Preface

Technology permeates every aspect of our lives, and the field of dispute resolution is no exception from this movement. As law professors and dispute resolution practitioners with extensive backgrounds in law, technology, and dispute resolution, we have witnessed firsthand the transformative potential of digital tools in preventing and resolving conflicts. This book, *Digital Dispute System Design*, is our endeavor to provide a comprehensive guide for law students, public policy students, and any learners interested in integrating technology into dispute prevention and resolution systems with a holistic and well-grounded approach.

Dispute resolution, as we define it, encompasses a broad spectrum of processes, including not only litigation but a range of alternatives: arbitration, mediation, negotiation, ombuds programs—and everything in between and beyond. We also include dispute prevention systems in this book, as more attention should be paid to these vital processes. Processes within a system may be broad and include a spectrum of options. Each of these processes has its unique characteristics and challenges, and the advent of digital technologies offers new opportunities and complexities. Our goal is to explore these opportunities and provide a foundational analysis that equips readers with the knowledge and skills to design, and redesign, effective digital dispute systems. Note that we are careful to include an analytical framework as well as an ethical framework. Both are important in system design.

The rapid pace of technological advancement means that the landscape of law and technology is constantly evolving. As highlighted in Chapter 1, this book seeks to provide a foundational understanding that will remain relevant despite changes in technology. We explore the principles and frameworks that underpin digital dispute system design, offering insights that will help readers navigate the complex intersections of law and technology. By understanding these foundational concepts, readers will be better prepared to adapt to future developments and innovations.

We have structured this book to be accessible and engaging for a diverse audience. Whether you are a law student seeking to understand the implications of technology in legal practice, a public policy student interested in the regulatory aspects of digital dispute systems, a business startup exploring AI innovations, a human resources manager seeking to design a system for managing conflict, or a practitioner looking to enhance your dispute resolution toolkit, this book offers valuable perspectives and practical guidance. We have included case studies, real-world examples, and thought-provoking questions and exercises to stimulate critical thinking and encourage deeper exploration of the topics covered. Indeed, the

Teaching Materials included with the book will provide additional exercises and sample syllabi. We understand that some instructors will adopt only part of the book or otherwise need to adapt the materials for a variety of courses. This book may be the sole book used in an online dispute resolution (ODR) or dispute system design (DSD) course, or as a supplement in whole or in part to any dispute resolution, public policy, or human resources course.

As you will see, we hope to encourage learners to consider the broader implications of integrating technology into systems vital to problem solving. How can we ensure that these systems are fair, accessible, and effective? What ethical considerations must we address? How can we leverage technology to enhance, rather than undermine, the human elements of dispute resolution? These are some of the questions we hope to explore together in this book.

In Part I, we set forth foundational considerations. This includes an introductory Chapter 1 and Chapter 2, in which we explain the role of technology in conflict creation, prevention, and resolution. We discuss the innovation paradox and how technology can act as the fourth party in dispute prevention and resolution (wherein the disputants are the first and second parties, and an intervening neutral is the third party). We also explore the concept of humans being in, on, or out of the loop in dispute resolution processes, and the implications of each scenario. Additionally, we examine how technology can improve or impede access to justice.

Chapter 3 provides an in-depth look at the technological tools currently available in the problem-solving toolbox. We cover various communication technologies, such as computer-mediated communication (CMC) through text and video, and their applications in dispute resolution. We also explore the potential of generative AI, including tools like OpenAI's ChatGPT, Google's Gemini, and Microsoft's Copilot, in assisting with dispute resolution. Furthermore, we discuss legal retrieval augmented generation (RAG) systems, rule- and case-based expert systems, natural language processing (NLP), optical character recognition (OCR), the metaverse, and blockchain technology, as well as their respective uses in dispute resolution. Of course, the tools available will evolve, so this is not meant to be a static consideration.

In Chapter 4, we look at the theories of conflict and conflict resolution. We discuss various models of conflict resolution, negotiation strategies, the role of third-party interveners, and disputant preferences. We also explore the origins and key terms of dispute system design (DSD), its application within and beyond organizations, guiding principles, and the overarching goal of delivering justice.

Chapter 5 focuses on an analytic framework for dispute system design. We discuss the importance of setting goals, identifying stakeholders, understanding context and culture, and designing processes and structures. We also cover the resources needed for successful dispute system design, as well as the importance of accountability and continuous learning. Additionally, we explore the building blocks of system design, including processes for preventing, managing, and resolving conflict, and the use of online dispute resolution.

Part II of the book addresses regulations and ethics. In Chapter 6, we discuss the challenges of implementing digital dispute systems, including financial, political, and human factors. We also cover soft law, with a focus on ethical standards and

guardrails. Chapter 7 gives a snapshot of the laws and regulations governing AI and technology that may impact digital dispute systems, including the AI Act in the European Union, federal, state, and local legislation, executive orders in the United States, and directives in Canada.

Part III presents case studies that illustrate the application of digital dispute systems in various contexts. The chapters in this part cover a wide variety of innovative approaches and technologies in dispute resolution and legal processes. Chapter 8 discusses Online Arbitration (OArb) in consumer cases, emphasizing its efficiency and accessibility for resolving low-value disputes. Chapter 9 examines California's Civil Arbitration Rules (CAR) for real estate, highlighting their role in streamlining property-related conflicts. Chapter 10 addresses communication challenges in co-parenting arrangements, focusing on tools and strategies to reduce conflict and improve collaboration. Chapter 11 introduces the Civil Resolution Tribunal (CRT), a pioneering online tribunal in British Columbia that handles small claims and strata disputes. Chapter 12 explores the Cyberjustice Laboratory's technological advancements aimed at modernizing court systems. Chapter 13 looks at e-commerce disputes, emphasizing the need for scalable and user-friendly resolution mechanisms. Chapter 14 investigates blockchain-based courts and platforms like Kleros, which use decentralized juries for adjudication. Chapter 15 considers the emerging concept of metaverse hearings, where virtual environments are used for legal proceedings. Finally, Chapter 16 analyzes mass arbitration claims under the American Arbitration Association (AAA) rules, focusing on procedural adaptations for handling large volumes of similar claims efficiently.

Part IV provides discussion and analysis of the observations and threads that flow through Parts I through III. This includes consideration of the theory, law, and analytical framework applied to the case studies. We include serious consideration of the lessons learned in using our digital dispute system design analysis in the real world in light of regulatory and ethical changes. We bring together the materials and include an ethical framework to consider in tandem with the analytical framework. This includes considering areas ripe for bot resolutions or bot mediation, and the importance of data-driven design. We emphasize the importance of creating a framework for the future of conflict prevention and management, as the technology continues to progress faster than the human regulation.

Throughout this book, we emphasize key themes such as data collection and ownership, cross-cutting analysis with law and technology professionals, the balance between private and public interests, the interdisciplinary nature of the labor force, enforcement and compliance with standards and regulations, funding, and the importance of user-centric and human-centric design in dispute system design.

The key themes in this book include:

1. **Integration of Technology in Dispute Resolution:** Exploring how digital tools can be used in various dispute resolution processes, including litigation, arbitration, mediation, negotiation, and ombuds programs.
2. **Foundational Analysis for Dispute System Design:** Providing an analytic framework for designing effective dispute systems, including setting goals,

identifying stakeholders, understanding context and culture, and designing processes and structures.

3. **Accessibility and Engagement:** Making the content accessible and engaging for a diverse audience, including law students, public policy students, and practitioners.

4. **Ethical Considerations and Regulations:** Addressing ethical standards and guidance, particularly the concept of "ethical by design" in using AI and other technologies in dispute resolution. Also, considering regulatory challenges of implementing digital dispute systems, including financial, political, and legal limits.

5. **Technological Tools:** Examining various technological tools and their applications in dispute resolution, such as computer-mediated communication, generative AI, legal retrieval augmented generation systems, expert systems, natural language processing, optical character recognition, the metaverse, and blockchain technology.

6. **Theories of Conflict and Conflict Resolution:** Discussing various theories and models of conflict and conflict resolution, as well as the principles and frameworks of dispute system design.

7. **Case Studies:** Presenting real-world case studies to illustrate the application of digital dispute system design in various contexts, both in the face-to-face world and the digital world.

8. **Data-Driven Design:** Emphasizing the importance of data collection, ownership, and data-driven design in creating effective dispute systems.

9. **Interdisciplinary Collaboration:** Highlighting the need for cross-cutting analysis and collaboration between law and technology professionals.

10. **User-Centric Design:** Stressing the importance of user-centric and human-centric design in dispute system design to ensure fairness, accessibility, and effectiveness.

These ten themes collectively aim to provide readers with a comprehensive understanding of how to integrate technology into dispute prevention and resolution systems, and of the broader implications of doing so.

We are excited to share our insights and experiences with you and look forward to the innovative solutions and ideas that you, as current and future practitioners and leaders, will bring to the field of digital dispute system design.