

Development of Artificial Intelligence, Legal Technology and Online Dispute Resolution in Hong Kong Legal and Alternative Dispute Resolution Industries

SO Man Kit, Albert^{1,2,3}

(1. Stanford University, USA; 2. University of California, USA; 3. California State University, USA)

Abstract: Legal technology, commonly known as (“LegalTech”), is the application of technology within the legal industry. It includes the use of Artificial Intelligence (“AI”), software and online platforms that enable lawyers, judges and other Alternative Dispute Resolution (“ADR”) professionals (e.g., mediators, adjudicators and arbitrators) to work efficiently and effectively.

LegalTech and Online Dispute Resolution (“ODR”) have both been gaining popularity globally, and Hong Kong is no exception. In recent years, there has been a significant increase in the use of LegalTech and ODR in Hong Kong (including tools on case management, Legal Chatbots, E-discovery software, online legal platforms, electronic signature software, predictive analytics tools, contract review tools etc.). The use of legal technology has been driven by different factors, including the growing demand for legal services, the need for efficient and effective legal processes, and the desire to remain competitive in the global market.

Although the LegalTech development is constantly evolving, and new tools and platforms are emerging all the time, providing law firms as well as ADR organizations with more opportunities to improve their efficiency and accuracy, there are also significant challenges of implementing legal technology in Hong Kong. By analyzing and studying the risks and challenges, legal and ADR industries can take appropriate measures to mitigate them and ensure that the industries can provide high-quality legal services to the clients.

This research paper aims to explore the development of legal technology and Online Dispute Resolution in Hong Kong, its benefits, opportunities, challenges, legislative requirements and limitations. It will also discuss and present recommendations on the use of technology in Hong Kong law firms and ADR institutions.

Research methodologies include literature review, survey (legal, ADR and technology industries) and different case studies. Research findings would be analyzed, evaluated and presented in this research paper.

Key words: legal technology, artificial intelligence, online dispute resolution (ODR), arbitration/mediation/adjudication

JEL code: K0

1. Introduction

Legal technology, commonly known as “LegalTech”, is the application of technology in the legal and alternative dispute resolution (“ADR”) industries. It includes the use of software, electronic tools, artificial intelligence (AI) systems and digital platforms that enable court judges, lawyers, researchers, paralegals, and/or other legal related professionals (including mediators, arbitrators) to work efficiently and effectively. LegalTech has been gaining popularity globally, and Hong Kong is no exception. Hong Kong is one of the leading common law jurisdictions and ADR centers in the world, and legal industry is a critical component of its economy. This research paper will explore the development of legal technology in Hong Kong, its opportunities, challenges, as well as survey results in current industry and recommendations for future development.

2. Development of LegalTech in Hong Kong

The legal industry in Hong Kong has been relatively slow in adopting technology compared to other sectors such as finance and logistics (e.g., FinTech and Uber). However, in recent years, there has been a significant increase in the use of legal technology in Hong Kong. The use of legal technology has been driven by several factors, including the growing demand for resolving cross-border disputes, the need for efficient and effective legal processes during COVID-19 period, particularly in the areas of online dispute resolution (“ODR”) and international arbitration. The use of legal technology has enabled law firms and ADR institutions to handle complex legal matters more efficiently, which has increased their capacity to handle more clients.

2.1 Examples of Legal Technology Tools Used in Hong Kong

There are several examples of legal technology tools that are being used in Hong Kong by law firms, ADR institutions, legal professionals, and clients. Some of the most common legal technology tools used in Hong Kong include:

- 1) **Case management software:** Case management software is used by Hong Kong law firms (or ADR institutions) to manage and organize their cases. This software allows law firms to track case progress, monitor deadlines, and manage documents and evidence.
- 2) **Document management software:** Legal document management software is used to organize and store legal documents. It allows Hong Kong law firms to securely store and manage their sensitive documents, making them easier to access and share information with clients and internal colleagues.
- 3) **E-discovery software:** E-discovery software is used to identify, collect, and analyze electronic data. It is often used in civil litigation, client due diligence, corporate investigations to help law firms find relevant information quickly and efficiently.
- 4) **Artificial intelligence (AI) tools:** Artificial intelligence tools are used to analyze and process large volumes of data by machines learning and algorithms. They are often used, inter alia, in contract review and legal research, allowing law firms to predict or provide more accurate and efficient legal services in cost effective manner.
- 5) **Chatbots/Online legal platforms:** Chatbots and Online legal platforms are becoming increasingly popular in Hong Kong law firms (or ADR institutions), providing clients with access to legal services

online on a 7 × 24 basis. These platforms allow clients to access legal advice and services from anywhere, at any time, making legal / ADR services more accessible and convenient.

- 6) **Electronic signature software:** E-signature software is used to sign and authenticate electronic documents. It allows clients and legal professionals to sign documents electronically, eliminating the need for paper-based signatures and making the signing process more efficient.

These are just some examples of the legal technology tools being used in Hong Kong. The legal technology industry is constantly evolving, and new tools and platforms are emerging all the time, providing law firms (or ADR institutions) with more opportunities to improve their efficiency, accuracy, and access to legal services.

3. Background of ODR in Hong Kong

Hong Kong is known for its strong legal system, with a well-established court system and alternative dispute resolution mechanisms such as mediation and arbitration. However, traditional dispute resolution mechanisms can be time-consuming, expensive, and complex. In recent years, there has been a growing demand for more accessible and efficient dispute resolution mechanisms, which has led to the development of ODR in Hong Kong.

Online dispute resolution (ODR) is a process of resolving disputes through online platforms and technology. ODR has been gaining popularity globally as a way to resolve disputes more efficiently and effectively. In recent years, Hong Kong has been developing its ODR framework to provide a more accessible and convenient way to resolve disputes. The Hong Kong government has been actively promoting the use of ODR as part of its “Digital 21” strategy¹, which aims to develop Hong Kong's digital economy. In 2018, the government launched an electronic platform, which provides a one-stop-shop for businesses to resolve disputes online. The platform offers a range of ODR services, including negotiation, mediation, and arbitration.

4. Artificial Intelligence in Hong Kong Legal/ADR Industry

Artificial intelligence (AI) has been increasingly used in the Hong Kong legal industry in recent years. AI technologies can help lawyers and legal professionals to streamline their work processes, reduce repetitive tasks, and improve the accuracy and efficiency of legal services.

One of the main areas where AI is being used in the Hong Kong legal industry is in document review and analysis. AI tools can be used to quickly scan and analyze large volumes of legal documents, such as contracts, agreements, and case law, to extract relevant information and insights. This can save lawyers and legal professionals a significant amount of time and effort, allowing them to focus on more complex tasks.

Another area where AI is being used is in legal research. AI-powered search engines can help lawyers and legal professionals to quickly find relevant information and cases, saving them time and improving the accuracy of their research.

AI is also being used in the Hong Kong legal industry for “predictive” analytics. By analyzing past cases and legal trends, AI tools can help lawyers and legal professionals to predict the likely outcome of a case or dispute, enabling them to make more informed decisions and develop better legal strategies.

¹ Available online at: <https://www.sheto.gov.hk/filemanager/content/press/en/2007/2008%20Digital%20Strategy%20Leaflet.pdf>.

4.1 Examples of AI Tools Used in Hong Kong's Legal Industry

Here are some examples of AI tools used in the Hong Kong legal industry:

- a) **Contract review and analysis tools:** These tools use natural language processing (NLP) and machine learning algorithms to analyze contracts and extract relevant information. For example, they can identify clauses that may be problematic or require further review, such as termination clauses or indemnification provisions.
- b) **E-discovery tools:** These tools use AI to analyze large volumes of electronic data, such as emails, documents, and social media posts, to identify relevant information for a case. They can also help to identify patterns or trends in the data that may be relevant to the case.
- c) **Predictive analytics tools:** These tools use machine learning algorithms to analyze past cases and legal trends to predict the likely outcome of a case or dispute. This can help lawyers, legal or ADR professionals to develop better legal strategies and make more informed decisions.
- d) **Legal research tools:** These tools use AI-powered search engines to quickly find relevant case law, statutes, and other legal documents. They can also help to identify relationships between cases and legal concepts, making it easier to conduct thorough legal research.
- e) **Chatbots:** Some law firms or ADR institutions in Hong Kong are using chatbots to provide basic legal advice and support to clients. These chatbots use NLP and machine learning algorithms to understand clients' queries and provide relevant information and resources.

These are just a few examples of the AI tools being used in the Hong Kong legal industry. As AI technology continues to evolve, we can expect to see even more innovative uses of AI in the legal industry in the future.

4.2 How Do These AI Tools Affect the Legal Industry in Hong Kong?

The use of AI tools in the legal industry in Hong Kong has had a significant impact on the way legal services are delivered, and the benefits of these tools are becoming increasingly clear. Here are some ways in which AI tools are affecting the legal industry in Hong Kong:

- 1) **Increased efficiency:** AI tools can help to automate repetitive tasks such as contract review and legal research, freeing up lawyers' time to focus on more complex tasks. This can help to increase the efficiency of legal services and reduce the time it takes to complete tasks.
- 2) **Improved accuracy:** AI tools can help to improve the accuracy of legal services by reducing the risk of human error. For example, AI-powered contract review tools can identify problematic clauses that may be missed by human reviewers.
- 3) **Cost savings:** By automating repetitive tasks and reducing the time it takes to complete tasks, AI tools can help to reduce the cost of legal services. This can make legal services more accessible to a wider range of clients.
- 4) **Better decision-making:** Predictive analytics tools can help lawyers and legal professionals to make more informed decisions by analyzing past cases and legal trends to predict the likely outcome of a case or dispute.
- 5) **Innovation:** The use of AI tools in the legal industry is driving innovation and creating new opportunities for lawyers and legal professionals to provide better, more efficient services to their clients.

4.3 Development of AI Tools in the Legal Industry

Despite the aforementioned adoption, the use of AI tools in the legal industry is still in its early stages, and there is a lot of potential for further development and innovation in this area. Here are some ways that the use of AI tools in the legal/ADR industry may evolve in the future:

- a) **Increased automation:** As AI technology continues to improve, it is expected to see more tasks in the legal industry being automated, such as legal document drafting, due diligence, and compliance monitoring.
- b) **Greater personalization:** AI tools will become more personalized to individual lawyers and law firms, allowing them to customize and tailor these tools to their specific needs and workflows.
- c) **More advanced natural language processing:** Natural language processing (NLP) technology will continue to improve, allowing AI tools to better understand and interpret legal documents and language, and improving their accuracy and efficiency.
- d) **Increased use of chatbots and virtual assistants:** Chatbots and virtual assistants will become more prevalent in the legal industry, providing clients with more efficient and accessible ways to communicate with their lawyers and access legal services.
- e) **Integration with other technologies:** AI tools will become more integrated with other technologies such as blockchain, cloud computing, and the Internet of Things (IoT), allowing for more efficient and secure data management and analysis.

5. Opportunities

5.1 Opportunities of Legal Technology, ODR and AI in Hong Kong

The adoption of LegalTech/ODR/AI in Hong Kong presents several opportunities for businesses, individuals, ADR and the legal industry.

Firstly, LegalTech can improve access to justice. Many people in Hong Kong, especially those in remote or rural areas, may face challenges in accessing traditional dispute resolution mechanisms. ODR provides a more convenient and accessible way to resolve disputes, making it easier for people to access justice.

Secondly, LegalTech and ODR can improve efficiency and reduce costs. Traditional dispute resolution mechanisms can be time-consuming and expensive, requiring parties to attend multiple hearings and pay for legal fees. ODR allows parties to resolve disputes more efficiently, reducing costs and saving time.

Thirdly, LegalTech and ODR can improve cross-border dispute resolution. Hong Kong is a global business hub, and many businesses operating in Hong Kong may have international operations. ODR can provide a more efficient and effective way to resolve cross-border disputes, reducing the complexity and costs associated with traditional dispute resolution mechanisms.

6. Challenges

6.1 Ethical considerations of LegalTech and AI in the legal industry

The use of LegalTech (particularly “AI”) in the legal industry raises a number of ethical considerations that need to be addressed in order to ensure that these technologies are used in a responsible and ethical manner. Here are some ethical considerations that arise with the use of LegalTech/AI in the legal industry:

- 1) **Bias and discrimination:** AI algorithms can be biased if they are trained on unrepresentative or incomplete data. This can result in discriminatory outcomes, such as the over-representation of certain groups in legal proceedings or the denial of access to justice for marginalized communities.
- 2) **Privacy and data protection:** The use of AI in the legal industry requires the collection and processing of large amounts of personal data. This raises concerns around privacy and data protection, and the need to ensure that this data is handled in a responsible and ethical manner.
- 3) **Transparency and accountability:** The use of AI in the legal industry can create a lack of transparency and accountability, as it can be difficult to understand how AI algorithms are making decisions or to hold them accountable for their outcomes.
- 4) **Professional responsibility:** Lawyers / ADR practitioners have a professional responsibility to provide competent and ethical professional services to their clients. The use of AI tools raises questions around how lawyers/ADR practitioners can fulfill this responsibility when using technology to assist them in their work.
- 5) **Access to justice:** While the use of AI in the legal industry can improve efficiency and reduce costs, it may also create barriers to access to justice for those who cannot afford to use these technologies or who do not have access to them.

Overall, it is important to ensure that the use of LegalTech and AI in the legal industry is guided by ethical principles and that these technologies are used in a responsible and accountable manner. This requires ongoing research, discussion, and collaboration between legal professionals, technology experts, and other stakeholders to develop best practices and guidelines for the ethical use of AI in the legal industry.

7. Research, Empirical Survey, Interview and Statistics

7.1 Statistics on Legal Technology Adoption by ADR Industry in Hong Kong

The objective of survey is to obtain useful empirical data from different stakeholders in legal and ADR community for the adoption of legal technology in Hong Kong. The empirical data obtained shall support the quantitative analysis of this research and the literature review.

7.2 Methodology

Survey questionnaire was prepared and issued through an online survey platform that consists of questions based upon the research findings in literature review to address the research objectives. The survey was designed to include these areas: (i) background; (ii) types of disputes adopting legal technology; (iii) opportunities and challenges faced by the practitioners; and (iv) recommendations. The survey was issued through colleagues from different legal and ADR institutions such as colleagues in Hong Kong Mediation and Arbitration Centre (HKMAAC), The Law Society of One Belt One Road (LSOBOR), AC Lawyers LLP, Wealth Succession Planning Association, various consultants, contractors, specialists, academics, service users in H.K. or overseas. The results are used as quantitative analysis that would be supplemented by the qualitative analysis and literature review to give useful research findings. Among the total of 382 respondents, their backgrounds are summarized as follows:

- a) Legal professionals, e.g., solicitors, barristers, law firm staff and other legal specialists- 1st highest %.
- b) Dispute resolution practitioners, e.g., arbitrators, mediators, adjudicators or ADR practitioners – 2nd highest %.
- c) Academic staff, IT/technology consultants and service users – 3rd highest %.

[Note: participants may choose more than one background to reflect the legal technology industry characteristics.]

7.3 Members of Hong Kong Mediation and Arbitration Centre (HKMAAC)

Here are the statistics conducted through Hong Kong Mediation and Arbitration Centre (HKMAAC)² on the use of legal technology (in mediation/arbitration industries) for resolving different types of disputes:

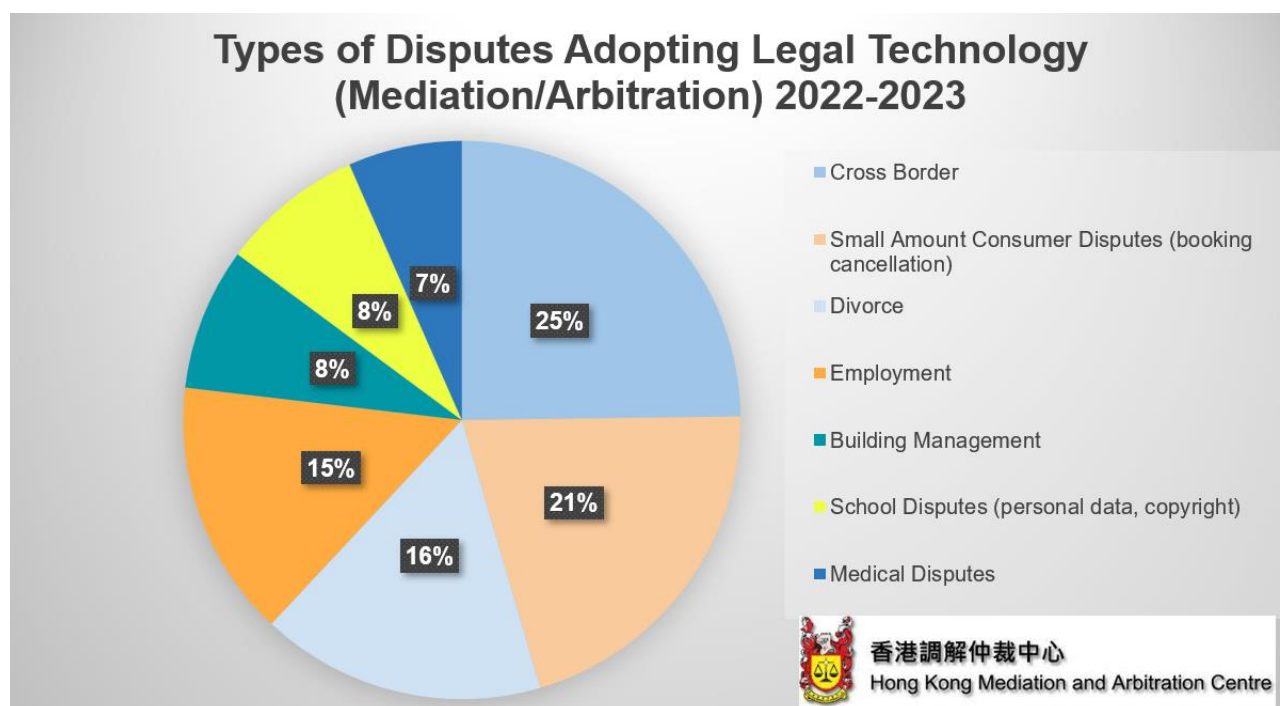


Figure 1 Survey on Types of Disputes Adopting Legal Technology (Including Chatbots, AI, ODR Platform, Settlement Agreement Generators, Electronic Document Submission Platform etc.) By Mediators in Hong Kong

Types of Disputes	Description
Cross Border	Disputants located in different jurisdictions
Small Amount Consumer Disputes	Consumer disputes (e.g., cancellation of venue or travelling bookings due to widespread of COVID-19) with amount below HK\$10,000
Divorce	Divorce couples residing in different jurisdictions when commencing divorce legal proceedings
Employment	Disputes involving “Work-from-Home” arrangement; termination of employment contract due to COVID-19 infection of employees
Building Management	Disputes involving meeting arrangements of incorporated owners of building under COVID-19 situation
School	Copyright disputes or issues of personal data collection due to online class
Medical	Medical complaints due to tele-medicine consultation

7.4 Members of The Law Society of One Belt One Road

In addition, the following are the statistic results conducted through the Law Society of One Belt One Road (LSOBOR)³ on the opportunities and challenges regarding the use of legal technology in Hong Kong for law

² Hong Kong Mediation and Arbitration Centre (HKMAAC) is one of the first ADR institutions in Hong Kong which adopts legal technology in mediation/arbitration processes, available online at: <http://www.hkmaac.org>.

³ Available online at: <https://m.facebook.com/p/%E4%B8%80%E5%B8%B6%E4%B8%80%E8%B7%AF%E5%BE%8B%E5%B8%AB%E6%9C%83-Law-Society-of-One-Belt-One-Road-10007763516144/>.

firms and ADR institutions:

7.5 LegalTech in Hong Kong: Opportunities

The adoption of legal technology in Hong Kong presents several opportunities for law firms, ADR institutions, legal professionals, and clients as follows:

- 1) Over 82% of survey respondents expressed that the legal technology can enable law firms (or ADR institutions) to improve their efficiency and productivity. By automating routine tasks such as document submission and contract management, law firms can reduce the time and effort required to complete legal tasks, allowing them to handle more clients and increase their revenue.
- 2) Over 68% of survey respondents expressed that legal technology can improve the accuracy and quality of legal services. By using artificial intelligence and machine learning algorithms, law firms (or ADR institutions) can analyze large volumes of data and provide more accurate legal advice to their clients. This can help clients to make better-informed decisions and reduce the risk of legal disputes.
- 3) Over 55% of survey respondents expressed that legal technology can improve access to legal services. By using online platforms and tools, law firms (or ADR institutions) can provide legal services to clients who may not have access to traditional legal services, such as those of overseas, remote or rural areas. This can help to democratize access to legal services and ensure that everyone has access to legal advice and representation.

7.6 LegalTech in Hong Kong: Challenges

Despite the opportunities presented by legal technology, there are several challenges facing its adoption in Hong Kong:

- 1) **Awareness:** around 66% of survey respondents expressed that there is still a lack of awareness and understanding of legal technology among legal professionals in Hong Kong. Many legal professionals in Hong Kong are not familiar with the latest legal technology tools and platforms, which can make it difficult for them to adopt these technologies in their practices.
- 2) **Data Privacy:** 62% of survey respondents expressed that there are concerns about the security and privacy of data when using legal technology. Law firms (or ADR institutions) in Hong Kong need to handle very sensitive and confidential information, and there is a risk that such information might be compromised when using unsecured legal technology. This can make it difficult for law firms to adopt legal technology, particularly if they are not confident in their ability to protect their clients' sensitive data.
- 3) **Regulatory Challenges:** Over 50% of survey respondents expressed that there are regulatory challenges facing the adoption of legal technology in Hong Kong. Like many overseas common law jurisdictions, the legal industry in Hong Kong is heavily regulated, and there are concerns that the use of legal technology may violate these regulations (or code of conducts) unintentionally. Law firms need to ensure that they comply with all relevant regulations when using legal technology, which can be challenging given the rapidly evolving nature of legal technology.
- 4) **Resistance to change from current practice:** 45% of survey respondents expressed that one of the biggest challenges associated with implementing legal technology in Hong Kong is resistance to change. Many legal professionals are accustomed to traditional methods of legal practice and may be hesitant to adopt new technologies. This can make it difficult to implement legal technology across the industry.

- 5) **Cost:** 39% of survey respondents expressed that implementing legal technology can be expensive, particularly for smaller law firms or solo practitioners. The cost of software, hardware, and training can be a significant barrier to adoption.
- 6) **Lack of standardization:** 30% of survey respondents expressed that there is currently a lack of standardization in the legal technology industry in Hong Kong. This can make it difficult for law firms/ADR institutions to choose the right technologies and ensure compatibility between different systems.
- 7) **Education and training:** around 28% of survey respondents expressed that legal technology requires specialized knowledge and training, which may not be readily available in Hong Kong. Law firms/ADR institutions need to invest in education and training to ensure that their staff can effectively implement and use legal technology.
- 8) **Access to technology:** 20% of survey respondents expressed that there may be issues with access to technology, particularly in remote or rural areas. Law firms/ADR institutions need to ensure that they have access to the necessary hardware and software to effectively implement legal technology.
- 9) **Technical issues:** 19% of survey respondents expressed that legal technology tools and platforms can sometimes be prone to technical issues, such as system failures, bugs, and software glitches. These technical issues can lead to errors in legal work, delays in completing tasks, and potential liability for law firms and clients.
- 10) **Human errors:** 16% of survey respondents expressed that even with the most sophisticated legal technology, human errors can occur. This can include errors in data entry, coding, and programming, which can lead to incorrect legal advice and potentially costly mistakes.
- 11) **Incompatibility:** 12% of survey respondents expressed that legal technology tools and platforms may not be compatible with other systems or software used by law firms. This can lead to issues with data transfer, data loss, and other technical problems.

Surveys and interviews have also been conducted through AC Lawyers LLP⁴ (law firm) and Wealth Succession Planning Association⁵ (professional trust corporation) on the use of legal technology:

Questions	% of positive answer ("Yes")	% of negative answer ("No")
Q1: Whether the survey respondents have used any legal technology in daily work.	89%	11%
Q2: Whether the respondents have used any use e-discovery tools.	60%	40%
Q3: Whether the respondents have used any document automation tools.	59%	41%
Q4: Whether the respondents have used any legal research tools.	55%	45%
Q5: Whether the respondents have used any case management software.	50%	50%
Q6: Whether the respondents have used any contract management software.	47%	53%
Q7: Whether the respondents have used any machine learning or AI tools.	32%	68%

The above survey suggested that the use of technology in the legal related industry in Hong Kong is

⁴ Available online at: <http://www.aclawyersllp.com>.

⁵ Available online at: <http://www.trust-wealth.org/>.

relatively widespread, with many legal professionals using a variety of technology tools to enhance their work.

8. Legislation and Literature Review

As of the date of this research, there are no specific laws or legislation in Hong Kong concerning the development or use of LegalTech and artificial intelligence (AI). The interpretation of AI-related legal issues will therefore need to draw from some other existing laws and regulations in the fields of (1) constitutional law, (2) intellectual property, (3) data privacy, (4) discrimination, and (5) competition law.

8.1 Constitutional Law and Fundamental Human Rights

Human rights in Hong Kong are enshrined in the Basic Law of the Hong Kong Special Administrative Region (the “Basic Law”) and the *Hong Kong Bill of Rights Ordinance* (Cap. 383)⁶ (the “BORO”). The BORO incorporates provisions of the *International Covenant on Civil and Political Rights*⁷ (“ICCPR”) into the laws of Hong Kong. Non-exhaustive constitutional provisions protecting human rights, which may be adversely affected by the improper uses of AI:

8.1.1 Right to Privacy

The use of AI as a forecasting and profiling tool often involves collecting and processing large amounts of personal data.

Article 30 of the *Basic Law*⁸ protects the freedom and privacy of communication of Hong Kong residents, whereas Article 14 of the BORO provides that “no person shall be subjected to arbitrary or unlawful interference with their privacy, family, home or correspondence”.

8.1.2 Freedom of Person and Movement

Where AI is applied to facial-recognition technology for border control and the prevention and detection of crime, the risk of mis-identification may encroach upon the freedom of person and movement.

The freedom of person is protected by Article 28 of the Basic Law and Article 5 of BORO, which prohibits the arbitrary or unlawful arrest, search, detention or imprisonment. Article 31 of the Basic Law and Article 8 of the BORO confer freedom to move within and to leave Hong Kong.

8.1.3 Right to Equality

The increasing use of AI in algorithmic decision-making may also produce unintentional, discriminatory results, for example in the contexts of hiring practices and insurance pricing.

The right to equality is protected by Article 25 of the Basic Law and Article 22 of the BORO. At a statutory level, there are a number of legislations in Hong Kong that give horizontal effect to the right to equality, which are addressed below under the discrimination section.

8.1.4 Freedom of Speech, of the Press and of Publication

Another application for AI is the moderation of online content, such as hate speech and violent content. In view of technical limitations such as incomplete datasets and nuances in language and culture, automated moderation may pose a threat to freedom of expression.

In Hong Kong, the freedom of speech, of the press and of publication, are protected by Article 27 of the

⁶ Available online at: <https://www.elegislation.gov.hk/hk/cap383>.

⁷ Available online at: <https://www.ohchr.org/en/instruments-mechanisms/instruments/international-covenant-civil-and-political-rights>.

⁸ Available online at: <https://www.basiclaw.gov.hk/en/basiclaw/index.html>.

Basic Law and Article 16 of the BORO. As mentioned, Article 30 of the Basic Law also protects freedom of communication.

8.1.5 Human Rights Decisions and Conventions

There is currently no case law in Hong Kong concerning human rights violations relating to AI. If a legislative or executive act made by a public body (or a body exercising a public function) is suspected of violating human rights, then a person with sufficient interest in the matter may challenge the constitutionality of the act by judicial review at the Court of First Instance of the High Court. However, judicial review is limited to matters of a public nature.

8.2 Intellectual Property

The most relevant forms of protection for AI based solutions in Hong Kong are offered by patent registration and copyright (for which no registration is required). Confidential information can also be a useful form of protection for AI as it is less vulnerable to reverse engineering. It may be possible to protect AI-generated works by patent and copyright, although the ownership of such rights is uncertain at present. Similarly, where the use of AI is claimed to infringe on third-party intellectual property rights, the AI itself will unlikely be held liable, and the person ultimately responsible will depend on the rules of liability under tort laws as well as the contractual relationship of the parties involved.

8.2.1 Patents

A key instrument to protecting AI is by obtaining patent registration under the *Patents Ordinance (Cap. 514)*⁹. AI-related inventions are patentable if they are new, involve an inventive step, and are susceptible of industrial application.

Under the *Patents Ordinance*, the right to a patent normally belongs to the inventor, who must be identified in the patent. With no statutory guidance or case law in Hong Kong regarding the inventor of AI-generated inventions, the Hong Kong Court will likely adopt the position in the UK and other common-law jurisdictions and conclude that the AI itself lacks the necessary legal personhood to be considered as the inventor. Therefore, the invention and right to the patent will likely belong to the AI creator or their employer if made in the course of the creator's normal duties of employment.

8.2.2 Copyright

AI which is integrated into the source code can be protected by copyright as a computer program, being a form of literary work under the *Copyright Ordinance (Cap. 528)*¹⁰. Unlike patents, there is no requirement for registration of copyright in Hong Kong, as copyright will arise automatically if the work is original and recorded in material form. Copyright in literary works lasts for 50 years from the end of the calendar year in which the author dies.

With respect to AI-generated works, the Copyright Ordinance provides that the author of computer-generated works is taken to be the person by whom the arrangements necessary for the creation of the work are undertaken, and this person will also be the first owner of the copyright. Subject to legislative and judicial guidance, the author of an AI-generated work may well be the original programmer, owner, or user of the AI. It is unclear at the moment whether works generated autonomously by AI can satisfy the requirement of "originality", meaning that the work involved the author's skill, labour and effort.

⁹ Available online at: <https://www.elegislation.gov.hk/hk/cap514>.

¹⁰ Available online at: <https://www.elegislation.gov.hk/hk/cap528>.

Separately, infringement issues may arise in the use of copyright materials, such as newspaper articles and photographs, in the process of training AI. The Copyright Ordinance provides for exhaustive forms of fair dealing exceptions to infringement instead of a non-exhaustive “fair use” approach. Currently, there is an exception to fair dealing for the purpose of research, but not specifically for training AI or for text and data mining.

8.2.3 Trade Secrets/Confidentiality

AI contents may be protected as confidential information by the common law and equitable action of breach of confidence. The elements of this action are:

- the information has the necessary quality of confidence, meaning it involves a minimum intellectual effort and is not public property or public knowledge;
- the information was imparted in circumstances importing an obligation of confidence; and
- there was an unauthorised use of that information to the disclosing party.

Although the threshold for this form of protection may be lower than for patent and copyright, it does not forbid a party from using confidential information which is acquired by independent means. Thus, the strength of protection of AI as confidential information will depend on the AI’s complexity and the extent to which it is vulnerable to reverse engineering.

8.3 Data Privacy

The privacy of individuals in relation to personal data is also protected by the *Personal Data (Privacy) Ordinance (Cap. 486)*¹¹ (“PDPO”). PDPO is the main legislation in Hong Kong regulating the collection, use, transfer, processing and storage of personal data. It applies to data users who control the collection, holding, processing or use of personal data in or from Hong Kong and is enforced by the *Privacy Commissioner for Personal Data* (“PCPD”). The PDPO distinguishes between a “data user” and “data processor”.

The PDPO does not specifically address the legal issues of AI. However, the PCPD recently published a “*Guidance Note on the Ethical Development and Use of AI*”¹² (“AI Guidelines”) in August 2021. While the AI Guidelines are not legally binding, the PCPD may take non-compliance with these guidelines into consideration when determining whether any person has contravened the PDPO.

The AI Guidelines are principle-based, drawing from the reports, frameworks, and guidelines of the European Commission, OECD, UNESCO. Nevertheless, the AI Guidelines do contain some bright-line, practical guidance on the interface between AI and data protection:

8.4 Discrimination

In Hong Kong, there is currently no AI-specific anti-discrimination legislation. The use of AI in certain protected areas (e.g., employment, education, provision of goods, services or facilities, disposal or management of premises etc.) will be governed by the existing anti-discrimination ordinances, namely, *Sex Discrimination Ordinance (Cap. 480)*¹³, *Disability Discrimination Ordinance (Cap. 487)*¹⁴, *Family Status Discrimination Ordinance (Cap. 527)*¹⁵ and *Race Discrimination Ordinance (Cap. 602)*¹⁶.

Under the anti-discrimination ordinances, there are essentially two types of discrimination — direct and

¹¹ Available online at: <https://www.elegislation.gov.hk/hk/cap486>.

¹² Available online at: https://www.pcpd.org.hk/english/resources_centre/publications/files/guidance_ethical_e.pdf.

¹³ Available online at: <https://www.elegislation.gov.hk/hk/cap480>.

¹⁴ Available online at: <https://www.elegislation.gov.hk/hk/cap487>.

¹⁵ Available online at: <https://www.elegislation.gov.hk/hk/cap527>.

¹⁶ Available online at: <https://www.elegislation.gov.hk/hk/cap602>.

indirect discrimination. “Direct discrimination” occurs where a person is treated less favourably than another person in the same or not materially different circumstances on the ground of any of the “protected attributes” (i.e., sex, marital status, pregnancy, breastfeeding, disability, race or family status), whether or not it is the dominant reason. The intention of the discriminator is irrelevant. For example, if a firm uses AI to screen out candidates of a particular race, this will give rise to direct race discrimination.

“Indirect discrimination” occurs where (i) a requirement or condition is applied equally to all but a smaller proportion of persons with a protected attribute can comply with the condition or requirement; (ii) the condition or requirement is not justifiable; and (iii) the person who cannot comply with the requirement suffers a detriment.

For instance, if an employer uses an “algorithmic” decision-making system to make promotion decisions and this gives rise to the application of a condition or requirement where a smaller proportion of female employees can comply and so fewer female employees are promoted, then this may give rise to indirect sex discrimination, unless the employer can justify that requirement or condition. In determining whether a condition or requirement is justifiable, the Court will consider whether the objective is legitimate, whether the means used to achieve that objective is reasonable and look at balancing the impact on the individual against the reasonable needs of the AI-user (e.g., the employer).

In certain particular contexts, for example an employment context, employers will also need to ensure that the use of AI does not contravene employment-related protection. These include ensuring that members of a trade union are not discriminated against on the grounds of trade union activities (which is protected under the *Employment Ordinance (Cap. 57)*¹⁷ and they do not discriminate against a person on the basis of a spent conviction which is protected under the *Rehabilitation of Offenders Ordinance (Cap. 297)*¹⁸.

8.5 Competition Laws

In Hong Kong, competition is primarily regulated by the *Competition Ordinance (Cap. 619)*¹⁹, which is largely influenced by and modelled some overseas legislation. The Hong Kong Competition Commission²⁰ (“HKCC”) and the Competition Tribunal are responsible for enforcing the Competition Ordinance (“CO”) and imposing sanctions for contravention of the provisions in the Competition Ordinance respectively.

8.5.1 AI Related Anti-Competitive Behaviour

The emergence of AI and machine learning is starting to impact antitrust enforcement globally. For the purposes of the Competition Ordinance, issues may arise in relation to what has come to be described as “algorithmic collusion”, which might be explicit collusion where several competitor undertakings adopt a common pricing algorithm, or tacit where independent self-learning machines somehow “learn” to collude.

This phenomenon was considered in the UK case involving online sales of posters and frames (*the Trod’s case, CMA Case 50223, Online sales of posters and frames, 12 August 2016*)²¹, where online retailers relied on automated repricing software. It was held by the Competition and Markets Authority that the parties had infringed competition law by participating in an agreement not to undercut each other prices. Given the approach to information exchange under the CO, the use of algorithms is an area which might well attract the attention of

¹⁷ Available online at: <https://www.elegislation.gov.hk/hk/cap57>.

¹⁸ Available online at: <https://www.elegislation.gov.hk/hk/cap297>.

¹⁹ Available online at: <https://www.elegislation.gov.hk/hk/cap619>.

²⁰ Available online at: <https://www.compcomm.hk/>.

²¹ Available online at: <https://assets.publishing.service.gov.uk/media/57ee7c2740f0b606dc000018/case-50223-final-non-confidential-infringement-decision.pdf>.

HKCC in the future.

Competition concerns may also arise when AI is being utilized in the provision of goods or services in a digital market. There has been a particular focus internationally on large technology firms (including search engines, online retailers and social networks, especially multi-sided internet platforms), in which consumers provide personal data on one side of the platform in exchange for a particular service, with the personal data then used to provide a different service to the other side of the platform. The networking effects can result in a concentration of market power and potentially lead to abuse of such market power.

The Competition Ordinance does not contain any provisions which specifically cover or even mention AI and, to date, none of HKCC's publications (including its various published Guidelines and Enforcement Policy) have touched on the question of AI either. Nevertheless, the proliferation of AI is a global phenomenon and Hong Kong is unlikely to be spared from having to address the issues accompanying the use of algorithms.

8.5.2 Domestic Legislative Developments

For the time being, there is no proposal on the horizon to legislate for the development and use of AI in Hong Kong. However, there are indications that the Hong Kong Government is conscious of the potential that AI presents and the need for oversight.

For example, the Hong Kong Monetary Authority (HKMA) issued two circulars relating to AI in November 2019, namely "High-level Principles on Artificial Intelligence"²² and "Consumer Protection in respect of Use of Big Data Analytics and Artificial Intelligence by Authorized Institutions"²³. Noting that banks are increasingly adopting or planning to adopt AI and big data analytics applications, the circulars provide guiding principles which banks are expected to take into account when designing and adopting such applications.

More recently, in the Hong Kong Government's public consultation for updating the copyright regime which concluded in February 2022, the Government recognized that copyright issues relating to AI have generated substantial international discussion. In view of the different views and ongoing debate at international level, the Government will continue to study this issue and revisit the issue in the future.

9. Case Studies: Robo-Lawyer/Chatbot of Hong Kong Mediation and Arbitration Centre

Hong Kong Mediation and Arbitration Centre (HKMAAC) is one of the first ADR institutions in Hong Kong which adopted legal technology on professional advisory and online dispute resolution.

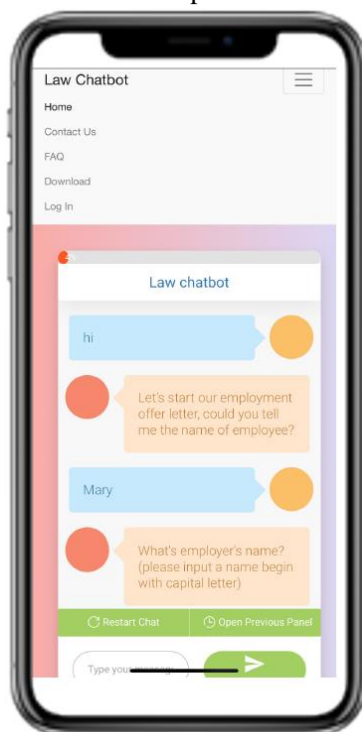
Jointly developed with Hong Kong University of Science and Technology (HKUST), HKMAAC has developed and used the "Robo-lawyer"²⁴ system in different domains. Since 2019, the system supports providing divorce information for family mediation clients. For example, Hong Kong's divorce rate in 2018 was more than double that in 1991. The rising demand for family mediation has been a mounting challenge for lawyers as well as family mediators. Many of the clients are unwilling or unable to sit down Face-to-Face for a settlement that could take months or years, especially for cross-border couples. Robo-lawyer is a chatbot that is designed to answer some simple legal questions in divorce procedures. As part of the core features, to make the Robo-lawyer more like a real person, AI sentiment analysis has been employed to help identify true feelings and moods of a person heading to a divorce through the dialogue.

²² Available online at: <https://www.hkma.gov.hk/media/eng/doc/key-information/guidelines-and-circular/2019/20191101e1.pdf>.

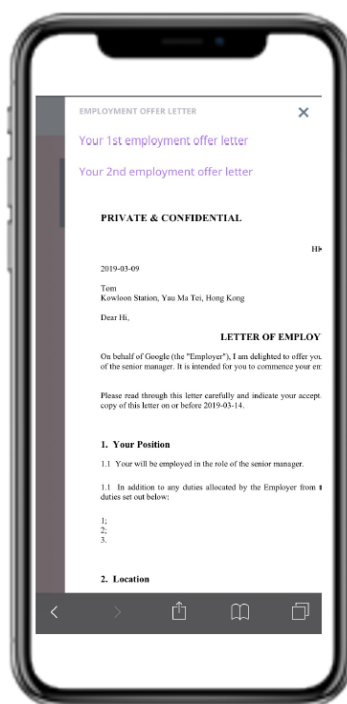
²³ Available online at: <https://www.hkma.gov.hk/media/eng/doc/key-information/guidelines-and-circular/2019/20191105e1.pdf>.

²⁴ Available online at: <https://hkust.edu.hk/news/research-and-innovation/robo-lawyer-your-ai-conflict-resolution>.

For example, when a service user writes "I am glad", it should be interpreted as an expression of relief instead of being upbeat. It even makes effort to allow couples to think twice before finally deciding to divorce.



Besides, the Robo-lawyer is also specialized in generating divorce settlement agreements, which is designed to help Family Mediator to get through the settlement agreement drafting process easier.²⁵



²⁵ Available online at: <https://cse.hkust.edu.hk/pg/research/projects/yqsong/robo-lawyer/>.

10. Recommendations

How can law firms/ADR institutions ensure that they comply with relevant laws and regulations when using legal technology?

Ensuring compliance with relevant regulations is essential for law firms (or ADR institutions) using legal technology in Hong Kong. To ensure compliance, it is recommended for them to take the following steps:

- 1) **Educate themselves on relevant regulations:** Law firms (or ADR institutions) need to be familiar with the regulations that apply to their practice and the use of legal technology. This includes data privacy and security regulations, as well as regulations related to electronic signatures, e-discovery, and other legal technology tools.
- 2) **Conduct a risk assessment:** Law firms (or ADR institutions) should conduct a risk assessment to identify potential risks associated with the use of legal technology. This can help them to develop appropriate risk management strategies and ensure compliance with relevant regulations.
- 3) **Implement appropriate security measures:** Law firms (or ADR institutions) need to implement appropriate security measures to protect their clients' data. This may include firewalls, antivirus software, and encryption tools. Law firms should also ensure that their staff is trained on data security best practices.
- 4) **Use reputable providers:** Law firms (or ADR institutions) should use reputable providers of legal technology tools and platforms. They should conduct due diligence on potential providers to ensure that they comply with relevant regulations and have appropriate security measures in place.
- 5) **Develop policies and procedures:** Law firms (or ADR institutions) should develop policies and procedures related to the use of legal technology. This can include policies related to data privacy and security, electronic signatures, and e-discovery.
- 6) **Train staff:** Law firms (or ADR institutions) need to ensure that their staff is trained on the use of legal technology and compliance with relevant regulations. This can include training on data security best practices, the use of electronic signatures, and e-discovery.
- 7) **Monitor compliance:** Law firms (or ADR institutions) should regularly monitor their compliance with relevant regulations. This can include conducting periodic audits and reviews of their policies, procedures, and security measures.

By taking these steps, law firms or ADR institutions can ensure that they comply with relevant regulations when using legal technology in Hong Kong. This can help to mitigate risks and ensure that they provide high-quality legal services to their clients.

11. Conclusion

In summary, while Hong Kong does not have specific laws governing LegalTech and AI, existing laws (e.g., legislation related to human rights, data privacy, discrimination, copyright and computer crimes etc.) can apply to the use of LegalTech and AI systems. The government is actively promoting the development and adoption of AI, and it is likely that more specific regulations will be developed in the future. Overall, the legal issues related to LegalTech/AI are complex and require a multidisciplinary approach involving law, technology, and ethics. The legal framework needs to adapt to the advancements of AI technology and ensure that LegalTech and AI will be

used in an ethical and responsible manner.

References

- Administrative Procedure Code of the Republic of Albania. Tiranë: Alb Juris, 2021.
- Bano Elona and Ahmeti E. (2022). "Right to concessions and public private partnerships". The City: Morava.
- Bardhi E. (2016). "Role and position of the Public Procurement Agency in the public procurement sector in Albania", unpublished doctoral dissertation, University of Tirana.
- Civil Code of the Republic of Albania. Tiranë:Alb Juris, 2018.
- Civil Procedure Code of the Republic of Albania.Tirane: Alb Juris, 2018.
- DCM No. 285, dated 19.05.2021 "On the Approval of Public Procurement Rules".
- Joint announcement between PPA and the Ministry of Justice Nr. 1155 Prot, date 01.02.2019.
- Law No 9887 dated 10.03.2008 "For the protection of personal data".
- Law No. 162 dated 23.12.2020 "On Public Procurement".
- Law No. 49/2012 "On administrative courts and adjudication of administrative disputes".
- Toçi V. (1974). "The intervention of foreign capital in Albania and the attitude of democratic circles 1921-1925, Academy of Sciences of the RPSH, Institute of History". Then, Mihal Duri.