
# AI, Machine Learning & Big Data 2025

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# Hong Kong

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## Trends

In Hong Kong, the Innovation, Technology and Industry Bureau (ITIB) promulgated the Hong Kong Innovation and Technology Development Blueprint (Blueprint) in December 2022. With Hong Kong being a Special Administrative Region of China, this Blueprint tied it in with China's "Outline of the 14th Five-Year Plan for National Economic and Social Development of the People's Republic of China and the Long-Range Objectives Through the Year 2035", promulgated in March 2021, which sets out the vision to develop China into an innovative nation with strong science and technology and expresses clear support for the Guangdong-Hong Kong-Macao Greater Bay Area (GBA), including Hong Kong, to develop into an international Innovation and Technology hub.

Hong Kong is emerging as a regional hub for artificial intelligence (AI), big data and machine learning (ML). Key trends include the integration of AI with financial services (FinTech), healthcare, smart city initiatives and logistics. The city continues to develop and expand as a regional and international data centre hub. The city's robust financial services infrastructure has led to significant growth in AI-driven applications for fraud detection, algorithmic trading and customer analytics. Meanwhile, the healthcare sector is leveraging ML for diagnostics, predictive analytics and personalised medicine.

### Main developments in the last year

At the recent budget speech for the financial budget for Hong Kong 2025–26, the Financial Secretary Mr Paul Chan pledged that the Hong Kong government would support Hong Kong's Research and Development (R&D) efforts as well as the industrial application of AI. Mr Chan said that the government would set aside HK$1 billion (approx. US$128 million) for the establishment of the Hong Kong AI Research and Development Institute.

Over the past year, Hong Kong has witnessed significant advancements in AI adoption. The government has launched initiatives to promote R&D in AI and big data, including increased funding through the Innovation and Technology Fund (ITF). Notably, the establishment of the Hong Kong AI Lab, a collaboration between the Hong Kong Science and Technology Parks Corporation (HKSTP) and Alibaba Hong Kong Entrepreneurs Fund, has provided a platform for startups to innovate and commercialise AI solutions.

In terms of regulation, while Hong Kong has not implemented the European Union (EU) AI Act, there is growing awareness of its potential impact, especially for businesses operating internationally. Discussions

around ethical AI, data privacy and algorithmic transparency have gained momentum, reflecting a global trend toward responsible AI governance.

The Law Society of Hong Kong issued a position paper on the impact of AI on the legal profession, setting out the impact and concerns of the adoption of AI in legal work and law firm operations.

In June 2024, the Privacy Commissioner for Personal Data issued the "Artificial Intelligence: Model Personal Data Protection Framework" to address the challenges posed by AI to personal data privacy and to support the "Global AI Governance Initiative" of China.

By a circular dated 9 September 2024, the Hong Kong Monetary Authority (HKMA, the regulator for banks and financial institutions in Hong Kong), encouraged banks to utilise AI for enhancing the monitoring of money laundering and terrorist financing (ML/TF) risks. Recognising the increasingly complex ML/TF landscape, the HKMA highlighted the advantages of AI-powered systems over conventional rules-based systems.

## State of technology and competitive landscape

Hong Kong's AI ecosystem is characterised by a mix of global tech giants, local startups and academic institutions. The city benefits from its proximity to mainland China, which has a thriving AI industry, while maintaining its unique position as a gateway for global businesses.

The competitive landscape remains dynamic, with startups focusing on niche applications and established firms investing in proprietary AI technologies. Collaboration between academia and industry is strong. However, talent retention and access to high-quality datasets remain challenges for the local AI sector.

On 13 August 2024, the HKMA also launched a new Generative Artificial Intelligence (GenAI) sandbox in collaboration with Cyberport, allowing banks to test new AI ideas within a risk-managed framework. This reflects HKMA's iterative, step-by-step approach in promoting the application of GenAI in the banking industry.

## Maximising data for ML applications

Companies in Hong Kong are leveraging big data to enhance ML models and drive business outcomes. Financial institutions are using customer transaction data for predictive analytics and risk management, while e-commerce companies are employing AI for personalised recommendations and supply chain optimisation.

Facilitating data flow in the GBA is an important initiative for promoting high-quality development of the economy. The ITIB and Cyberspace Administration of China signed the "Memorandum of Understanding on Facilitating Cross-boundary Data Flow within the GBA" in Beijing on 29 June 2023 to promote cross-boundary data flow within the GBA. It is a policy breakthrough to leverage data flow to promote digital economic development, while at the same time protecting personal privacy and data security.

## Key legal issues

The adoption of AI, big data and ML raises several legal challenges in Hong Kong. Data privacy remains a critical concern, particularly under the Personal Data (Privacy) Ordinance, (Cap. 486) (PDPO), which governs the collection, use and storage of personal data. Companies must ensure compliance with these regulations, especially when using consumer data for AI applications.

The above-mentioned Framework aims to assist organisations in complying with the requirements under the PDPO and adhering to the three Data Stewardship Values and seven Ethical Principles for AI through the following:

i. Establish AI strategy and governance: Formulate the organisation's AI strategy and governance considerations for procuring AI solutions, establish an AI governance committee (or similar body) and provide employees with training relevant to AI.

ii. Conduct risk assessment and human oversight: Conduct comprehensive risk assessments, formulate a risk-management system, adopt a "risk-based" management approach and, depending on the levels of the risks posed by AI, adopt proportionate risk-mitigating measures, including deciding on the level of human oversight.

iii. Customisation of AI models and implementation and management of AI systems: Prepare and manage data, including personal data, for customisation and/or use of AI systems, test and validate AI models during the process of customising and implementing AI systems, ensure system security and data security, and manage and continuously monitor AI systems.

iv. Communication and engagement with stakeholders: Communicate and engage regularly and effectively with stakeholders, in particular internal staff, AI suppliers, individual customers and regulators, in order to enhance transparency and build trust.

Algorithmic transparency and accountability are emerging as key issues, particularly in sectors like finance and healthcare, where AI-driven decisions can have significant consequences. Intellectual property (IP) rights for AI-generated content and liability for AI-induced harm are additional areas of legal complexity.

In July 2024, the Intellectual Property Department launched a two-month public consultation on the enhancement of the Copyright Ordinance (Cap. 528) regarding the protection for AI technology development. The consultation document looks into the following issues relating to GenAI and copyright comprehensively, and sets out the views for public consultation:

i. copyright protection of AI-generated works;

ii. copyright infringement liability for AI-generated works;

iii. possible introduction of specific copyright exception; and

iv. other issues relating to GenAI.

### Government perspective on AI adoption and safety

The Hong Kong government has demonstrated a positive view toward AI adoption, recognising its potential to drive economic growth and innovation. Through initiatives like the Smart City Blueprint and the establishment of the Digital Policy Office, the government is actively promoting the integration of AI into public services.

In July 2024, the government issued an Ethical AI Framework for internal adoption within the government regarding the applications of AI and big data analytics. The Framework is developed to assist government Bureaux and Departments in adopting AI and big data analytics and incorporating ethical elements in the planning, design and implementation of IT projects or services and it consists of ethical principles, practices and assessment of AI. It is also hoped that the Framework, including guiding principles, practices and assessment template, is also applicable to other non-government organisations in general.

### State support for AI development

Hong Kong's government provides extensive support for AI development through funding schemes, tax incentives and infrastructure investments. The ITF and the Research Talent Hub offer financial assistance to companies and researchers working on AI projects. The HKSTP and Cyberport provide incubation programmes, co-working spaces and access to industry networks.

Additionally, the government's investment in digital infrastructure, such as 5G networks and data centres, is creating a conducive environment for AI innovation. Partnerships with international organisations and neighbouring regions further bolster Hong Kong's AI ecosystem.

On 28 October 2024, the government issued a policy statement on responsible application of AI in the financial market. The key points of the policy statement are as follows:

i. The government recognises that the application of AI in the financial services sector has three key attributes, namely data-driven, double-edged and dynamic. The government will adopt a dual-track approach to promote development of AI adoption by the financial services sector, while at the same time addressing the potential challenges, such as cybersecurity, data privacy and protection of IP rights.

ii. Financial institutions should formulate an AI governance strategy to provide direction on how AI systems should be implemented and used. A risk-based approach should be adopted in the procurement, use and management of AI systems and human oversight will be crucial to mitigating the potential risks.

iii. The Hong Kong University of Science and Technology will make its self-developed AI model and its computing resources available to Hong Kong's financial services industry, and offer advisory and training services for on-premises deployment or Application Programming Interface and Web Interface options.

iv. As for financial regulatees, the potential risks posed by AI have been suitably reflected in the relevant regulations and/or guidelines issued by financial regulators. To keep pace with the latest developments of AI and international practice, such as the emergence of explainable AI, financial regulators will continuously review and update the existing regulations and/or guidelines as appropriate.

v. The Police have been exchanging intelligence with international organisations, law enforcement agencies of different jurisdictions and the AI industry in order to address the challenges on cyber policing posed by AI. On public education, the Investor and Financial Education Council will raise public awareness and enhance understanding on the opportunities and risks presented by AI technology in terms of retail investing and financial management.

### Leading industries and risk management demand

The financial services sector is a clear leader in AI adoption, followed by healthcare, logistics and retail. These industries are utilising AI to enhance efficiency, improve decision-making and deliver personalised services. The real estate sector is also exploring AI for property management and predictive maintenance.

AI risk management services are in demand, particularly in highly regulated industries like finance and healthcare. Companies are seeking expertise in areas such as algorithmic bias detection, cybersecurity and compliance to mitigate risks associated with AI deployment. As awareness of AI risks grows, the maturity of risk management practices is expected to increase.

## Ownership/protection

### When a company creates an AI algorithm, who is the owner?

When a company creates an AI algorithm, the company is the author of the said algorithm, and the company owns the IP right (copyright). The natural person who wrote the program is the author of such AI algorithm.

### What IP issues may arise regarding ownership? Is there IP in any forms of AI-created content/inventions?

If the company did not make it clear with the author in the employment contract as to who owns the copyrights over such AI algorithm particularly, disputes may arise. Apart from this, if the law is not clear as to who owns the AI-created invention/contents, dispute may also arise.

The Copyright Ordinance (Cap. 528) protects original works generated by computers, including those created using AI technologies. The "author" of AI-generated works is generally considered to be the person who makes the necessary arrangements for their creation.

AI-related inventions are patentable under the Patents Ordinance (Cap. 514) if they are new, involve an inventive step, and are susceptible to industrial application.

### What other issues exist regarding ownership?

AI-created contents may infringe other copyrighted works, particularly, if the AI-created contents were made based on prior copyrighted products, and this may be subject to the actual outcome of the AI-created work; the similarities and whether the AI-created work contained related features of the copyrighted work will need to be considered.

### What is a reasonable balance between IP protection and regulatory/reporting?

Copyrighted works are being respected and reasonable development is available to AI explorers and developers.

### What are the applicable laws with respect to data ownership, security and information privacy in Hong Kong?

The primary law is the PDPO, which regulates the collection, use and transfer of personal data. Another law that relates to unauthorised access to a computer (and the date in the computer) is section 161 of the Crimes Ordinance (Cap. 200), which makes it an offence to obtain access to a computer with certain intents, including:

1. Intent to commit an offence.
2. Dishonest intent to deceive.
3. View to dishonest gain for oneself or another.
4. Dishonest intent to cause loss to another.

This would cover offences such as hacking, online fraud and unauthorised extraction of information.

Hong Kong just passed a new law on the "Protection of Critical Infrastructure (Computer Systems)", which aims to enhance the cybersecurity of critical infrastructure and ensure the stability of essential services. The law requires that if there are serious incidents involving computers and data of critical infrastructure such as banking and financial systems or telecommunication systems, one requirement is that there is a mandatory requirement for incident reporting.

## Antitrust/competition laws

In Hong Kong's competitive landscape, where sectors like financial services, e-commerce and logistics increasingly rely on AI-driven pricing and decision-making algorithms, the potential for machine collusion is a growing concern. Algorithms designed to optimise profits could learn to coordinate pricing or market behaviour implicitly, even without direct communication between companies. This phenomenon, often referred to as "tacit collusion", raises complex questions about accountability and enforcement under Hong Kong's competition framework.

### Regulatory challenges and responses in Hong Kong

Hong Kong's antitrust framework, governed by the Competition Ordinance, prohibits anti-competitive agreements, abuse of market power and mergers that substantially lessen competition. However, the ordinance was not originally designed to address the complexities introduced by AI and big data.

*Detecting and proving algorithmic collusion*

One of the primary challenges for regulators is detecting and proving collusion among algorithms. Unlike traditional cases of collusion, where explicit communication or agreements can be documented, tacit

collusion by machines of undertakings often lacks clear evidence. This requires regulators to develop new investigative tools and methodologies, such as algorithmic audits and monitoring systems, to identify anti-competitive behaviour.

*Balancing innovation and regulation*

Hong Kong's government is committed to fostering innovation and maintaining its position as a regional technology hub. Striking a balance between promoting AI-driven growth and ensuring fair competition is a delicate task. Over-regulation could stifle innovation, while under-regulation could allow anti-competitive practices to flourish.

*Global coordination on antitrust issues*

Given the cross-border nature of digital markets, Hong Kong must collaborate with international regulators to address antitrust concerns effectively. This includes monitoring global developments, such as the EU's Digital Markets Act and Digital Services Act, to align local regulations with international best practices.

## Board of directors/governance

### What governance issues do companies need to be aware of, specific to AI and big data?

AI and big data pose unique governance challenges, including ethical considerations, compliance with regulatory requirements and managing risks associated with algorithmic decision-making. Companies must ensure proper oversight of AI systems to minimise risks such as data breaches, algorithmic bias and reputational harm.

The key governance issues to consider are as follows:

1. Data privacy and security: Compliance with the PDPO and global standards like the EU's GDPR (if that applies) is critical. Boards must ensure that data collection and processing align with privacy laws and ethical standards.
2. Algorithmic transparency: Boards must oversee the development of AI systems to ensure transparency and accountability, particularly in sectors like finance and healthcare where decisions can have significant consequences.
3. Ethical AI use: Ensuring that AI systems are free from bias and discriminatory practices is essential to maintaining public trust and legal compliance.

### How does AI and big data affect the due diligence process for boards of directors?

Due diligence is a cornerstone of corporate governance, and the use of AI and big data is revolutionising how boards perform this critical function.

a. Enhanced risk assessment: AI and big data enable boards to conduct more comprehensive risk assessments by analysing large volumes of data quickly and accurately.
b. Challenges in understanding technological complexity: Boards must grapple with the complexity of AI systems and their potential risks, including algorithmic bias and lack of transparency. Directors may need to engage external experts or establish technology committees to evaluate these systems effectively.
c. Due diligence in Mergers and Acquisitions (M&A): In the context of M&A, AI and big data are transforming the due diligence process. Boards must evaluate not only the financial health of a target company but also its data assets, IP related to AI, and compliance with privacy regulations. For example, a company with poorly managed data practices could expose the acquirer to significant financial and reputational risks.

### How do AI and big data affect a board's fiduciary duties?

Boards of directors in Hong Kong owe fiduciary duties to the company, including duties of care, skill and diligence, duty to act in good faith and duty to act in the best interest of the company. The integration of AI and big data into business operations adds complexity to these obligations.

- Delegation and oversight: Directors may delegate certain tasks to AI systems but retain ultimate responsibility. They must implement robust governance structures (e.g., validation processes, algorithmic transparency) to ensure AI outputs are reliable and ethical.
- Explainability: Boards must ensure AI models are auditable and decisions can be rationally explained to stakeholders, as emphasised by the HKMA.
- Continuous monitoring: Directors must proactively monitor AI systems for biases, data integrity issues or compliance risks, particularly when using big data analytics.

### How are AI and big data affecting communication plans to shareholders, vendors, etc.?

a. Enhanced shareholder reporting AI enables boards to provide more detailed and data-driven insights in shareholder reports. Predictive analytics and data visualisation tools help present complex financial and operational data in a clear and accessible manner. However, boards must ensure that these tools do not obscure material information or mislead stakeholders.

b. Vendor and partner communication AI-powered platforms can streamline communication with vendors and partners by providing real-time updates and insights into supply-chain performance. Boards must oversee these systems to ensure data accuracy and prevent disruptions in vendor relationships.

c. Customer and public engagement AI tools like chatbots and sentiment analysis are transforming customer engagement. Boards must ensure that these tools are used ethically and transparently, particularly when collecting or analysing customer data. Misuse of AI in customer interactions could lead to reputational damage and regulatory scrutiny if it involves a breach of the PDPO.

## Regulations/government intervention

### Does your jurisdiction have specific laws relating to AI, big data or ML?

Hong Kong does not currently have a standalone legal framework specifically addressing AI, big data or ML. Instead, these technologies are governed under existing laws and regulations, which include:

- PDPO: The PDPO governs the collection, use and storage of personal data in Hong Kong. Companies deploying AI and big data must ensure compliance with the PDPO, particularly when processing personal data for algorithmic decision-making or predictive analytics. Key principles include data minimisation, purpose specification and transparency.
- Competition Ordinance: The Competition Ordinance addresses anti-competitive practices, including those that may arise from the use of AI and big data. For example, it prohibits collusion or abuse of market dominance, which could occur through algorithmic pricing or data monopolies.
- IP laws: Hong Kong's IP laws play a role in governing AI-generated works and protecting proprietary algorithms. However, questions remain about whether AI-generated content can qualify for copyright protection under existing frameworks.

### Are any laws or law reform authorities considering specific laws relating to AI, big data or ML?

*AI and copyright law*

Public consultation: The Hong Kong government conducted a public consultation on AI and copyright

law from July to September 2024. This consultation aimed to address copyright issues arising from AI, particularly GenAI, and to ensure Hong Kong's copyright regime remains competitive.

Proposed safeguards: Lawmakers have expressed concerns over proposed safeguards, such as an "opt-out" mechanism to protect copyrighted works from AI training. The government is considering introducing a "text and data mining exception" to allow reasonable use of copyrighted works for AI model training.

*Data protection and big data*

Hong Kong's data protection is primarily governed by the PDPO. Recent proposals aim to enhance data protection through mandatory breach notifications, direct regulation of data processors and stricter consent requirements for sensitive data.

*ML and AI regulation*

Lack of specific legislation: There is no overarching legislation specifically governing AI or ML in Hong Kong. Instead, existing laws and non-binding guidelines regulate AI use, focusing on ethical development and data privacy.

Guidelines and circulars: The Financial Services and Treasury Bureau of the Hong Kong government has issued circulars providing guiding principles for AI use in banking, emphasising transparency, fairness and data protection.

### What are governments considering and what should governments do to prevent adverse outcomes (e.g., the "AI robots take over" problem)?

a. Current government initiatives in Hong Kong:
   - Smart City Blueprint 2.0: The Hong Kong government has outlined its vision for integrating AI and big data into public services, including smart transportation, healthcare and urban planning.
   - Support for R&D: Through funding initiatives like the ITF, the government is promoting R&D in AI and big data.

b. To prevent adverse outcomes, governments should:
   1. Develop ethical AI guidelines: Establish clear principles for the ethical use of AI, including fairness, accountability and transparency.
   2. Regulate high-risk applications: Focus regulatory efforts on high-risk AI applications, such as facial recognition, drones, autonomous vehicles and healthcare diagnostics.
   3. Enhance public awareness: Educate the public about AI technologies to foster trust and address misconceptions about their risks.
   4. Invest in oversight mechanisms: Create independent bodies to monitor AI systems and address concerns related to bias, discrimination and privacy violations.
   5. Encourage international collaboration: Work with global organisations to develop harmonised standards for AI governance.

## Conclusion

Hong Kong is well-positioned to lead in AI and big data, but success depends on balancing innovation with regulation, ensuring ethical AI use and maintaining its competitive edge as a global financial and tech hub. By leveraging its strategic advantages and addressing governance gaps, Hong Kong can secure its role in the next wave of digital transformation.

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Before joining the legal profession, Dominic Wai worked in the banking sector as well as in the Independent Commission Against Corruption (ICAC).

Dominic's practice focuses on advising clients on matters relating to anti-corruption, white-collar crime, law enforcement, regulatory and compliance matters in Hong Kong, including advice on anti-money laundering. He also handles cases involving corporate litigation, shareholders' disputes and insolvency matters, defamation cases, domestic and international arbitration cases, cybersecurity, data security and privacy law issues, competition law matters, e-discovery and forensic investigation issues, as well as property litigation. His clients include Hong Kong listed companies, international companies, liquidators and a broadcasting company.

Dominic is currently a board member of a charity that provides a home service for sick children and their families. He is supportive and actively participates in the activities of the charity.

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Lawrence Yeung is a practising solicitor in Hong Kong with an LL.M. and a Ph.D. in Laws. He has nearly 20 years of experience in handling commercial and IP disputes and non-contentious matters. He is also an appointed civil celebrant of marriages in Hong Kong and a Great Bay Area lawyer. With his legal background from Hong Kong, Mainland China and Taiwan, Lawrence has a profound understanding of the legal systems of the three jurisdictions.

Lawrence's professional IP practice covers overseas regions such as Europe, the United States and Asia. His expertise includes: reviewing IP portfolios for enterprises to identify any structural defects and giving advice thereon; assisting enterprises in setting up IP projects/asset management and global brand protection strategies; protection of IP rights (IPR) in investment agreements; trademark clearance, maintenance and applications; copyright protection; PCT filing; design applications and protection; IPR capitalisation; licensing agreements; analysis and search; dispute resolution; IPR protection, due diligence, transactions and licensing negotiations, etc. Lawrence often speaks on behalf of the Law Society of Hong Kong and his law firm at various conferences on the latest IP cases and the importance of proper IPR management for enterprises and key points to note.

Lawrence had worked as a management lawyer in a well-known international law firm. Besides, he is also appointed as (i) Advisor of Hong Kong Intellectual Property Department IP Consultation Service, (ii) expert in the Center for Enterprise Legal Rights Protection and Resolution of Complex Cases of Liaoning Province in China, and (iii) visiting lecturer of Hong Kong University SPACE for IP course and part-time tutor of a Master's degree course in IP offered by the Open University of Hong Kong. He has more than 15 years of teaching experience and also published a number of essays on both the practical and academic aspects of various legal areas.

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