

Millennials already comprise a significant portion of mediation parties today, and this will increase in the near future. Highlighting a few of the tendencies and expectations that research on millennials has uncovered will serve to demonstrate just how out-of-synch contemporary mediation practice is with its next generation of clients.

Millennials expect information to be online, easy to navigate, and intuitive to find.[75] If information is difficult to obtain, they perceive the provider to be at fault, rather than questioning their own abilities or comprehension.[76] Millennials do not rely on experts to provide recommendations about where they should eat, where they should work, or how they should make decisions.[77] Instead, they rely on peers and the general public—total strangers with no qualifications—to provide reviews, ratings, and comments, on which they base decisions.[78] Reviews on Yelp and Google have remarkable reputation capital with millennials. They not only rely on reviews for selecting a service, they prefer them over conventional systems as a complaint mechanism. Millennials prefer visible signs of the here-and-now: They

changes, he forecasted, would have significant impacts on mediation. *See* Larson, *Artificial Intelligence*, *supra* note 16, at 139.

75. *See generally* Micah Solomon, *Millennial Customers Will Dominate in 2017. Is Your Customer Service Experience Ready For Them?*, FORBES (Dec. 27, 2016), https://www.forbes.com/sites/micahsolomon/2016/12/27/millennial-customers-will-dominate-2017-is-your-customer-service-experience-ready/#6d60041144d0
("The relentless focus on simplifying the user interface at Apple, Amazon, Google and other less visible technology players has set a new standard of intuitiveness across the tech industry that millennials accept as the norm.").

76. *Id.* ("Businesses should be careful not to throw clunky, alienating technology, systems, or processes at these customers and expect patience or understanding as customers struggle to find a workaround.").

77. *See, e.g.*, Christine Barton, Lara Koslow & Christine Beauchamp, *How Millennials Are Changing the Face of Marketing Forever*, BCG (Jan. 15, 2014), https://www.bcg.com/publications/2014/marketing-center-consumer-customer-insight-how-millennials-changing-marketing-forever.aspx ("Traditionally, companies have used testimonials from 'experts,' such as doctors or financial advisors, to convince consumers of the merits of a brand. But less than half of Millennials said that they trust expert advisors, compared with 61 percent of non-Millennials. And a mere 4 percent of Millennials—compared with three times as many boomers and silents—said that they are *most* influenced by experts.").

78. Andrew Arnold, *4 Ways Social Media Influences Millennials' Purchasing Decisions*, FORBES (Dec. 22, 2017), https://www.forbes.com/sites/andrewarnold/2017/12/22/4-ways-social-media-influences-millennials-purchasing-decisions/#543bdc2e539f ("According to Hubspot data, 71% of people are more likely to make a purchase online if the product or service comes recommended by others. This may be driven by millennials inherent distrust of brands and traditional advertising. They simply tend to believe what their peers say, seek their opinions and often validation."); *see also* Solomon, *supra* note 76 ("The customer experience—and the purchasing decision–is now a social experience"); *Millennials: Coming of Age*, GOLDMAN SACHS, https://www.goldmansachs.com/insights/archive/millennials/ (last visited Feb. 24, 2019) ("Millennials are turning to their online networks when making purchasing decisions."). *See generally Talking to Strangers: Millennials Trust People Over Brands*, BAZAAR VOICE (2012), http://media2.bazaarvoice.com/documents/Bazaarvoice_WP_Talking-to-Strangers.pdf ("[O]ver half (51%) of Americans trust UGC more than other information on a company website (16%) or news articles about the company (14%) when looking for information about a brand, product, or service". . . . Millennials also engage with brands more deeply through social networks: 52 percent said that, at least occasionally, they use their mobile devices on social media to note that they "like" a brand, compared with 33 percent of boomers. Also, 39 percent post product reviews, 35 percent share links about products on LinkedIn, and 32 percent said that they follow brands on Twitter.").

expect businesses and service providers to be online and constantly, actively, engaged in social media;[79] and they do not want to have to speak to someone to gain an understanding of a service being provided.[80]

Recent research has confirmed that one of the mediation field's greatest challenges continues to be its lack of visibility.[81] Troubling enough in general, in the context of engaging millennials as parties this is nigh-catastrophic. Unless mediation practitioners improve the searchability, ease, and usability of their online presence, millennials will likely pursue other approaches or services they find easier to access. Most mediators lack a Google profile and if they have one, they do not have any reviews. Millennials might easily find this sketchy, our protestations about the fundamental incompatibility of reviews with party confidentiality notwithstanding.

Considering that these traits will be characteristic of the *entire* next generation of mediation customers, the gap this article spotlights becomes acute: Can mediation allow itself to remain a technology-scant process and profession, and hope to survive?

We note that these traits, typical of the millennial generation, are increasingly shared—albeit to different extents—by many individual members of older generations. Most of us, by now, have changed our consumer and decision-making habits; we might recognize that some of the tendencies and expectations discussed above match our own new preferences and behavior. As we become ever-increasingly connected, and ever-increasingly reliant on information and analysis offered by technology, as discussed in Part II, people of any generation might look askance at a technology-poor profession and a technology –free (or –adverse) process.

As we reflect on the changing nature of our mediation parties, we must also reflect on the changing expectations of the legal professionals who attend mediation with them, driving clients towards mediation or away from it.

In this arena, the challenge facing mediation is double. Not only are millennials rapidly increasing in the legal profession (with the traits and expectations described above), the legal profession itself is adopting technology faster than the mediation profession. In Part II, we discussed the law's evolution over the past decade in adopting technological innovation to deliver legal services. This heightens the possibility that lawyers will add another reason for avoiding mediation to their already well-developed list: Mediation is an old-fashioned process, unsuitable for the modern client's disputes.

Consider these specific examples: One way in which attorneys now provide better services to their clients is by incorporating data analysis into their decision-

79. John Rampton, *9 Things You Need to Know to Give Millennials Great Customer Service*, ENTREPRENEUR (Sept. 22, 2015), https://www.entrepreneur.com/article/250609 ("Millennials want to know the faces behind your brand (which is why you should have an 'about us' page), where your product was manufactured, and they want to engage with real team members on social media."). Also *see generally* Matt Walker, *How Do Millennials Find Your Business?*, ENTREPRENEUR (May 13, 2016), https://www.entrepreneur.com/article/273191 ("Not only do millennials expect brands to be available on social media, but they want to be engaged by them. In fact, 62 percent say that if a brand engages them on social media, they're more likely to become a loyal customer.").

80. *See* Rampton, *supra* note 80 ("Millennials are not big fans of calling a customer service representative. In fact, '34 percent of them would rather have their teeth cleaned' and '26 percent would rather go to the DMV.'").

81. Donna Shestowsky, *When Ignorance is Not Bliss: An Empirical Study of Litigant's Awareness of Court-Sponsored Alternative Dispute Resolution Programs*, 22 HARV. NEGOT. L. REV. 189 (2017).

making.[82] Clients and lawyers, accustomed to such analysis, may seek to understand the benefits and risks of using mediation over other processes, and one mediator over another.[83] Accustomed to having such data at their fingertips with regards to lawsuits and courts, they may look askance at mediators' efforts to answer such questions primarily through anecdotes, war stories, and estimates, or expect a mediator to use legal analytics for case evaluation, instead of relying on her years on the bench as judge. While such an assessment might be informative, one based on a dataset of cases from hundreds of judges over that same timespan is far more accurate.[84] One such experience might color an attorney's assessment of mediation's suitability for her clients.

These changing expectations in individuals, generations, and professions highlight the fact that current and future mediation parties, and their attorneys, increasingly use technology to interact with information. Also, increasingly, they estimate future satisfaction with a service based on the provider's initial technological performance. Mediators ignoring this do so at their own peril.[85]

Part III.B.2: The Changing Nature of Potential Mediators

Having anticipated demands for change originating with parties, we should expect similar demands from various stakeholders within the mediation profession itself. Many mediators are also attorneys; experiencing change in the legal profession, they might seek to import it into their mediation activities. Some of our mediation colleagues, hailing from the millennial generation, likely roll their eyes at some of the quaint twentieth century tools we suggest they use.[86] Before long, their numbers and voice in our profession will be significant.

If the mediation field does not seriously consider the implications of technology's impact on society and the profession, we may lose the next generation of

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82. Some predict that lawyers who do not use data to inform their decisions could one day be liable for malpractice if they fail to heed the warnings available from legal analytics and instead rely on "hunches." *See* ED WALTERS, DATA-DRIVEN LAW: DATA ANALYTICS AND THE NEW LEGAL SERVICES (Ed Walters ed., 2019).

83. "The modern business world is increasingly reliant on data for its strategic planning and marketing, and we had both frequently heard from well-placed individuals in the corporate world that they would use arbitration, mediation and other forms of ADR with more confidence if relevant and accurate process data was available." Mark Baker & Ayaz Ibrahimov, *Data Insights*, Q&A with Bill Slate, Chairman, CEO and Co-founder of Dispute Resolution Data*,* 9 INT'L ARB. REP. 2 (2017).

84. Rory Cellan-Jones, *The Robot Lawyers Are Here - And They're Winning*, BBC NEWS (Nov. 1, 2017), https://www.bbc.com/news/technology-41829534 (describing how artificial intelligence won a contest between AI and lawyers to see who could best predict outcomes of financial disputes).

In this, we somewhat echo David Larson, who, writing in 2006 about a narrower aspect of change—the communicational patterns and preferences of the younger generation—threw down "the proverbial gauntlet" and suggested that mediators who do not become adept with the communication tools increasingly used by teenagers, would be less effective, if effective at all, at engaging them in dispute resolution processes. We think his words have been borne out in part; while not insisting that mediators engage with them solely via avatar, those once-teenagers, now young adults, find themselves engaged in conflict, in workplace, family and other contexts, and mediators must change their communicative patterns (and, as we've suggested in this Article, many of their basic practices) in order to engage with them successfully. See Larson, *Technology Mediated Dispute Resolution*, *supra* note 16.

86. We recognize we've noted above that the majority of mediators currently do not fall into the millennial generation; still, we would be remiss if we did not point out that there *are* millennial mediators, and there will soon be more. As their colleagues, we must understand their preferences to ensure the longevity of the profession.

mediation parties, practitioners and scholars.[87] Of course, we can kick the can of innovation down the path for the next generation to deal with. However, the current generation might regret this choice if it turns out that mediator numbers dwindle and the field fades, or if it turns out that the next generation of mediators uses technology so well, in terms of affording efficiencies and attracting clients, that they run the current generation out of business.

Part III.C: Current Trends in Courts

Another driver of mediation's potential obsolescence, if mediators don't embrace technology, is that its primary source of cases—court systems—now looks to technology to address the widening gap in access to justice.[88] In the 1980s and '90s, courts looked to mediation to address the access to justice gap, assuming it was faster, cheaper, and required less judicial attention than other methods. Whether these assumptions were correct in the first place, or whether mediation made the right choice in banking on the court system to feed it cases, is less important than the fact that the mediation field and the court system both accepted this marriage, and that the access to justice gap is, if anything, widening.[89] Interestingly—ironically, even—it is this same argument of closing the justice gap through fast, informal, and extrajudicial processes that currently motivate courts to implement Online Dispute Resolution systems which include, inter alia, online and automated case management, automated and assisted negotiation processes, and diversion to online mediation. Ebner and co-author Elayne Greenberg have recently observed that the design of these ODR systems, as currently contemplated by court administrators, marginalize or eliminate traditional roles and activities of lawyers, a development that they anticipate will have deep and disruptive ramifications for the legal field.[90]

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87. For a discussion about the future of ADR programs in legal education and the impact of technology and innovation, *see* John Lande, *What Will Be the Future of ADR in US Legal Education?*, INDISPUTABLY (Jan. 24, 2019), http://www.indisputably.org/?p=13650; Alyson Carrel, *Are We Considering the Impact of Legal Tech and Innovation on Other Areas of Legal Education?*, ALTJD (Feb. 23, 2019), https://www.altjd.org/2019/02/23/are-we-considering-the-impact-of-legal-tech-and-innovation-on-other-areas-of-legal-education/.

88. Noam Ebner & Elayne Greenberg, *What Dinosaurs Can Teach Lawyers About How to Avoid Extinction in the ODR Evolution*, ST. JOHN'S SCH. LEGAL STUD. RES. PAPER SERIES (Jan. 17, 2019) (paper under review, available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3317567), at 27, footnotes omitted ("As courts struggle to meet their access to justice responsibilities, they are particularly receptive to the justice possibilities ODR offers. ODR has piqued the interests of court systems nationally and globally as a justice option to help courts as they grapple overflowing court dockets, increasing numbers of unrepresented litigants and shrinking court budgets. Whether ODR is viewed to be the default justice provider of the future or as an adjunct to the existing justice system, courts are beginning to see ODR as a viable mechanism to provide litigants justice.").

89. *Id*. at 31 ("The second social phenomenon is that clients in poverty do not have access to justice; the primary reason that people don't have lawyers is money. The Justice Index indicates that as many as 2/3 of litigants in the US are self-represented. Nationwide, for every 10,000 people living in poverty, there are approximately .64 legal-aid lawyers available to represent them.").

90. *Id*. at 39-40. ("Such passivity, however, comes at a steep price for the legal profession. ODR, with its lawyerless design, will continue to be introduced into courts. The number, types and value of cases that courts manage through ODR systems, however, is likely to increase dramatically in the near future . . . [F]acing a sharp loss of revenue and employment . . . lawyers will instinctively respond in a sharp, protectionist manner . . . [L]awyers, as justice stakeholders, are at a choice point: either heed the changing justice needs of the two other justice stakeholders, courts and clients, or risk extinction. If lawyers are going to survive the ODR evolution and continue to play a central role in the delivery of justice, they

Without going into detail, we suggest that the same holds true for mediation and mediators: by their very nature, ODR systems will tend to refer cases to online, rather than in-person, mediation. If ODR systems deliver the goods, traditional mediators' contributions to access to justice will become marginal; even worse, they will be *measurably* marginal, given the data that ODR-infused court systems will collect and analyze.

While we don't anticipate the marriage of ADR and the court system to dissolve in an instant, we do not fool ourselves for one moment: Judges have often lauded mediation's overall positive societal effects, yet these were never the reason that courts granted mediation a foothold in their operations. The reasons were always "faster, cheaper, and off your docket." What happens when mediation is no longer the fastest, cheapest, and docket-kicking-est game in town? We believe many courts will respond by diminishing traditional mediation's footprint in their system. Cynical as it may sound, we have no doubt that over time, whether a year or ten is unimportant—and if we are cynical, we may as well be pessimistic to boot—the bonds between in-person mediation and the courts will weaken. Cases previously shunted to in-person court –ordered, –referred, –annexed, and –recommended mediation will be resolved through online processes. In-person mediation might come to serve as a final, rather than the first, off-ramp from the repaved highway to litigation. With this decrease in both activity and dependency, we anticipate that many longstanding court ADR programs will downsize or disappear.

Some of this, we suggest, is inevitable. Some of it can be avoided, however, if traditional mediation evolves; we suggest that technology can catalyze the necessary evolution. We stress, that in saying so, we are *not* referring to mediation morphing into online mediation. This will certainly be the road taken by some systems and many mediators. However, with our focus on in-person mediation, we suggest that this form of mediation must evolve through the use of technology. By doing so, it will be better able to interface with the ODR platforms that will soon be the new operating system of the court. Moreover, in-person will simply improve, and add value, *beyond* its current level of contribution, justifying its remaining a player even in an increasingly ODR-dominated environment.

Another point to consider, in anticipation of traditional mediation's role in the court system diminishing, is that this may not be a bad thing. Mediation's dependency on the court system has forced it into compromises and accommodations, some of which impinge on core mediation values. The need to find new markets, clients, and referral sources might be a long-needed "crisis-tunity" for reorienting and rejuvenating the field;[91] once again, we suggest that a technology-enhanced mediation profession is more fit to survive this evolutionary process.

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must be individually, at the bar association level, and as a profession, a constructive part of the process of incorporating ODR into the court.").

91. According to Homer Simpson, this is the term denoting the similarity (often highlighted by mediators and mediation teachers, even if it is not etymologically precise) between the Chinese symbols for "crisis" and "opportunity." *Simpsons: Fear of Flying* (FOX television broadcast Dec. 18, 1994). Closer to home, perhaps, is Peter Adler's belief that mediation will only truly come into its own once it is beyond the court system: "Brothers and sisters, the professionalization of mediation in our courts and other institutions will continue. You can place all your hopes and aspirations in those four walls if that is what you love. For me, that is the great seduction of the moment. I believe bigger, bolder opportunities lie ahead." Peter Adler, *The End of Mediation: An Unhurried Ramble on Why the Field Will Fail and Mediators Will Thrive Over the Next Two Decades!*, MEDIATE.COM (Apr. 2009), https://www.mediate.com/articles/adlerTheEnd.cfm.

Part III.D: Current Trends in Commercial Transactions

ODR's entry into the court system is the second step in a wider process, one which will further diminish traditional mediation's position as the default out-of-court dispute resolution mechanism. In an earlier phase, which paved the road for ODR's entry into the court system, privately-run commercial ODR proved itself capable of resolving incredibly high volumes of transactional disputes. The best-known system is eBay's Resolution Center, which annually addresses upwards of 60 million cases.[92] However, this is not the only ODR system operating at scale; Amazon, Alibaba, and other online marketplaces have their own online systems for resolving buyer/seller disputes. Commercial ODR is thereby rapidly becoming the go-to approach that global companies take to resolving conflicts; any market share that traditional mediation once held in those dispute-contexts is necessarily shrinking.

When opening a mediation process, we often ask parties whether they have heard of mediation or participated in it before. In the future, increasingly, parties are likely to have heard of mediation, and have a particular picture in mind of what it involves, based on their experience with court and consumer ODR. The differences between a technological online process and a non-technological traditional process will be stark and significant. With this prior experience as the bases for parties' expectations, face-to-face mediation will no longer be the default mediation process, but an alternative to it. Rather than being intrigued by the novelty of ODR offering "online ADR," parties will consider traditional mediation to be "offline ODR," and wonder why it has not joined the twenty-first century.

Facing market and substantive pressures posed by changing party preferences and by changes in the dispute resolution landscape, traditional mediation must adapt; above all, it must *improve*. Defensive posturing will no longer stave off contenders and critiques as effectively as in the past. For clients to prefer an in-the-room over an online experience, the in-the-room experience must offer significantly more value and better address clients' needs. We suggest that the path to connecting with our clientele and enhancing mediation's value for them leads through incorporating technology in in-person processes. Note that this entails finally severing the conflation of "technology" with "online," discussed above.

Traditional mediation faces significant challenges in the near future. With changing clients, changing client preferences, changing practitioners, and changes in the dispute resolution landscape, what can mediation do *but* change?

Other fields, such as law and healthcare, have—willingly or reluctantly—accepted change to differing degrees, and are resigned to accepting more in the future. Mediation has yet to do so. We recognize the challenges of doing so—change takes hard work, and change is scary. Still, we help parties face change in every mediation process we conduct, empowering them to cope with the fear and trepidation it triggers. We do so by supporting them emotionally as we help them to brainstorm and assess creative options that uniquely fit the issues they face. Turning that same capacity inward, the mediation field must reflect and seek out technology-driven change-paths that will improve the mediation process and significantly enhance parties' experience.

92. KATSH & RABINOVICH-EINY, *supra* note 20, at 35.

PART IV: BRIDGING THE GAP: TECHNOLOGY FOR IN-PERSON MEDIATION PRACTICE

Part IV.A: Bringing the Fourth Party Back into the Mediation Room

At an early phase of ODR development, Ethan Katsh and Janet Rifkin reconceived technology from being an occasional or incidental element in dispute resolution, to playing a regular and active role in it. They dubbed technology "the Fourth Party." With the evolution of ODR, as discussed above in Part I, the fourth party shifted from its earliest conceptualization as a traditional third party's best buddy and aide, to being viewed either as a *communication vehicle* allowing an online mediator to convene parties, or as a system *supplanting* traditional third parties for dealing with high-volume caseloads. In this Part, we essentially resurrect the fourth party's original conceptualization, bringing the fourth party back into the mediation room to support the traditional third-party mediator as she assists parties. It expands this conceptualization by pointing out that technology can assist traditional, in-person mediators not only in the room (through various forms of process support) but also more generally in their mediation-related activity (through various forms of practice support). In other words, the fourth party can help mediators in *developing and maintaining their practice* by filling roles that are not a part of a *mediation process with specific parties*. As third parties spend a lot of their time performing these tasks, it is only fair that the fourth party chip in and contribute what it can. To summarize the current state of affairs, most traditional mediators who use technology at all use it for practice support; the main purpose of this Article is to emphasize its uses for process support as well. However, we recommend that mediators consider incorporating technology for both purposes, and design their technological strategy in an overall and holistic way to align their practice and process. Our discussion of how to incorporate technology will therefore cover a wide span of topics, putting the fourth party to work as a mediator's partner in all aspects of her work.

Part IV.B: Incorporating Technology in Mediation: Models and Methods

We are aware that the best tools technology will contribute to mediation may not have been created yet. Additionally, we know that mediators working in different contexts, cultural locales, legal jurisdictions, or organizational frameworks might require different technological toolboxes. For that reason, in detailing how mediators can use technology we have chosen to present two starting points—one looking at roles technology can perform, and another dividing mediation activity into discrete areas and questioning how technology could improve each area. These are not the only useful models for helping mediators think about technology; simply, we seek to highlight how different entry-points to considering technology in mediation generate different fourth party assignments. Mediation professionals

can develop alternative perspectives suited to their own workflow, subjective experience of mediation's cycle,[93] mediation practices,[94] evolution with technology, contextual needs,[95] or way of addressing problems.

Part IV.B.1: Model #1 - Categories and Tasks

Collating discrete roles of the fourth party suggested in the literature and identifying others, Ebner has distinguished between three categories of roles:[96]

Administrative roles: The fourth party assists the third party to organize the process, keep participants focused, and provide everyone access to information.

Communication roles: The fourth party assists the third party to enable, facilitate, improve, and secure communication between parties, and between them and the mediator.

Substantive roles: The fourth party assists the third party to fully understand parties' needs, and to work with parties on solutions to the issue/s at hand.

Of course, roles and their categories should be developed in context.[97] In the context of this Article, we have stressed that technology can not only assist mediators working with parties at the table on a specific dispute, but also help practitioners with other aspects of their practice. Hence, we have identified a fourth category of roles:

Practice support roles: The fourth party helps the third party to promote her practice, manage her reputation, conduct outreach, and advance the mediation field through public education.

In the chart below,[98] we present some of the roles the fourth party can perform, broken down into these four categories. We stress that these are only a sample of possible tasks, and we hope to see more comprehensive lists develop as mediators apply technology in their practice. Many of the roles will be explained and exemplified in the next section.

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93. Ebner has used this to approach to map out potential uses for technology in negotiation (other than using it for interparty communication), identifying three phases of a cycle: "negotiators . . . go through a cyclic process which includes learning about negotiation in general, preparing for a specific negotiation, and conducting that negotiation . . . Reflection on this negotiation experience adds to the negotiator's general stockpile of knowledge, and the negotiator's cycle continues." Noam Ebner, *The Technology of Negotiation*, *in* THE NEGOTIATOR'S DESK REFERENCE 174 (vol. 2, 2017). This could be adapted to reflect mediators' cyclic experience.

94. For example, another model might involve a practitioner revisiting the breakdown into stages of the mediation process model they use, asking how technology can be helpful with each stage of the process.

95. See Cravens, *supra* note 11.

96. Noam Ebner, *Online Dispute Resolution: Applications for e-HRM*, *in* ENCYCLOPEDIA OF HUMAN RESOURCES INFORMATION SYSTEMS: CHALLENGES IN E-HRM 670 (T. Torres-Coronas & M. Arias-Oli va eds. 2008).

97. For example, the roles appearing in the three-category division in Ebner, *supra* note 97, describing ODR generically, was revised when compiled in the context of court ODR; *see* Ebner & Greenberg, *su pra* note 89, at 8-9.

98. Adapted from a chart originally presented in Ebner, *supra* note 97, and its revision in Ebner & Greenberg, *supra* note 89, at 8-9.

Practice Support Functions	**Administrative Functions**	**Communication-Related Functions**	**Substantive Functions**
Advertisement	*Intake Management*	*Providing parties affective support*	*Party Education*
Reputation enhancement	*Case filing*	*Conveying intersession party-mediator communication*	*Assessing parties' preferences and priorities*
Potential customer engagement	*Correcting mistakes*	*Conveying intersession interparty communication*	*Suggesting solution options*
Public education	*Automating reports to referral sources*	*Displaying visualizations*	*Evaluating solution options*
	Scheduling meetings	*Drafting and tracking documents*	*Predicting likely settlement or judicial outcomes*
	Generating due-date reminders		*Providing "elder wisdom" from similar cases*
	Storing and sharing data		*Facilitating mind-mapping &brainstorming*
	Managing office schedules and timetables		*On-the-spot information*
			Exploring options
			Reality-testing for BATNAs
			IPV screening
			Conflict Coaching
			Embedding agreements in blockchain

Fig. 1 Fourth Party roles in in-person mediation

Part IV.B.2: Model #2: Mapping Mediation Areas - from Core to Outskirts

Another way to model the application of technology in the practice of mediation involves identifying different areas of mediator activity and considering ways in which technology can be useful to each. As we have suggested, we can explore technology's use at the heart and the core of the mediation *process*, as we sit at the table with parties. We can also seek out ways it can be helpful in our *practice* activities, when parties are not present in the room, have not yet committed to mediation, have not yet engaged with us regarding mediation, have not yet heard about us, or have not yet heard about mediation.

The following figure encapsulates a number of those areas of mediator activity, using a set of concentric circles to designate areas ranging from the very core of the mediation process to the outskirts of mediation practice.

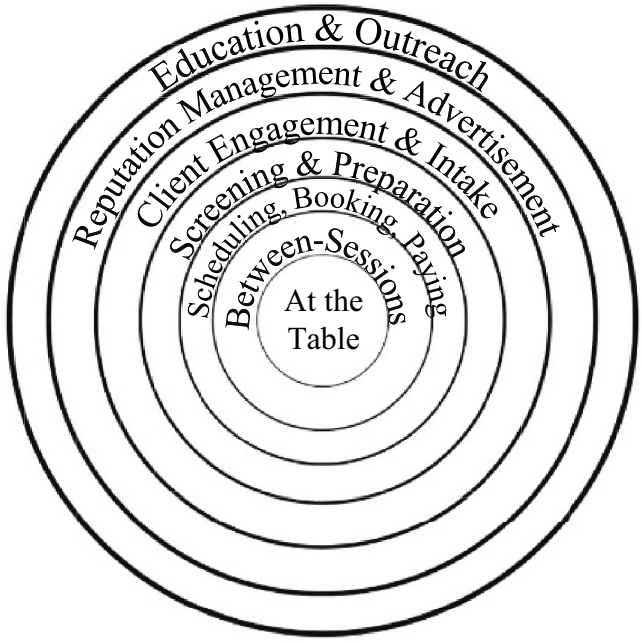

Figure 2. Areas of mediator activity, areas of fourth party support

We have chosen to break mediation practice down into seven broad areas of activity:

- At the table: The mediator interacts with parties at the table, jointly and/or separately, helping them to engage with each other and with the issue they seek to address.
- Between-session communication: Parties interact with each other and with the mediator regarding issues pertaining to the mediation before meeting for mediation and in-between mediation meetings.
- Scheduling, booking, paying: The mediator sets the "when," "where," and "how much" with all of the "whos" participating in the process, arranges for a venue, and handles financial matters.
- Party screening and preparation: The mediator interacts with parties, learning more about them and the case in order to assess the case's suitability for mediation as well as the parties' willingness. The mediator helps the parties arrive in the room ready and able to begin engaging with each other.
- Client engagement and intake: The mediator interacts with potential clients, provides them with more specific information about the process and

its practicalities, and explores the feasibility of providing services to specific clients.

- Reputation Management and Advertisement: The mediator spotlights her own value, achievements, and brand, to attract clients or referrals.
- Education and Outreach: The mediator engages (as many mediation practitioners do, to some extent) in educating the general public or specific audiences about mediation and its benefits.

Part IV.C: Putting the Fourth Party to Work: From the Outskirts to the Core

Technology can be helpful in all these areas of activity. Working from the core of process (the spheres in which there is currently the least application of technology) to the outskirts of practice (the spheres in which there is currently more evidence of technology at work), we present examples of potential technological innovation in each area.

Before we begin, we want to stress three points:

First, while we are pointing out a gap, we are not claiming to have invented the wheel. Some examples shared in this section are those we have developed or tried ourselves, others were generated in collegial conversations or workshops, and still others were suggested in the literature or implemented by a practitioner. We aim to provide examples and to generate further thinking, not to stake claims. However, we suggest that very few, if any, mediators are using many (to say nothing of "all") of these suggestions. If you find yourself reading about something you already do, rather than turning away, drop down a few lines, and read on.

Second, by demonstrating how technology *might* be incorporated in a sphere of mediation activity, we are not declaring that it *should* be used. Any application of technology, like any other process tweak or business decision, should be fully considered in context.

Third, as we brainstormed how mediators can increase their use of technology in in-person mediation, we did so with the mindset that technology is only warranted if it is the right tool to address a need or answer a problem. We are not arguing that mediators should adopt technology for technology's sake, rather, that they do so when it provides a solution to a problem, enhances a service, or meets a need.[99]

Part IV.C.1: At the Table

As we established in Part I, it is rare to encounter a mediator using technology while working with parties at the physical mediation table. In Part II, we showed how society, both personally and professionally, is becoming increasingly connected to information. In Part III we described how therefore clients and mediators

99. We adopt this problem-solving mind-set based on the framework legal innovators often cite: people, process, technology. The framework reminds innovators not to assume technology is always the answer. They are encouraged to ask: what do people need, what process will we use to analyze and understand that need, and is technology the tool to address that need? *See, e.g.*, Daniel W. Linna Jr., *What We Know and Need to Know About Legal Startups*, 67 S.C. L. REV. 389, 395-400 (2016).

might expect, or even demand, that technology become more integrated in mediation. Now, all this combined rubber hits the road, as we provide examples of how mediators can use technology in the physical mediation room.

Apps to support mediators at the table: With smartphones perpetually within reach, these devices could serve as a valuable asset to mediators. While many general business apps can be useful to mediators, such as note-taking and organization apps,[100] hardly any are tailored to mediation.[101] However, it requires but an easy stretch of the imagination to envision helpful apps for mediators providing quick access to helpful forms, checklists, and tools. Some examples of what such an app or apps might place in the mediator's palm right there at the table are: an opening statement checklist, agreement to mediate and/or confidentiality forms, party intake information forms, note taking platform, list of helpful mediator techniques or sample questions, calculator, calendar, mediator reports by jurisdiction, typical language for settlement agreements, surveys/evaluations, mediation log, and a self-reflection document.[102] Apps such as these may streamline the mediator's process, save time and image costs of leaving the room to root about in a file cabinet for a form, and address concerns (which we are familiar with from some volunteer mediation organizations) about mediators forgetting parts of the process or of its documentation.

Apps to support parties: Our perpetual connectedness can support parties as well. They might use an app to refer to information or to take notes. They might want to use apps that will support them in participating effectively in the mediation, such as a conflict coaching app.[103]

Recognizing/exploring emotions with wearable devices: Smart devices may not only support mediators and parties with apps but also provide windows into issues previously untapped or difficult to discern.

Wearable devices, such as smartwatches and fitness trackers, could be used to provide a trigger warning of a physiological reaction to stress. Parties sitting at the table may not be aware that stress, or physiological reactions to stress, are affecting their cognition. A smartwatch or fitness tracker could notify a party that he is experiencing a stress-related physiological response such as increasing heart rate. At this notification, the party might take steps to restore his equilibrium.[104] A mediation-focused app might send such notifications to mediators as well, allowing them to make process decisions, such as taking a break, or shifting into exercises or topics

100. S*ee, e.g.*, Alexander Stuehr*, 8 Top Mobile Apps for Mediators*, MEDIATE.COM (Oct. 2013), https ://www.mediate.com/articles/StuehrA1.cfm (describing eight business apps for mediators).

101. A Google and Google Play search for mediation apps results mainly in unrelated items, particularly related to "app mediation" (integrating your app with various advertising systems) and misspelled meditation apps. The majority of mediation-proper apps to be found are advertisement apps, comparable to a mediator having a website describing her services.

102. Although not in app form, various websites provide forms that mediators might find helpful. *See, e.g.*, Mediation Forms, MEDIATIONTOOLS.COM, http://www.mediationtools.com/forms/ (last visited Fe b. 12, 2019); Forms and Applications Used for Mediation, VA.'S JUD. SYS., http://www.courts. state.va.us/courtadmin/aoc/djs/programs/drs/mediation/forms/home.html (last visited Feb. 12, 2019).

103. Conflict Coaching apps exist and are currently available. *See e.g.*, CONFLICT COACH, https://confl ictcoachapp.com/ (last visited Feb. 12, 2019).

104. Such an app has been envisioned in the context of unmediated negotiations; see Ebner, *supra* note 94, at 184.

requiring parties to apply higher cognitive thinking, which is less prone to stress-triggered biases.[105]

Another application of wearable technology is using Google Glass (or other wearable camera and software combos) by parties, or by the mediator, to assist in reading and interpreting others' facial expressions.[106] One can imagine different ways in which parties or mediators, could use such information.

Smart assistants to support the mediator in the process: In Parts II and III we discussed how people are becoming accustomed to connected environments. At the mediation table, mediators could call upon a Google assistant to create reminders, or ask for future dates, as parties work on a payment plan, visitation schedule, or sunset provision.

Reality testing with legal analytics: As described in Parts II and III, the legal and healthcare industries are increasingly using big data and data analytics to support decision making and diagnoses. We have noted the value these can contribute, and also suggested that lawyers and parties might come to expect their use by mediators.[107] Indeed, mediators tending towards the evaluative side of the spectrum might be happy to base their evaluations on data analytics regarding litigation and settlement outcomes in similar cases. Moreover, mediators who consider themselves facilitative,[108] or practice in jurisdictions forbidding mediator evaluations, may find that referring parties to such tools takes them off the expectational hook of evaluation,[109] or that using it themselves, in the room, together with one or even both parties, provides parties with a helpful reality test or BATNA-assessment without clashing with their facilitative approach and perceived impartiality.[110]

Options generation with data analytics: Another application of data analytics to mediation would be using a settlement database to inform and support parties in the process of generating options. Once collected, confidential and anonymized information about settlements can be used to generate options for parties at impasse. While the idea of using previous settlements to generate options is not novel,[111]

105. Researchers have demonstrated how stress impacts decision-making, amplifies biases, and cognition. *See, e.g.*, DANIEL KAHNEMAN, THINKING, FAST AND SLOW (2011); Susanne Vogel et al., *Cognitive Adaptation Under Stress: A Case for the Mineralocorticoid Receptor*, 20 TRENDS IN COGNITIVE SCI. 192 (2016).

106. Software for visual identification of emotions is under development for video conferencing. *See, e.g.*, Olga Khazan, *This App Reads Your Emotions on Your Face*, ATLANTIC (Jan. 15, 2014), https://www.theatlantic.com/technology/archive/2014/01/this-app-reads-your-emotions-on-your-face/282993/. Software developed for Google Glass is already serving as a coach for identifying emotions; *see* Lisa Spear, *Google Glass Gives Children With Autism New Hope, Helps Them See Emotions*, NEWSWEEK (Aug. 3, 2018), https://www.newsweek.com/google-glass-helps-children-autism-see-emotions-1056317. Also see Ebner, *supra* note 94, at 184 (suggesting to utilize a similar tool in the context of negotiation).

107. *See* Elisabetta Fersini et al., *eMediation: Towards Smart Online Dispute Resolution*, KMIS (2014) (describing the use of data analytics in the ODR context).

108. *See* Leonard L. Riskin, *Understanding Mediators' Orientations, Strategies, and Techniques: A Grid for the Perplexed*, 1 HARV. NEGOT. L. REV. 7, 26-34 (1996).

109. *Id.*; *See, e.g.*, FLA. SUP. CT. RULE 10.370(c) stating that "[a] mediator shall not offer a personal or professional opinion intended to coerce the parties, unduly influence the parties, decide the dispute, or direct a resolution of any issue."

110. *See* Alyson Carrel, *Dismantling the "Facilitative" "Evaluative" Dichotomy: Reflecting on Riskin's Grid and Predicting the Future*, *in* DISCUSSIONS IN DISPUTE RESOLUTION: THE FORMATIVE ARTICLES (forthcoming 2020).

111. Federal magistrate judges in Illinois collected and shared data on settlements in order to assist parties who otherwise reached an impasse. *See* Morton Denlow & Jennifer E. Shack, *Judicial Settlement Databases: Development and Uses*, 43 JUDGES' J. 19 (2004).

technology could improve the options' diversity and power by basing them on a database collected at a national, or international, field-wide level.

Decision-making using paired comparison analysis software: Mediators use a variety of techniques to help parties assess their options, such as decision tree analyses.[112] Parties sometimes have difficulty comparing options, especially when they are non-quantifiable. Using decision-making software, mediators can help parties, individually or jointly, to input a complex set of non-quantifiable issues and options, which are then reformulated as a series of paired choices. Parties are asked series of questions pairing one option versus another, and simply need to identify which of the two options presented they prefer. After comparing all options against each other in pairs, the software can identify the option rising to the top as most preferred.[113]

Blind bidding: Sometimes, mediation comes down to a single number. Distributive negotiation over the sum of damages to be paid, or of the price of an item, is often inefficient and can even fail due to posturing, brinkspersonship, reactive devaluation, poor party bargaining skills, and/or a lack of mediator bargaining-management skills. When a single number must be settled, a mediator might spare parties the escalatory dynamics of bargaining by engaging them in a technology-assisted blind bidding process. Each party inputs an offer into a system which determines whether there is agreement, overlap, or a gap between the two offers. If there is an overlap, the system can decide its division, based on its programming. If there is no agreement, the system can encourage the parties to make another offer.

Interest valuation and prioritization, trade-off advice, and agreement optimizing: In disputes concerning more than one issue, software can assist parties to ascribe relative values to their interests and provide visualizations of the relative benefits of one potential agreement over another. Some platforms then recommend trade-offs and solutions for parties to accept or reject;[114] others offer to optimize even further the outcomes that parties have agreed on.[115]

Digital whiteboards for notetaking and agreement writing: Many people are familiar with digital whiteboards as a shared writing space in videoconferencing,[116] but they can be just as helpful for collaboration at the mediation table.[117] Digital whiteboards can be projected to ensure all parties can participate, with infinite space

112. *See, e.g.*, MARJORIE CORMAN AARON, CLIENT SCIENCE: ADVICE FOR LAWYERS ON COUNSELING CLIENTS THROUGH BAD NEWS AND OTHER LEGAL REALITIES 183-84 at n.4 (2012).

113. There a number of decision-making platforms marketed to businesses. *See, e.g.*, *Decision-Making Software*, 1000MINDS, https://www.1000minds.com/decision-making (last visited Feb. 12, 2019); SUPER DECISIONS, https://www.superdecisions.com/ (last visited Feb. 12, 2019); LUCIDCHART, https://www.lucidchart.com/pages/planning/decision-tree-examples (last visited Feb. 12, 2019).

114. See discussion of "Family Winner" in Emilia Bellucci & John Zeleznikow, *Developing Negotiation Decision Support Systems that Support Mediators: A Case Study of the Family Winner System*, 13 ARTIFICIAL INTELLIGENCE & L. 233 (2005).

115. Ernest Thiessen et al., *ODR and eNegotiation*, *in* ONLINE DISPUTE RESOLUTION: THEORY AND PRACTICE 353-55 2012 (describing the SmartSettle Infinity process).

116. Platforms such as Adobe Connect and Cisco WebEx provide digital writing spaces for parties to use and share with each other. *See, e.g.*, ADOBE, https://www.adobe.com/products/adobeconnect/learning.html (last visited Apr. 18, 2019); CISCO WEBEX, https://collaborationhelp.cisco.com/article/en-us/vwot6eb (last visited Apr. 18, 2019).

117. Digital whiteboards do not have to be embedded in video conferencing software but can be a physical object in the mediation room that captures information digitally. *See, e.g.*, Edward C. Baig, *Microsoft Unveils Surface Hub 2 Digital Whiteboard to Inspire Office Teamwork*, USA TODAY (May 15, 2018), https://www.usatoday.com/story/tech/talkingtech/2018/05/15/surface-hub-2-digital-whiteboard-smart-display-may-change-way-you-work/611815002/.

on which to write and draw. Ideas can be cut, pasted, and edited as they evolve, and ultimately they can make their way into an agreed-upon term sheet. Digital whiteboards can also be saved and shared electronically if parties or the mediator feel it would be helpful (and ethical) to do so.[118]

Part IV.C.2: Between-Session Communications

As we look at the concentric circles model and move farther away from the physical mediation interactions taking place in the room, we pass through realms in which we have encountered increased usage of technology by mediators. One of these is the realm of exchanging information via online media, which includes methods developed in the field of ODR. We share some of them here in the context of in-person mediation, given that our aim is not to distinguish "ODR Tools" from "In-Person Technological Tools" but rather to *close* the technological gap through exemplifying what a comprehensive suite of technological applications for in-person mediation might look like. Particularly, we focus on examples that reflect the next generation of parties' and mediators' interactional preferences with technology.

Some mediators have found it helpful to incorporate online communication between parties, or the use of specific platforms by parties, before, after, or in-between sessions of an in-person mediation. Some might dub this hybrid in-person/ODR;[119] we suggest that the use of technology should be a feature of *any* in-person mediation, rendering this designation moot. For example, a mediator might suggest parties be in contact with one another and with the mediator between sessions, via email or text messaging. She might assign them certain topics to discuss via these channels, ahead of the next meeting. She might provide guidelines for constructive interaction over such media and warn them of its pitfalls. In the family mediation context, new platforms, developed for divorcing or never-married parents to communicate about visitation and other child-related concerns within a single app, simplify and enhance their interactions.[120]

Between-session information-sharing: In an effort to increase efficiency, and help all parties focus on specific facts or documents as necessary, mediators can create a document-sharing site where all parties can upload and access information. This can be as simple as providing access to a Google Drive or Dropbox folder.

Between-session collaboration: Mediators can offer parties the use of collaborative word processing platforms such as Google Docs for drafting or filling out a

118. We note, that even the use of a low-tech whiteboard can be enhanced by the mediator taking a picture of it with their phone at various points in time and at the end of sessions.

119. *See, e.g.*, Susan Nauss Exon, *Ethics and Online Dispute Resolution: From Evolution to Revolution*, 32 OHIO ST. J. ON DISP. RESOL. 609, 615 (2017).

120. *See, e.g.*, OUR FAMILY WIZARD, https://www.ourfamilywizard.com/ (last visited Feb. 13, 2019) (a program that provides a communication interface and calendar that parents can use from within the app); *see Preparing Custody Schedules for Mediation*, CUSTODYXCHANGE.COM, https://www.custodyxchange.com/schedules/custody-schedule-mediation.php (last visited Feb. 13, 2019) (providing a software platform for divorcing or never married parents to create a visitation schedule, but yet the calendar has to then be printed out).

single document together, rather than dedicating time to this in a joint session.[121] [122]

Part IV.C.3: Scheduling, Booking, Paying

Service providers in many fields offer clients the ability to book appointments online, receive automated text reminders, and receive invoices automatically after service provision. Mediators can incorporate these business technologies—particularly suited to millennial consumers—to ease operations for their clients as well. Some mediators and large mediation service organizations have begun to list their availability online.[123] This provides parties insight into how long it might be before their mediator can schedule a mediation. Mediators can streamline the sometimes onerous process of finding convening times that suit the mediator, parties, and—as required—their attorneys or other participants, using meeting-scheduling software such as Doodle.

More advanced technology allows mediators to use AI to automate the process of scheduling meetings, based on all the parties' availability, and sending out email or text reminders, without any mediator intervention.[124]

Case management systems:

Several case management systems have been created especially for mediators or tweaked to accommodate mediators. These systems keep all information related to a given mediation, from intake forms to billing information to final agreements, in one place and make information easy to find. While individual mediators with small caseloads may have no need for such a system, firms and more active mediators should look into them and, indeed, many have.

Part IV.C.4: Party Screening and Preparation

Mediators can use technology to help parties prepare for their participation in mediation, as well as to conduct screening parties for intimate partner domestic violence.

Already, some mediators place information on their website suggesting how to effectively prepare for a mediation. Typically, these resources take the form of static text posing questions to consider when preparing. A mediation-tailored app could guide parties through a more robust preparation process, allowing them to chart their understanding of their conflict, consider their interests, and strategize for

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121. *See e.g.*, Jim Melamed, *Reading the Clouds – Secure File Sharing in ADR Cases*, MEDIATE.COM (Sept. 2011), https://www.mediate.com/articles/MelamedCloud.cfm; Julie M. Tolek, *Using Google Docs and Facetime for Mediation*, L. TECH. TODAY (Feb. 25, 2015), https://www.lawtechnologytoday.org/2015/02/google-docs-facetime-mediation/#disqus_thread.

122. We note, that many of these ideas were recommended long ago as enhancements to in-person mediation; however, this occurred at a time when shared online document storage was in its infancy and applications such as shared calendars, shared document editing, and the like were not yet available or not yet efficient. For examples, see KATSH & RIFKIN, *supra* note 10, at 125-32.

123. *See, e.g.*, NAT'L ACAD. DISTINGUISHED NEUTRALS, https://www.nadn.org/ (last visited Feb. 13, 2019).

124. The x.ai platform performs this task; *see* X.AI, https://x.ai/ (last visited Feb. 13, 2019); *but see* Hannah Kuchler, *The Rise of AI and Remote Assistants*, FIN. TIMES (Jan. 28, 2018), https://www.ft.com/content/6591a6fc-f7cf-11e7-a4c9-bbdefa4f210b (describing some of the limitations of the technology).

the upcoming meeting.[125] This would walk parties through preparation, rather than just describe how it could be done. An optimal technological aid for mediation preparation might take the form of an expert system.[126] An expert system for mediation preparation would ask a party a series of questions, the answers to which would guide the system's choice of the next questions. By the end of the preparation process, the party would not only have considered the questions they need to answer, but actually answered them in a structured manner, and received analysis and input from the system, beyond their own reflection.

Another use for expert systems lies in the area of intimate partner violence (IPV) screening. These screenings are critically important to ensuring the safety of parties, and yet mediators inconsistently conduct them.[127] Some mediators rely instead on parties to self-report, thereby missing some instances of IPV.[128] "[C]onsistent screening will help minimize confusion about what IPV is and how to handle cases where it is an issue."[129] Part of the challenge is mediators' lack of knowledge about what to look for. Screening tools have been developed to enable mediators to screen more consistently. A traditional screening questionnaire could be incorporated into an expert system that guides the mediator through the various questions to be asked, determining the next question based on the party's previous responses. The expert system can also provide analysis, and a recommendation to the mediator, at the end of the process. While no screening system is foolproof, having such a system readily available could increase the likelihood that mediators will do the screening, and accurately. Multiple mediators using the same form would allow the aggregation of information to shed light on the challenging questions of whether and how IPV cases should be mediated.[130] Another way to envision such a screening tool would be a self-administered questionnaire that parties respond to on a tablet, as part of the intake process, without mediator intervention. The system could flag cases meeting a threshold requiring mediator attention. Finally, such initial screening could be embedded in an overall party preparation app such as the one described above. Parties raising warning signs could then be directed to a more rigorous screening process.

125. For examples of existing preparation software programs for negotiation, see Ebner, *supra* note 94, at 174-75. Such programs could be incorporated into, or provide some basis for, mediation-part-preparation software.

126. Expert systems use artificial intelligence to replicate the decision-making process by asking a series of questions, the answers to which lead to unique follow up questions. *See, e.g.*, Lorelei Laird, *Expert Systems Turn Legal Expertise into Digitized Decision-Making*, A.B.A. J. (Mar. 17, 2016), http://www.abajournal.com/news/article/expert_systems_turn_legal_expertise_into_digitized_decision_making. But the concept of a legal expert system is over thirty years old. *See* Richard Gruner, *Thinking Like a Lawyer: Expert Systems for Legal Analysis*, 1 BERKELEY TECH. L.J. 259 (1986); Richard E. Susskind, *Expert Systems in Law: A Jurisprudential Approach to Artificial Intelligence and Legal Reasoning*, 49 MODERN L. REV. 168, 168-94 (1986).

127. *See* Amy Holtzworth-Munroe et. al., *The Mediator's Assessment of Safety Issues and Concerns (MASIC): A Screening Interview for Intimate Partner Violence and Abuse*, 48 FAM. CT. REV. 646, 648 (2010).

128. *See* Kelly Browe Olson, *Screening for Intimate Partner Violence in Mediation*, A.B.A. (June 29, 2017), https://www.americanbar.org/groups/dispute_resolution/publications/dispute_resolution_magazine/2013/fall/screening-for-intimate-partner-violence-in-mediation/.

129. *Id.*

130. *See* Holtzworth-Munroe, *supra* note 128, at 648.

Part IV.C.5: Client Engagement and Intake

In Parts II and III, we described how the millennial generation expects service providers to actively engage users online. Currently, in mediation, such activity is limited to online intake forms, in which mediators ask potential parties to describe their situation and provide relevant details and contact information.[131] In addition to these, mediators could use expert systems to determine if a situation is suitable for mediation, answer parties' questions, or help them to understand the mediation process. Using such a system, parties would not only submit information online, they would also receive immediate input from the system (e.g., whether their case is appropriate for mediation).[132] Such an expert system would reduce the amount of time mediators spend managing administrative aspects of their practice, and provide users the information they need without waiting for a return email or phone call.

Part IV.C.6: Reputation Management and Advertisement

One basic use of technology for supporting a mediation practice is creating and maintaining a website to advertise and market services. While some mediators rely on courts, large service providers, or mediation referral sites to serve as a proxy for their own individual web presence, many private mediators have established websites describing the benefits of mediation and of their services. Many mediators are active on social media, creating LinkedIn, Facebook, and Twitter accounts for their practice.

Investment in the creation of such online presence notwithstanding, recent research demonstrates that the public remains unfamiliar with the mediation process or knows that it exists at all.[133] One reason for this lack of progress in public awareness may be that mediators are not as effective in their ongoing web development as they could be. Technology is advancing at an increasing pace and the mediation field's online presence needs to advance as well.[134] Mediation websites could take advantage of better indexing and search engine optimization in Google, create more interactive forms and tools,[135] and invest more in back-end development, to increase the likelihood of people in conflict finding the website. Try looking at your website through the eyes of a millennial: Does it look like it was created ten years ago? Does it have overt evidence of recent content and activity? If someone wanted to cut to the chase and understand your business, would he need to click more than twice? Do your best to make your website convey a sense of up-to-dateness and

131. *See, e.g.*, Submit a Case, JAMS, https://www.jamsadr.com/about/submit-a-case (last visited Feb. 12, 2019).

132. Carrel created an online expert system for a local mediation center that a user can complete to determine if her case is appropriate for mediation according to this mediation center's policies, *see CCR Intake Flowchart*, ALYSON CARREL, https://www.alysoncarrel.com/significant-projects#ccr-intake-flowchart (last visited Feb. 12, 2019).

133. *See* Shestowsky, *supra* note 82.

134. This disparity between professionals *having* an online presence and being *effective* with that online presence was demonstrated when congressional leaders asked freshman congresswoman, Alexandria Ocasio-Cortez, to provide twitter lessons to her more senior colleagues. *See* Devin Dwyer, *Alexandria Ocasio-Cortez's Twitter Lesson for House Democrats*, ABC NEWS (Jan. 17, 2019), https://abcnews.go.com/Politics/alexandria-ocasio-cortezs-twitter-lesson-house-democrats/story?id=60443727.

135. *See infra* discussion in the previous three sub-sections with examples of expert systems, etc.

ongoing activity, and simple to navigate. Additionally, as discussed in Parts II and III, millennials place their trust in online reviews, not in experts. Consider how you might maintain an online reputation subject to reviews, such as through Google or Yelp.[136]

Part IV.C.7: Education and Outreach

Other emerging technologies might be able to raise awareness of mediation and of specific practitioners, beyond that offered by better websites. For instance, Facebook currently uses AI to identify certain words, phrases, and activities that might imply a user is having suicidal thoughts.[137] In those instances, Facebook responds proactively to try and save the user's life. One can envision a similar AI program identifying certain words, phrases, and activities online indicating a user in the midst of a conflict, needing support. In those instances, a program might provide literature about mediation services as a way to resolve conflicts.[138] Barring such initiative on the part of social media companies, private mediators and mediator providers could conduct targeted advertisement via social media, causing offers for mediation services to pop up on users' screens when they have used keywords related to conflict.

PART V. REVISITING CORE ISSUES, IMPASSES, AND CRITIQUES

Thus far, we have commented on how movement towards technology-enhanced process and practice by mediators and the field as a whole, can improve process and outcomes for individual parties, create efficiencies for practitioners, and enhance the field's appeal and viability.

We realize that we have provided individuals, and the field, enough to think about—and hopefully enough incentive to engage in such thinking—without needing to promise a pot of gold at the end of the rainbow. However, we did not want to end this Article without suggesting that the most significant ramifications of the mediation field embracing technology might lie further down the road, beyond those discussed in this Article.

Clay Shirky has commented that "Communications tools don't get socially interesting until they get technologically boring .... It's when a technology becomes normal, then ubiquitous, and finally so pervasive as to be invisible, that the really

136. *See, e.g.*, Casey C. Sullivan, *Attorneys with Online Reviews Are More Likely to Be Hired*, FINDLAW (Apr. 20, 2016), https://blogs.findlaw.com/strategist/2016/04/attorneys-with-online-reviews-are-more-likely-to-be-hired.html (stating that attorneys with an online review are more likely to get hired).

137. *See, e.g.*, Josh Constine, *Facebook Rolls Out AI to Detect Suicidal Posts Before They're Reported*, TECH CRUNCH, https://techcrunch.com/2017/11/27/facebook-ai-suicide-prevention/ (last visited Feb. 9, 2019); Natasha Singer, *In Screening for Suicide Risk, Facebook Takes on Tricky Public Health Role*, N. Y. TIMES (Dec. 31, 2018), https://www.nytimes.com/2018/12/31/technology/facebook-suicide-screening-algorithm.html; Benjamin Goggin, *Inside Facebook's Suicide Algorithm: Here's How the Company Uses Artificial Intelligence to Predict Your Mental State from Your Posts*, BUS. INSIDER (Jan. 6, 2019), https://www.businessinsider.com/facebook-is-using-ai-to-try-to-predict-if-youre-suicidal-2018-12.

138. There are clear ethical concerns with this example, but that won't stop a computational scientist from building the platform. *See* Kashmir Hill, *How Target Figured Out A Teen Girl Was Pregnant Before Her Father Did*, FORBES, (Mar. 31, 2016), https://www.forbes.com/sites/kashmirhill/2012/02/16/how-target-figured-out-a-teen-girl-was-pregnant-before-her-father-did/#2e9cfe036668.

profound changes happen."[139] Expanding that to include, more broadly, all collaboration tools (we think that Shirky, himself a researcher of online collaboration, would agree), we anticipate that once a sufficient number of mediators have incorporated technology in their work to the degree that technological approaches and language become caught up in the thinking patterns and discussion in our field, we will discover that technology offers opportunities to create forward momentum—or even creates such momentum itself—with regard to some of the field's deepest internal debates, some of the sharpest critiques of the field, and some of the anchors that have weighed the field down since day one. Each of these possibilities merits an article of its own. Given how we've already prevailed upon the goodwill of this Journal's Editors in terms of length (and of our readers, in terms of stamina), we will suffice with introducing several such Big Issues, providing abbreviated suggestions for how a technology-enhanced mediation field might see them advance.

Part V.A: Mediation Research & Trends

Mediation takes place largely in the dark. Little is known, other than anecdotally, about what happens in specific mediation processes, or in mediation processes in general. Beyond overall (and oft overwhelming) privacy concerns, other factors such as different formats of practice (community centers, large service providers, private practitioners, private practitioners mediating as part of another professional activity, etc., court-connected, and privately initiated cases) affect the types of data that is gathered and how it is shared. We doubt that anybody could put a number on very basic questions, such as: How many cases have been mediated this year overall? What states or cities saw the most, or the least, activity? How do the mediators of these cases break down in terms of gender, race, or other forms of diversity? How many people have received mediation training in any given locale? Certain data is more accessible than other, which leads us, perhaps, to focus on it disproportionately.[140] It is easy to conceive of ways in which technology can move the field past this point. Case management systems can be tailored to acquire data important to the field (e.g., demographics). Anonymized systems can aggregate this data from across a wide number of practitioners for researches to analyze. Similarly, anonymized and aggregated databases of cases and outcomes could comprise a resolution bank, helpful for mediation analytics. AI-assistants can conduct automated follow up with parties, casting light on questions about party satisfaction, longevity of mediated agreements, and more. Some initial collaborative efforts on this front have already formed;[141] a more technologized field could expand such efforts, providing the field a more detailed picture of its own activities.

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139. CLAY SHIRKY, HERE COMES EVERYBODY: THE POWER OF ORGANIZING WITHOUT ORGANIZATIONS 105 (2008).

140. For example, some courts keep and, depending on their approach to transparency, provide records of numbers of referrals, case dispositions, etc. Large mediation organizations might collect some data with regards to their cases. However, the field would be better off with wider data collection capacity, rather than needing to live with the assumption that the data it can collect is likely indicative of the whole.

141. For example, the company "Dispute Resolution Data" is collecting information about international commercial mediation. *See* DISP. RESOL. DATA, http://www.disputeresolutiondata.com/ (last visited Feb. 15, 2019). And the non-profit, "Resolution Systems Institute" provides research and analysis services to gauge the efficacy of mediation programs. *See* RESOL. SYS. INST., https://www.aboutrsi.org/ (last visited Feb. 21, 2019). *And see* FLA. SUP. CT. RULE 10.690(c) "Support of Mediation. A mediator

Part V.B: Evaluative & Facilitative Mediation

Over the course of the past decade, in particular, Leonard Riskin's suggestion that mediators operate across a spectrum from highly evaluative to highly facilitative, has morphed from a descriptive observation aimed at assisting parties to choose their preferred style of mediator to presenting a sharp, divisive line in the field. Stirring technology into the mix might alter the nature of this debate, and perhaps soften the dividing line. The question of whether or not mediators should provide case evaluations will necessarily be altered when legal analytics allow them to produce analytics of likely court outcomes, without these analytics being perceived as reflecting of their own opinion and bias, and perhaps, therefore, without undermining their role as a neutral facilitator.[142] We do not think this will immediately eliminate the dichotomy (by causing *all* facilitative mediators to begin providing analytics-based evaluations), but it would change the lines currently drawn. Facilitative mediators would need to rethink their objections to evaluation, considering whether perceived bias (oft noted as a significant consideration for avoiding evaluation) was indeed the driving reason for such objection, or whether other reasons underlie their approach. Evaluative mediators will need to reconsider the added value that they bring to the table, and whether they need to develop new sources of value, given that their expertise and knowledge might be dwarfed by those offered by a robust analytics platform. The debate may not disappear, but it will be fundamentally altered.

Part V.C: Neutrality

One of the field's oldest debates centers on the notion of neutrality regarding process outcomes: Do mediators have the responsibility to ensure fair, stable outcomes that are socially desirable for both the specific case and as precedent, as suggested by Professor Larry Susskind?[143] Or, does the very notion of mediators bringing a third set of interests into the mediation room undermine the essence of mediation and its potential, as suggested by Professor Josh Stulburg?

Professor Bernie Mayer has suggested that this debate persists because it is really a discussion about identity: Who are we as mediators? And—who are we not? [144] He suggests the debate be set aside to clear space for identity-discussions

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should support the advancement of mediation by encouraging and participating in research, evaluation, or other forms of professional development and public education."

142. For an early suggestion that "Solution-Set Databases," offering solutions based on types of problems or on previously achieved solutions, can do what mediators cannot do for fear of being perceived as biased or advocating for one party, see RULE, *supra* note 13, at 56-57. Rule did not pursue the direction of resolving the evaluative/facilitative impasse; rather, he suggested that this capacity could ultimately allow the 4th party to supplant the 3rd party altogether by using solution-set databases to resolve high-volume caseloads of largely similar cases. A couple of years after writing this, he began implementing this successfully at eBay.

143. *See, e.g.*, Joseph B. Stulberg, *The Theory and Practice of Mediation: A Reply to Professor Susskind*, 6 VT. L. REV. 85 (1981); Lawrence Susskind, *Environmental Mediation and the Accountability Problem*, 6 VT. L. REV. 1
(1981).

144. Bernie Mayer, *What We Talk About When We Talk About Neutrality: A Commentary on the Susskind-Stulberg Debate*, 95 MARQ. L. REV. 859, 865 (2012).

exploring the motivations for mediators' interventions, and the fundamental assets they bring to the table.[145]

Neutrality means many things to different people, in theory and in practice (not all directly related to the focus of this top-level debate). Additionally, neutrality can be broken down into discrete elements, allowing us to engage the topic as a whole or to discuss small corners of it.[146] And, finally, even if neutrality is an accepted core value in mediation, we think we all might agree to the following truisms with regards to neutrality in actual practice:

1. Some people find neutrality easier to maintain than others do.
2. We all find it easier to maintain neutrality regarding some issues as opposed to others.
3. Some parties challenge us more than others with regard to certain aspects of neutrality.

Having suggested laying the neutrality debate to rest, Mayer nonetheless recognizes its ongoing value, saying "…maybe we can dust it off every once in a while to see how we currently understand it."[147] Technology's entrance into the mediation process provides precisely such an opportunity to revisit neutrality. As with the evaluative/facilitative dichotomy, we anticipate it shifting the debate, rather than deciding it in any way.

How might technology affect issues of neutrality, large and small? At the big-picture debate level, we can envision including questions about parties' attitudes and preferences towards different aspects of mediator neutrality in the mediation preparation tools discussed above. Similarly, they can be asked directly whether they have any preferences for their outcome to align with fair, stable, efficient, and wise resolutions that have been reached in the past.

At the practice level, we can envision mediators using diagnostic software to assess their own tendencies with regards to neutrality—in general, or with regard to specific topics. Even more specific assessment at the case level could be embedded in case-management software, as part of the case-intake process. Mediators could then discuss neutrality in a more nuanced way rather than across-the-board; they could also engage in more nuanced *practice*, avoiding those practice areas or specific cases posing them severe neutrality challenges. In the mediation room, wearables capturing and analyzing information about vocal patterns and other physical symptoms might indicate to mediators that certain parties are triggering strong emotional responses from them, or that their behavior towards each of the two parties in the room is significantly different. Analyzing such data over time, the software could provide mediators with information on how they respond to different party or case types from a neutrality perspective.

145. *Id.* at 872.
146. *Id.* at 860-64.
147. *Id.* at 872.

Part V.D: Private Settlement v. Public Decisions & Power Imbalances

Since the beginning of ADR's significant growth in the courts, its critics have questioned the impact of private settlement on weak, marginalized, and economically disadvantaged populations, and on uncovering systemic abuse or discrimination.[148] With examples close to mind and to heart ranging from the notion of *Brown v. Board of Education*[149] being settled in a private room, to the #MeToo movement's spotlight on settlement's role in silencing complaints,[150] private settlement has never shaken concerns about structurally weaker parties feeling unfairly pressured to settle, being taken advantage of by stronger parties or unethical neutrals, lacking access to legal information,[151] and having their social injustices buried under confidentiality. Traditionally, the debate between private vs. public settlement has been framed as either/or: private settlements preclude public awareness while public decisions deny privacy. Each has benefits, but you cannot have both. Their deep concern for social justice notwithstanding, mediators are fiercely protective of confidentiality and self-determination. Can technology bridge the two, leaving them whole? Two mechanisms come to mind, suggesting that others could be developed.

We have noted how the healthcare industry successfully collects data via EHRs in a manner protecting individuals' privacy while still informing public health policy and decision-making through anonymized large datasets.[152] Such a system would go a long way, if not the whole way, towards providing a helpful degree of transparency. Similarly, some college campuses employ technology allowing sexual assault survivors to file formal complaints, yet keep their identity and complaint private until such time as a *second* survivor informs the system of a similar assault.[153] We can envision a similar anonymized database with tripwires protecting privacy and confidentiality of mediation processes and outcomes, yet alerting a regulatory body, or even the public, if a predetermined threshold was crossed. Even after the threshold was crossed, certain information about the case would remain

148. *See generally* Owen M. Fiss, *Against Settlement*, 93 YALE L.J. 1073 (1984); Harry T. Edwards, Commentary*, Alternative Dispute Resolution: Panacea or Anathema?*, 99 HARV. L. REV. 668 (1986); Laura Nader*, The ADR Explosion-The Implications of Rhetoric in Legal Reform*, 8 WINDSOR Y.B. ACCESS TO JUST. 269 (1988), Trina Grillo, *The Mediation Alternative: Process Dangers for Women*, 100 YALE L.J. 1545 (1991); BERNARD S. MAYER, BEYOND NEUTRALITY: CONFRONTING THE CRISIS IN CONFLICT RESOLUTION 160-67 (2004).

149. Brown v. Bd. of Ed., 347 U.S. 483 (1954).

150. *See, e.g.*, Ronan Farrow, *Harvey Weinstein's Secret Settlements*, NEW YORKER (Nov. 21 2017), https://www.newyorker.com/news/news-desk/harvey-weinsteins-secret-settlements. Some states are passing laws to protect victims from harms associated with private settlements in sexual harassment and assault cases by allowing NDAs at the request of survivors only, and some are banning NDAs entirely. *See* Stacy Perman, *#MeToo Law Restricts Use of Nondisclosure Agreements in Sexual Misconduct Case s*, L.A. TIMES (Dec. 31, 2018), https://www.latimes.com/business/hollywood/la-fi-ct-nda-hollywood-20181231-story (describing the benefits and challenges of these laws).

151. Grillo, *supra* note 149, at 1592.

152. *See* Menachemi & Collum, *supra* note 59.

153. Callisto is a "non-profit that creates technology to detect repeat perpetrators of professional sexual coercion and sexual assault." *See* CALLISTO, https://www.projectcallisto.org/ (last visited Feb. 5, 2019). For more about Callisto and why a technological approach may be beneficial to survivors *see* Anjana Rajan et al., *Callisto: A Cryptographic Approach to Detecting Serial Perpetrators of Sexual Misconduct*, CALLISTO (Mar. 29, 2018), https://www.projectcallisto.org/callisto-cryptographic-approach.pdf.

confidential and private,[154] whereas information about the crossing of the threshold would be divulged. Such a system might have divulged the growing sexual assault problem in Hollywood, or in a particular production company, without divulging the details of specific settlements. Similarly, technology can be used to educate and inform people about their legal rights, mediation analytics can suggest solutions that are do not reflect power imbalances, and field-wide agreement monitoring systems might provide red flags.

Part V.E: Improving the Tree & Handling Bad Apples

Another persistent challenge the field faces regards mediator certification, performance quality, and ethics.[155] While some states and organizations have mediator certification standards,[156] and national organizations have tried to institute guidelines for training and certification,[157] many states and organizations lack a certification mechanism or a mechanism through which mediators can be effectively disciplined, or disciplined at all.[158] In some states, parties have no recourse for addressing mediator misconduct.[159] A public database of mediators and mediation agreements might shed light on individual mediator misconduct or on correlations between types of training and types of conduct.

A major challenge pertaining to all these areas is our commitment to confidentiality.[160] Certainly, this is a sacred hallmark of the mediation process and characteristic of its professionals; however, the same is true for other professions, and they have seen fit to adjust their stance toward confidentiality. We have seen governments create regulations to protect that data.[161] Similar protections can be put in place to ensure confidentiality safeguards for parties, while simultaneously reaping the benefits of harnessing big data.

Part V.F: Public Awareness (or Lack Thereof)

Since its early inception, the lack of public awareness of the mediation field, its process, and its benefits has hindered its success. Mediators have addressed this at the individual, group, and fieldwide level, but although the terms "mediation" or

154. Rajan et al., *supra* note 154, at 12.

155. *See generally* Art Hinshaw, *Regulating Mediators*, 21 HARV. NEGOT. L. REV. 163, 188 (2016).

156. *See, e.g.*, FLA. SUP. CT. RULE 10. For a listing of certification requirements (or lack thereof) in all 50 states, *see Court-Certified Mediator Qualification Requirements in the US*, LEGAL STUD. MASTER'S DEGREES, https://legalstudiesms.com/learning/court-certified-mediator-qualification-requirements/ (last visited Feb. 21, 2019).

157. *See, e.g.*, Hinshaw, *supra* note 156, at 188-92 (describing efforts by the American Bar Association Section on Dispute Resolution and the Association for Conflict Resolution to provide standards and guidelines on mediator certification).

158. *Id.* at 173-78.

159. *Id.* at 190 (describing California's strict interpretation of the California Evidence Code, Section 1115 which provides no exception to the confidentiality of mediation communications for attorney misconduct and could be extended to include mediator misconduct as well). *See* Chodosh v. Trotter**,** 2017 WL 4020447 (4th Dist., 2017). *But see* FLA. SUP. CT. RULE 10.800 Good Moral Character; Professional Discipline (providing a process for reporting and disciplining professional misconduct).

160. *See* MODEL STANDARDS, *supra* note 64, at STANDARD IX.

161. For example, Europe enacted the General Data Protection Regulation (GDPR), one of the most sweeping regulations to protect individual data privacy. *See* The *General Data Protection Regulation* (EU) 2016/679.

"win-win" occasionally enjoy fashionable buzzword status, little has fundamentally changed.[162] Bringing technology to bear on this persistent challenge might tip the scales. New media might disseminate mediation stories and successes, new advertisement modes might target people who are in conflict yet do not know to look for a mediator, and new educational methods can reach broad populations.[163]

CONCLUSION

Up until now, the mediation field has been largely unaffected by the technological changes rendering upheaval in many other fields. Technology is seen as largely irrelevant to the mediation process; most mediators engage with technology, if at all, to assist in running their business, but not to add value to the services their clients receive.

However, what worked yesterday is unlikely to work tomorrow. To remain appealing and relevant to the parties and potential mediators of tomorrow, mediation needs to invite the fourth party back into the mediation room and make technology a partner in its activities. Technology can assist mediators in many ways beyond providing a website and an email address. Some of these are simple and intuitive, such as scheduling software and case management platforms, and we find some mediators already using them. Other fourth-party roles are largely unexplored, such as neutral case evaluator, conflict coach, public policy watch dog, and domestic violence screener. The extensive list of potential technological applications to mediation compiled in this Article are but examples. What else might be out there, possible, yet waiting to be invented; or existing, yet waiting to be applied? If you are a practitioner, we invite you to pick up this gauntlet through experimentation. If you are a researcher, we invite you to assess these experiments, laying foundations for evidence-based adoption of technology. If you are a teacher, we invite you to unlock the floodgates by posing to your students a question you have likely not asked them before*: As a mediator, how would you put technology to work for you?*

Using technology would enable us to better engage our parties, provide them access to information they require, help them analyze it, and provide them a more robust understanding of their options for resolution. With all this possible, how can we *not* use technology, and still consider ourselves within the realm of ethical or optimal practice?

On the other hand, we fully recognize that bringing technology into the mediation process itself will necessarily change it. The process of change, and its extent, needs to be engaged intentionally, deliberately, and mindfully. It may require that we re-examine the boundaries in which we practice mediation. It may require us to revisit our views on professional ethics. It may require that we update our model standards of conduct to reflect a more modern understanding of the world in which we practice and the clients we seek to help. It may require us to reconsider and

162. *See* Shestowsky, *supra* note 82 (showing that in 2018, as always, the public has little idea about the existence of mediation or its availability and benefits to resolve their dispute).

163. For discussion of educational opportunities offered via technology with the potential to reach broad audiences, *see* Noam Ebner, *Negotiation and Conflict Resolution Education in the Age of the MOOC*, 32 NEGOT. J. 231 (2016) (describing Ebner's experience teaching a Massive Open Online Course on negotiation. Over 2,000 participants registered for the course, and that is not considered a particularly large MOOC.).

update our confidentiality standards. Combined, all these are likely to have an impact on our overall understanding of what it means to provide a quality mediation process. This will require revisiting, and perhaps updating, mediator competency standards, and, more generally, rethinking the content of mediator education in academic training and in academic programs.

We think that the processes of considering mediation as a technology-assisted profession, and of implementing the resulting changes, will yield significant benefits. It will not only rejuvenate the field, it might help us make progress on some of our deepest internal impasses. It can contribute to mediation advancing as an evidence-based field. It will require the field to look outward and inward in a collaborative process that manifests the Model Standards' requirements that mediators "participate in outreach education efforts to assist the public in developing an improved understanding of, and appreciation for, mediation . . . work together with other mediators to improve the profession and better serve people in conflict."[164] Technology, incorporated wisely into the activities of the mediation field, might provide the keys enabling us, at once, to unlock the ineffable barriers that have frustrated public awareness of mediation, and to help parties to deal with conflict better than we have ever done before.

164. *See* MODEL STANDARDS, *supra* note 64, at STANDARD IX.