

Contents

Part I Introduction – Tech, Digital Tech and LawTech

Chapter 1 What is Electronic Digital Technology?

- 1.1 Introduction
- 1.2 Electronic Digital Technology
- 1.3 The Benefits of Electronic Digital Technology
- 1.4 Computers and Hardware
- 1.5 Software – Computer Programmes, Coding, Algorithms, Apps and Application Programming Interfaces (APIs)
- 1.6 Connecting Computers – The Internet, Cyber, Nodes and Clouds
- 1.7 Web 3.0 and the Internet of Things (IoT)
- 1.8 Law and Electronic Digital Technology
- 1.9 Cybercrime
 - 1.9.1 Unauthorised Data Access or Modification
 - 1.9.2 Social Engineering Attacks and Phishing
 - 1.9.3 Denial-of-Service (DoS) Attacks
 - 1.9.4 Malware, Viruses and Ransomware
 - 1.9.5 Internet of Things (IoT) Hacking
- 1.10 Cybersecurity
- 1.11 Summary

Part II Artificial Intelligence and the Law

Chapter 2 What is Artificial Intelligence (AI)?

- 2.1 Introduction
- 2.2 Strong Artificial Intelligence, Artificial General Intelligence and Spontaneous Intelligence
- 2.3 Weak and Narrow Artificial Intelligence
- 2.4 Machine Learning
- 2.5 Science Fiction, The Imitation Game and The Chinese Room
- 2.6 Autonomous Machines and Autonomous Vehicles
- 2.7 Robots
- 2.8 Bots, Chatbots and Natural Language Processing
- 2.9 Summary

Chapter 3 Artificial Intelligence (AI) and the Practice of Law – LegalTech

- 3.1 Introduction
- 3.2 LegalTech
 - 3.2.1 Electronic Discovery or e-Discovery
 - 3.2.2 Electronic Due Diligence or e-Due Diligence
 - 3.2.3 Artificial Intelligence and Contracts
 - 3.2.4 Robo-Lawyers: Artificial Intelligence and Legal Advice
 - 3.2.5 e-Signatures and e-Service of Documents

- 3.3 Professional Issues for Lawyers Using or Not Using Artificial Intelligence
- 3.4 Robo-Judges: Artificial Intelligence and Decision Making in Legal Disputes
 - 3.4.1 Artificial Intelligence and Alternative Dispute Resolution (ADR)
 - 3.4.2 Robo-Judges: Artificial Intelligence and the Judicial Process
- 3.5 Summary

Chapter 4 Law and Artificial Intelligence

- 4.1 Introduction
- 4.2 FinTech – Financial Technology
- 4.3 Autonomous Machines: Autonomous Weapons and Autonomous Vehicles
- 4.4 Who is Responsible for Artificial Intelligence?
- 4.5 Artificial Intelligence and Decision Making
 - 4.5.1 Issues with Decision Making by Artificial Intelligence
 - 4.5.2 Decisions by Artificial Intelligence which Produces Legal Effects
- 4.6 Artificial Intelligence, Privacy and Unfair Commercial Practices
- 4.7 Deepfakes
- 4.8 Artificial Intelligence and Cybercrime
- 4.9 Artificial Intelligence and Robot Rights
- 4.10 Summary

Chapter 5 Artificial Intelligence and Intellectual Property

- 5.1 Introduction
- 5.2 Intellectual Property (IP)
- 5.3 Artificial Intelligence as Artist – Copyright
 - 5.3.1 The Berne Convention, Hong Kong and Moral Rights
 - 5.3.2 Artificial Intelligence Infringing Copyright
- 5.4 Artificial Intelligence as Inventor – Patents
- 5.5 Summary

Part III Digital Property and Digital Assets

Chapter 6 Digital Property, Virtual Property or Crypto Property?

- 6.1 Introduction
- 6.2 Digital Property
- 6.3 Virtual Property
- 6.4 Crypto Property
- 6.5 Fiat Currencies, Digital Currencies, Virtual Currencies and Cryptocurrencies
 - 6.5.1 Fiat Currencies
 - 6.5.2 Virtual Currencies
 - 6.5.3 Cryptocurrencies
- 6.6 Property or Asset? Digital Property or Digital Asset?
- 6.7 Are All Digital Assets Truly Assets?
 - 6.7.1 Digital Assets which Have Value to the Author
 - 6.7.2 Digital Assets Subject to an End-User Agreement on Their Assignment
- 6.8 Summary

Chapter 7 What is Blockchain?

- 7.1 Introduction
- 7.2 What is a Blockchain?
- 7.3 Creating a Blockchain
 - 7.3.1 Planning a Blockchain
 - 7.3.2 Launching a Blockchain
- 7.4 Adding Blocks to a Blockchain – “Mining”
 - 7.4.1 The Genesis Block
 - 7.4.2 Blockchain Miners
 - 7.4.3 The Block is Minted
 - 7.4.4 Example of Minting Blocks
- 7.5 Buying and Selling Blocks
 - 7.5.1 Digital Wallets and Cryptographic Keys
 - 7.5.2 A Transaction on the Blockchain
 - 7.5.3 Hot Wallets, Cold Wallets, Custodial Wallets and Non-Custodial Wallets
- 7.6 Immutability – Checking the Truth of the Blockchain Record
- 7.7 Forks and Forking a Blockchain
- 7.8 Protocols for Adding a Block as a Token
- 7.9 Digital Platforms
- 7.10 Benefits of Blockchain
- 7.11 Issues with Blockchain
- 7.12 Summary

Chapter 8 Fungible Tokens – Cryptocurrencies

- 8.1 Introduction – Fungible v. Non-Fungible Tokens
- 8.2 Cryptocurrencies
- 8.3 Initial Coin Offerings (ICOs)
- 8.4 Cryptocurrencies and Fiat Currencies
- 8.5 Bitcoin
- 8.6 Ethereum, Ether (ETH), and ERC-20
- 8.7 Stablecoins
- 8.8 Benefits of Cryptocurrencies
- 8.9 Possible Issues with Cryptocurrencies
- 8.10 Are Cryptocurrencies Really Currencies?
- 8.11 Summary

Chapter 9 Non-Fungible Tokens (NFTs)

- 9.1 Introduction

- 9.2 What are Non-Fungible Tokens?
- 9.3 Creating Non-Fungible Tokens
 - 9.3.1 Protocols for Creating Non-Fungible Tokens – ERC-721
 - 9.3.2 Non-Fungible Token (NFT) Drops
 - 9.3.3 Example of an Art Non-Fungible Token Blockchain
- 9.4 Special Non-Fungible Tokens and Art
- 9.5 Summary

Chapter 10 Smart Contracts and Decentralised Autonomous Organisations (DAOs)

- 10.1 Introduction
- 10.2 What is a Smart Contract?
- 10.3 What is a Legal “Smart Contract”?
- 10.4 Categories of Smart Contracts
- 10.5 How do Smart Contracts Work?
- 10.6 Smart Contracts and the Law
 - 10.6.1 The Legal Nature of Smart Contracts
 - 10.6.2 The Characteristic of Automaticity
 - 10.6.3 Digital Dispute Resolution Rules
 - 10.6.4 Future Issues for Smart Contracts
- 10.7 Decentralised Autonomous Organisations (DAOs)
- 10.8 Issues with Decentralised Autonomous Organisations (DAOs)
 - 10.8.1 Voting Issues
 - 10.8.2 Bad Decisions
 - 10.8.3 Companies, Partnerships or Unincorporated Associations?
- 10.9 Summary

Chapter 11 Digital Assets, Virtual Assets, Cryptoassets and the Law

- 11.1 Introduction
- 11.2 Are Digital Assets Property?
- 11.3 What is the Legal Meaning of Property?
- 11.4 Judicial Consideration of Cryptoassets
 - 11.4.1 British Columbia – *Copytrack Pte Ltd. v Wall*, 2018
 - 11.4.2 England – *Vorotyntseva v Money-4 Limited* [2018] EWHC 2596 (Ch)
 - 11.4.3 UK Jurisdiction Taskforce’s Statement on the Status of Cryptoassets 2019
 - 11.4.4 Cryptoassets and Injunctions
 - 11.4.5 Bitcoin and Non-Fungible Tokens as Property in China’s Courts
 - 11.4.6 A New Category of Property – Data Objects
- 11.5 Decentralised Finance (DeFi) and Social Finance (SocialFi)
- 11.6 Regulating Digital Assets
 - 11.6.1 Digital Jurisdictions
 - 11.6.2 Digital Regulatory Jurisdictions
 - 11.6.3 Digital Asset Regulation in Hong Kong
- 11.7 Digital Assets and Tax
- 11.8 Digital Assets as Securities
- 11.9 Finding Digital Assets that Have Been Hidden, Lost or Stolen
 - 11.9.1 Following and Tracing Missing Property

- 11.9.2 Orders to Get Information About, Freeze and Recover Property
- 11.10 Digital Assets and Divorce
- 11.11 Digital Assets and Death – Estate Planning
 - 11.11.1 Digital Assets and Estate Duty
 - 11.11.2 Passing Digital Assets after Death – Licence Restrictions and Lost Crypto Keys
 - 11.11.3 The Estate’s Right to Digital Assets Against the Deceased’s Right of Privacy
 - 11.11.4 Good Practice for Estate Planners
- 11.12 Digital Assets and Insolvency
- 11.13 Non-Fungible Tokens and Copyright
- 11.14 Non-Fungible Tokens and the Destruction of Physical Art
- 11.15 Summary

Chapter 12 Digital Assets and Civil Liability

- 12.1 Introduction
- 12.2 Suing for Breach of Contract, Torts and Recovery of Property
- 12.3 Digital Privacy, Data Protection and the Law
- 12.4 Liability of Developers
- 12.5 Liability of Blockchains, Nodes and Nodes Service Providers
- 12.6 Liability of Promoters of Initial Coin Offerings (ICOs) and Drops as Fiduciaries
- 12.7 Liability of Platforms and Crypto Exchanges
- 12.8 Liability of Auditors
- 12.9 Liability of a Decentralised Autonomous Organisation (DAO)
- 12.10 Liability of Celebrity Endorsers
- 12.11 Problems for Those Claiming for Lost Digital Property
 - 12.11.1 Jurisdiction and Choice of Law
 - 12.11.2 Claiming Against an Anonymous or Pseudonymous Defendant
- 12.12 Summary

Chapter 13 Digital Assets and Criminal Liability

- 13.1 Introduction
- 13.2 Crimes Against Digital Assets
 - 13.2.1 Theft of Digital Assets
 - 13.2.2 Theft of Digital Assets by Mistaken Payment
 - 13.2.3 Destroying Digital Assets or Making Them Inaccessible or Useless
 - 13.2.4 Sleepminting
- 13.3 Crimes Using Digital Assets
 - 13.3.1 Frauds, Ponzi and Pyramid Schemes
 - 13.3.2 Transfer Frauds – “Rug Pulls”, “Exit Scams” or “eLong Firms”
 - 13.3.3 “Pump and Dump” Frauds
- 13.4 Money Laundering, Terrorist Financing and Capital Flight
 - 13.4.1 Anti-Money Laundering and Counter Terrorist Financing Laws
 - 13.4.2 The Value of Anti-Money Laundering Laws in Fighting Cybercrime
 - 13.4.3 The Financial Action Task Force (FATF), Virtual Assets and the “Travel Rule”
 - 13.4.4 The European Union, Virtual Assets and the “Travel Rule”
 - 13.4.5 China’s Restrictions upon Cryptoassets

- 13.5 Crime or Incompetence?
- 13.6 The Grey Areas – Digital Assets and Insider Dealing
- 13.7 The Grey Areas – Flipping Digital Assets
- 13.8 Summary

Part IV The Metaverse

Chapter 14 Law in the Metaverse – Law in Virtual Reality

- 14.1 Introduction
- 14.2 The Metaverse
 - 14.2.1 Virtual Reality (VR)
 - 14.2.2 Augmented Reality (AR)
 - 14.2.3 Phygital Experiences
 - 14.2.4 Extended Reality (XR) and Mixed Reality (MR)
- 14.3 Laws of the Metaverse
 - 14.3.1 Internal Laws and Rules of Virtual Worlds
 - 14.3.2 Terms and Conditions of Use of Virtual Worlds
- 14.4 Liability for User's Actions in the Metaverse
 - 14.4.1 Personal Digital Identity (PDI) in the Metaverse
 - 14.4.2 Civil Liability of Users of Virtual Worlds
 - 14.4.3 Crime and the Metaverse
- 14.5 Virtual Property in the Real World
 - 14.5.1 Land in the Metaverse
 - 14.5.2 Intellectual Property Rights in the Metaverse
- 14.6 Jurisdiction and Choice of Law for Real World Virtual Disputes
- 14.7 Summary

Part V Conclusion

Chapter 15 Conclusion – The Future for Technology and Law

Glossary of Terms and Abbreviations