INTERNATIONAL JOURNAL FOR LEGAL RESEARCH AND ANALYSIS

Open Access, Refereed Journal Multi Disciplinary
Peer Reviewed

www.ijlra.com

 ISSN: 2582-6433

DISCLAIMER

 ISSN: 2582-6433

EDITORIAL TEAM

EDITORS

Dr. Samrat Datta

Dr. Samrat Datta Seedling School of Law and Governance, Jaipur National University, Jaipur. Dr. Samrat Datta is currently associated with Seedling School of Law and Governance, Jaipur National University, Jaipur. Dr. Datta has completed his graduation i.e., B.A.LL.B. from Law College Dehradun, Hemvati Nandan Bahuguna Garhwal University, Srinagar, Uttarakhand. He is an alumnus of KIIT University, Bhubaneswar where he pursued his post-graduation (LL.M.) in Criminal Law and subsequently completed his Ph.D. in Police Law and Information Technology from the Pacific Academy of Higher Education and Research University, Udaipur in 2020. His area of interest and research is Criminal and Police Law. Dr. Datta has a teaching experience of 7 years in various law schools across North India and has held administrative positions like Academic Coordinator, Centre Superintendent for Examinations, Deputy Controller of Examinations, Member of the Proctorial Board

Dr. Namita Jain

Head & Associate Professor

School of Law, JECRC University, Jaipur Ph.D. (Commercial Law) LL.M., UGC -NET Post Graduation Diploma in Taxation law and Practice, Bachelor of Commerce.

Teaching Experience: 12 years, AWARDS AND RECOGNITION of Dr. Namita Jain are - ICF Global Excellence Award 2020 in the category of educationalist by I Can Foundation, India.India Women Empowerment Award in the category of "Emerging Excellence in Academics by Prime Time & Utkrisht Bharat Foundation, New Delhi.(2020). Conferred in FL Book of Top 21 Record Holders in the category of education by Fashion Lifestyle Magazine, New Delhi. (2020).Certificate of Appreciation for organizing and managing the Professional Development Training Program on IPR in Collaboration with Trade Innovations Services, Jaipur on March 14th, 2019

 ISSN: 2582-6433

Mrs.S.Kalpana

Assistant professor of Law

Mrs.S.Kalpana, presently Assistant professor of Law, VelTech Rangarajan Dr. Sagunthala R & D Institute of Science and Technology, Avadi.Formerly Assistant professor of Law,Vels University in the year 2019 to 2020, Worked as Guest Faculty, Chennai Dr.Ambedkar Law College, Pudupakkam. Published one book. Published 8Articles in various reputed Law Journals. Conducted 1Moot court competition and participated in nearly 80 National and International seminars and webinars conducted on various subjects of Law. Did ML in Criminal Law and Criminal Justice Administration.10 paper presentations in various National and International seminars. Attended more than 10 FDP programs. Ph.D. in Law pursuing.

Avinash Kumar

Avinash Kumar has completed his Ph.D. in International Investment Law from the Dept. of Law & Governance, Central University of South Bihar. His research work is on "International Investment Agreement and State's right to regulate Foreign Investment." He qualified UGC-NET and has been selected for the prestigious ICSSR Doctoral Fellowship.He is an alumnus of the Faculty of Law, University of Delhi. Formerly he has been elected as Students Union President of Law Centre-1, University of Delhi.Moreover, he completed his LL.M. from the University of Delhi (2014-16), dissertation on "Cross-border Merger & Acquisition"; LL.B. from the University of Delhi (2011-14), and B.A. (Hons.) from Maharaja Agrasen College, University of Delhi. He has also obtained P.G. Diploma in IPR from the Indian Society of International Law, New Delhi.He has qualified UGC – NET examination and has been awarded ICSSR – Doctoral Fellowship. He has published six-plus articles and presented 9 plus papers in national and international seminars/conferences. He participated in several workshops on research methodology and teaching and learning.

 ISSN: 2582-6433

ABOUT US

INTERNATIONAL JOURNAL FOR LEGAL RESEARCH & ANLAYSIS ISSN

2582-6433 is an Online Journal is Monthly, Peer Review, Academic Journal, Published online, that seeks to provide an interactive platform for the publication of Short Articles, Long Articles, Book Review, Case Comments, Research Papers, Essay in the field of Law & Multidisciplinary issue. Our aim is to upgrade the level of interaction and discourse about contemporary issues of law. We are eager to become a highly cited academic publication, through quality contributions from students, academics, professionals from the industry, the bar and the bench. INTERNATIONAL JOURNAL FOR LEGAL RESEARCH & ANALYSIS ISSN 2582-6433 welcomes contributions from all legal branches, as long as the work is original, unpublished and is in consonance with the submission guidelines.

 ISSN: 2582-6433

THE IMPACT OF NEW TECHNOLOGIES ON ARBITRATION

AUTHORED BY: - SATYA VRAT PANDEY
Institution: - Integral University, Lucknow
Affiliation: - Student, 4th year, VIIIth Semester

ABSTRACT

Technological advancements are causing significant transformations in arbitration, which is a crucial component of dispute resolution. This abstract explores the intersection between arbitration and emerging technologies, highlighting the consequences, challenges, and potential benefits in the Indian context. The advent of technical breakthroughs such as blockchain, artificial intelligence[1] (AI), and online dispute resolution[2] (ODR) platforms is causing significant changes in traditional arbitration procedures. These technologies possess the capacity to decrease expenses and procedural bottlenecks while enhancing accessibility, effectiveness, and transparency. Blockchain offers secure and immutable record-keeping for arbitration proceedings, ensuring tamper-proof evidence and fostering trust between parties. AI-powered algorithms are revolutionizing case management by enhancing efficiency and reducing human error through automated document analysis and predictive analytics for case outcomes. However, these advancements are not without their challenges. Data privacy, cybersecurity, and equitable technology access remain significant challenges, particularly in a diverse country like India that is quickly adopting digitalization. To fully harness the benefits of emerging technology and address any potential issues, it is necessary to revise regulatory structures. Furthermore, the rise of online dispute resolution (ODR) systems offers new possibilities for efficient and cost-effective resolution of conflicts, especially in a country burdened by a large number of pending cases. These technologies tackle a range of linguistic and geographic limitations by facilitating remote hearings, electronic submission of evidence, and instant translation services. To summarize, the use of new technology in India has the potential to significantly enhance the efficiency of arbitration. However, this must be done after carefully considering the practical, ethical, and legal consequences. This abstract establishes the foundation for a comprehensive analysis of how these

[1] Sudeep Srivastava, "Integration of AI and Blockchain: All You Need to Know" *Appinventiv*, 2019 *available at*: https://appinventiv.com/blog/ai-in-blockchain/#:~:text=AI%20and%20Blockchain%20 (last visited July 5, 2024).
[2] ODR, "What is ODR?" *www.ncsc.org*, 2020*available at*: https://www.ncsc.org/odr/guidance-and-tools.

 ISSN: 2582-6433

advancements are impacting the future landscape of arbitration, offering valuable insights into the possibilities and challenges that await.

INTRODUCTION

With the unexpected unavailability of foreign markets due to the outbreak, technology and its diverse uses appeared to be advancing rapidly. Technologies that were formerly disconnected from each other have now become widespread and commonly used. The incorporation of these emerging technologies has significantly broadened the scope of the traditional definition of "telecommunications," since they are now essential components of the contemporary era's most comprehensive interpretation of the concept.[3] From a larger temporal viewpoint, the utilization of technology has also had a significant influence on several economic sectors in recent decades, resulting in a blurring of the distinction between "business" and "personal" activities.[4] In contemporary times, modern technology has been pervasive in several facets of everyday existence, including our mobile devices, residences, applications, virtual aides, transportation, and medical services. The continuous existence of this phenomenon is facilitated by technical progress in crucial sectors such as biotechnology, security, cloud computing, and telecommunications, among others. The field of technology arbitration and technology dispute resolution has grown in parallel with the rapid proliferation of diverse technological advancements over the past decade, but maybe at a little less rapid pace. As technology continues to spread into new industries, penetrate new markets, and be employed for unique purposes, the occurrence of these types of arguments is becoming increasingly probable. Although it is uncommon for a collaborative project to conclude in dispute, this is typically the first outcome. Hence, it is recommended to consider the repercussions and hazards linked to the different technologies utilized throughout the design and planning phases of any such partnership, particularly in relation to dispute resolution conditions, such as the forum. As a result, it is increasingly imperative for lawyers to have knowledge of the technologies their clients use and to provide guidance that optimally benefits all parties involved.[5] This Article explores the subject of new technologies, beginning with a brief introduction to the specific technology and then doing a comprehensive analysis of the suitability of arbitration in resolving issues related to these technologies.

[3] NU Cepal, *Digital Technologies for a New Future*, 2022.
[4] Wayne F Cascio and Ramiro Montealegre, "How Technology Is Changing Work and Organizations" *ResearchGate*, 2016*available at*: https://www.researchgate.net/publication/299400943_How_Technology_Is_Changing_Work_and_Organizations.
[5] "The Role of Lawyers in the Face of Increasingly Capable Technology | Association of Corporate Counsel (ACC)," *www.acc.comavailable at*: https://www.acc.com/role-lawyers-face-increasingly-capable-technology.

 ISSN: 2582-6433

Technologies Types

Internet of Things, cybersecurity, and data privacy

The essence of *Internet of Things* (IoT) technology is in the exchange of data between a platform or device and another over the Internet or other communication networks.[6] The Internet of Things (IoT) has become prevalent in several areas such as automobiles, timepieces, home automation devices, health wearables, traffic surveillance, and location tracking. Internet video technology is utilized for security surveillance purposes. The potential vulnerability of unauthorized access and surveillance of home webcams, combined with the ability of motion-sensor activators to securely activate monitoring systems and record movement within our homes, raises significant concerns regarding security, consumer rights, manufacturer responsibilities, data privacy, and cybersecurity on a large scale.[7] The utilization of IoT technology undeniably requires the handling of substantial amounts of personal data. The residency limitations for some data sets, such as personal data, have posed a substantial challenge to their utilization in the United Arab Emirates.[8] This is because service providers may be required to send data internationally for the purpose of troubleshooting or when clients access services abroad. Service providers have the capability to store customer data in multiple locations, which reduces the risk in case of a breach. Additionally, they can transfer data outside of the state if nearby data centres are affected by a natural disaster, thus enhancing data security and protection. Although they are separate ideas, cybersecurity, data privacy, and protection are all equally crucial elements within the realm of IoT. Arbitration is commonly seen as a prompt, confidential, and tailored approach to settling conflicts. When choosing the dispute resolution method for intricate high-tech conflicts that include sensitive technical or legal matters, arbitrators that possess knowledge in networking and cybersecurity are highly desirable.[9] Therefore, choosing an arbitrator who possesses such experience can lead to substantial efficiency and reassurance for the parties involved.

[6] Sachin Kumar, Prayag Tiwari and Mikhail Zymbler, "Internet of Things is a revolutionary approach for future technology enhancement: a review," 6 *Journal of Big Data* (2019).
[7] Deeksha Somani , "Protecting Your Privacy: Safeguarding Your Webcam from Hacking Threats" *The Times of India*, 1 February 2024.
[8] Office of the Victorian Information Commissioner, "Internet of Things and Privacy - Issues and Challenges" *Office of the Victorian Information Commissioner*, 2021*available at*: https://ovic.vic.gov.au/privacy/resources-for-organisations/internet-of-things-and-privacy-issues-and-challenges/.
[9] Naseer Ali Khasawneh and Maria Mazzawi, "Arbitration and the Advent of New Technologies" *globalarbitrationreview.com*, 2023*available at*: https://globalarbitrationreview.com/guide/the-guide-telecoms-arbitrations/second-edition/article/arbitration-and-the-advent-of-new-technologies.

 ISSN: 2582-6433

Artificial Intelligence

Artificial intelligence (AI) is the process of imitating intelligent actions via the utilization of computers and technology, which includes machine learning. The prevalence of artificial intelligence (AI) and machine learning is steadily increasing in our everyday existence. Its value is demonstrated in several applications like as email spam filtering, prediction of preferences, and recommendation engines on social networking sites. AI may also be employed, for example, to facilitate the independent operation of autonomous vehicles with little human intervention. Artificial Intelligence is utilized in the field of medicine for tasks like diagnostics and the conversion of medical data into digital format.[10]Deep learning is a component of machine learning that utilizes substantial quantities of unorganized data to be processed by an artificial intelligence model for analysis and generating results. At the national level, this technology may be used to collect previously undisclosed data about populations. In the context of autonomous vehicles and artificial intelligence, various entities such as car manufacturers, hardware vendors, software licensors, mobile network operators, and technology providers, among others, may share responsibility for any damages resulting from an accident involving an autonomous vehicle. This is due to the intricate nature of multiple service provider business models. These businesses and service providers have different levels of responsibility for providing the essential parts and services for the functioning of autonomous vehicles. The issue of liability can become far more intricate in this particular situation if many issues arise simultaneously, as is often the case with interconnected technology.[11] This will entail trade secrets, various foreign entities, cross-border transactions, and items and technology that are safeguarded by intellectual property. The widespread use of the Internet of Things (IoT) and Artificial Intelligence (AI) technologies poses some inquiries that, due to their superiority over conventional legal proceedings (explained below), would likely be most effectively resolved through arbitration. The judicial system may not be well equipped to address issues related to artificial intelligence in autonomous automobiles due to the absence of laws that account for the many technological details that need to be thoroughly examined during legal disputes. The European Commission's White Paper on AI, published in February 2020, states that it can be challenging to provide evidence of a fault in autonomous automobiles, the resulting damage, and the direct connection between the two.[12] This study drew significant inspiration from the 2019 report titled "Liability for Artificial Intelligence

[10] Adam Bohr and Kaveh Memarzadeh, "The rise of artificial intelligence in healthcare applications," 1 *Artificial Intelligence in Healthcare* 25–60 (2020).
[11] *Liability for Artificial Intelligence Report from the Expert Group on Liability and New Technologies -New Technologies Formation*.
[12] *On Artificial Intelligence -A European Approach to Excellence and Trust White Paper on Artificial Intelligence a European Approach to Excellence and Trust*, 19 February 2020.

 ISSN: 2582-6433

and Other Emerging Digital Technologies" by the Expert Group on Liability and New Technologies of the European Commission.[13] Strict responsibility is suggested as an effective measure to address the dangers associated with evolving digital technologies, which have the potential to inflict substantial harm. Strict accountability should be borne by those who derive benefit from the utilization of advancing digital technology and assume responsibility for the accompanying risks. Establishing a definitive allocation of blame can be a complex task, even in ordinary situations. Determining the primary beneficiary and the dominant authority over an AI system, such as an autonomous automobile, is a complex task. A multi-party interdependent technological dispute might potentially include a significant number of participants. Consequently, it would be difficult to create a distinct allocation of proportional responsibility, which would likely necessitate the involvement of many specialists with differing degrees of knowledge and specialization. An optimal approach to addressing this type of scenario is through a confidential and adaptable conflict resolution method such as arbitration.

Biotechnology, biometric data, and the right to privacy and personal data protection

Data privacy is a highly debated issue in emerging technologies, particularly due to the rapid growth of this industry. Although the use of new technologies that might streamline daily chores may require individuals to sacrifice certain privacy rights, overall, consumers expect that the personal data collected will be sufficiently safeguarded and not exploited.[14] The amount of protection provided to personal information depends on the type of data stored. The relationship between an individual's right to privacy and their use of technology, and the potential for wider contractual, commercial, or corporate liability resulting from the data generated by such use, is illustrated by biometric data and biotechnology.[15] Biometric data refers to biological attributes, such as voice, facial expressions, and physical traits, that may be utilized for the purpose of identifying an individual. Biometric data processing and collection, which is categorized as sensitive data by most data protection laws, has become a regular part of everyday life. For example, speech recognition technology improves the security of phone banking transactions, and access to our phones' crucial applications is restricted to scanning our fingerprints or facial features for safety. Similarly, fitness trackers collect and manage extensive quantities of confidential user

[13] Philipp Hacker, "The European AI Liability Directives – Critique of a Half-Hearted Approach and Lessons for the Future" *SSRN Electronic Journal* (2022).
[14] The Economic Times, "AI and Privacy: The privacy concerns surrounding AI, its potential impact on personal data" *The Economic Times*, 25 April 2023.
[15] Zibusiso Dewa, "The Relationship between Biometric Technology and Privacy: A Systematic Review," 739 *Sai Conference* (2017).

activity and health data, with the user's prior consent.[16] The biometric data is not processed locally on the user's device, but instead, it is processed in the cloud or a data centre managed by a service provider. The results are then transmitted to the device in a user-friendly format. Biotechnology endeavours utilize biometric data in intricate, expensive, hazardous, and collaborative manners. These efforts sometimes need intricate technologies and arrangements because of the involvement of several players from various nations, sensitive data, and classified subject matters.[17] Given their high cost, intricate nature, global reach, and need for secrecy, these types of projects are well-suited for arbitration.

In the realm of business, biometric security measures, such as fingerprint scanning, are transitioning from being exclusive to high-security regions to being a common preventive measure. This raises inquiries regarding the legality and validity of consent. Consent will be considered invalid according to best-practice standards if there is no alternative option, such as a one-time password, for collecting biometric data. This situation brings attention to several intricate matters that intersect between the rights of employees to privacy regarding their data and the interests of corporations in maintaining cybersecurity and confidentiality. In cases where these interests clash and become contentious, arbitration may prove advantageous, although this may not be the situation in certain regions with data protection regulations.[18]

The primary risk is in the potential exposure of these businesses' data, whether via deliberate or accidental means, so exposing them to various liabilities, data breaches, and perhaps cybersecurity breaches. Engaging in unauthorized access, copying, sending, distributing, exchanging, transmitting, circulating, or processing of data that leads to its disclosure to unauthorized parties, as well as causing damage or alteration during storage, transmission, or processing, is considered a violation of information security and personal data.[19] However, contracts that involve contemporary service providers contain distinct divisions of responsibilities among controllers, processors, and sub-processors of data and personal data, which is a result of the intricate nature of their business models. Hence, it might be challenging, if not unattainable, to pinpoint the exact

[16] Kavous Salehzadeh Niksirat et al., "Wearable Activity Trackers: A Survey on Utility, Privacy, and Security" *ACM Computing Surveys* (2024).
[17] "Digital," *OECD available at*: https://www.oecd.org/en/topics/digital.html.
[18] Erik G W Schafer , "Managing Data Privacy and Cybersecurity Issues" *globalarbitrationreview.com*, 2023*available at*: https://globalarbitrationreview.com/guide/the-guide-evidence-in-international-arbitration/2nd-edition/article/managing-data-privacy-and-cybersecurity-issues (last visited July 5, 2024).
[19] NCES, "Chapter 6 -- Information Security, from Safeguarding Your Technology, NCES Publication 98-297 (National Centre for Education Statistics)" *nces.ed.gov*, 2023*available at*: https://nces.ed.gov/pubs98/safetech/chapter6.asp.

 ISSN: 2582-6433

company accountable for a data breach that impacts the personal information of an individual or individuals. In order to prove their innocence in the breach, organizations often present a comprehensive list of security measures implemented and best practices followed to safeguard the data. These measures may include encryption, data minimization, least privilege access procedures, anonymization techniques, and other similar precautions. Consequently, several suggestions have been put up to establish shared and collective accountability among entities that handle personal data, unless they have a specific agreement stating otherwise.Another significant characteristic of these disputes is their potential to cause both reputational and financial damage, the latter of which can be more challenging to recover from. Inevitably, organizations that neglect to safeguard customer data will ultimately see a decline in their earnings. An important aspect of resolving disputes is the implementation of a private and strictly secret approach since privacy is advantageous for all parties engaged in the conflict.

Fintech

Fintech technologies rely on the collection and analysis of huge quantities of personal data from clients.[20] Despite being subject to regulation by many governing bodies and frameworks, this industry remains relatively young, necessitating the expansion of legislation to encompass business models that were not previously foreseen by regulators. Payment services is a rapidly expanding subsector within the fintech industry. It is necessary to handle and preserve sensitive client transaction data, usually in a tokenized manner, in order to enable faster repeat transactions. Nevertheless, tokenized transactions typically do not necessitate the use of 3D security measures, such as multi-factor authentication.[21] While this allows for faster processing, it also results in diminished protection. Merchant payment agreements and other agreements involving payment service providers usually have detailed parts that outline exclusions of duty. These provisions often cover the usage of tokenized transactions that may appear approved but are actually not. Such breaches-related issues are common in emerging technologies, but intellectual property may also lead to conflicts in the banking sector. Disagreements are bound to arise about the ownership of technology among fintech developers and service providers due to the proliferation of comparable fintech solutions in terms of scope and function. Furthermore, intellectual property (IP) litigation is notorious for being arduous, expensive, and time-consuming, in addition to the complications that result from disputes mostly centred around misunderstood emerging

[20] Foonkie Monkey, "The Role Of Big Data In FinTech" *Code X*, 2023 *available at*: https://medium.com/codex/the-role-of-big-data-in-fintech-b125342b9123.

[21] TokenEx, "What is 3-D Secure Authentication, and Why Do I Need It?" *tokenex*, 2020*available at*: https://www.tokenex.com/blog/what-is-3-d-secure-authentication-and-why-do-i-need-it/ (last visited July 5, 2024).

technologies.[22] In addition, cryptocurrencies and virtual assets are gaining recognition as a distinct category of digital assets that can be bought, held, and sold using blockchain technology instead of physical counterparts or traditional currency.[23] A decentralized entity has the ability to create and distribute cryptocurrency, a form of digital currency that is decentralized through cryptographic methods and traded on a blockchain ledger, which may or may not support other virtual assets. There is a widespread concern regarding the stability of cryptocurrency assets and currencies.[24] These digital forms of money operate on decentralized platforms that are not regulated and lack a unified international approach. Unlike traditional currencies issued by commercial banks or sovereign institutions, cryptocurrencies may not possess the same level of stability. Ownership difficulties can arise in addition to those linked to the transfer of virtual assets, the enforcement of smart contracts, and other security concerns. For example, buyers of a *Non-Fungible Token* (NFT) just own the NFT itself and not the virtual asset it represents or its license.[25] However, the platform possesses the power to unilaterally sever the NFT's linkage to the underlying asset, so rendering it devoid of any value or purpose. This can be executed, for example, if the buyer violates the platform's terms and conditions. Although NFTs generally do not grant intellectual property rights to the underlying asset, the seller of an NFT can transfer these rights to the buyer if they are the owner of such rights. This transfer is not inherently part of the NFT; rather, it is commonly designated as a distinct entity and documented in writing. Consequently, the allocation of *Intellectual Property* (IP) specifically for the sale of non-fungible tokens (NFTs) is prone to disagreement, since it can be difficult to prove ownership rights over an NFT that has not yet been associated with any IP. In view of the aforementioned circumstances, the lack of restrictions, and the frequent assurance of anonymity for investors, the parties involved in a dispute are likely to favour a timely, confidential, non-governmental, and unbiased dispute resolution forum.[26] International arbitration is a way of resolving disputes that allows the parties to have full control over the selection of judges, the rules and regulations that apply to the arbitration, and the site of the arbitration. This autonomy is not influenced by the government.

[22] "Scope for Reformative Dispute Resolution in India: Abolition of The Intellectual Property Appellate Board to Arbitration of Intellectual Property Disputes | Economic and Political Weekly," *www.epw.in*, 2024*available at*: https://www.epw.in/engage/article/scope-reformative-dispute-resolution-india (last visited July 5, 2024).
[23] ACCA, "Accounting for cryptocurrencies | ACCA Global" *Accaglobal.com*, 2019 *available at*: https://www.accaglobal.com/in/en/student/exam-support-resources/professional-exams-study-resources/strategic-business-reporting/technical-articles/cryptocurrencies.html.
[24] Lieven Hermans et al., "Decrypting financial stability risks in crypto-asset markets" *www.ecb.europa.eu* (2022).
[25] Rakesh Sharma, "Non-Fungible Token Definition: Understanding NFTs" *Investopedia*, 2023 *available at*: https://www.investopedia.com/non-fungible-tokens-nft-5115211.
[26] N Srikrishna, *Report of the High Level Committee to Review the Institutionalisation of Arbitration Mechanism in India*, 30 July 2017.

 ISSN: 2582-6433

Dispute Resolution

The results of the 2016 Queen Mary University of London Survey on Pre-empting and Resolving Technology, Media, and Telecoms (TMT) Disputes indicated that 92% of participants believed that international arbitration was suitable for TMT disputes.[27] Additionally, at least 75% of TMT organizations surveyed expressed a preference for mediation over arbitration as their chosen approach to resolving disputes.[28] These findings may not be unexpected. Historically, international arbitration has had a major impact on resolving disputes in the field of international *Technology, Media, And Telecommunications* (TMT).[29] This dependency arises from the necessity for a procedure that is regarded as unbiased, just, and confidential, which is separate from the possibility of choosing a local court and, as a result, the perceived possibility of prejudice from either a foreign or domestic court. Arbitration can also benefit from the advantages offered by this new technology, including the potential for time and cost savings, enhanced control, and improved efficiency. It surpasses the advantages provided by litigation in terms of industry-specific conflict resolution benefits, including valuable aspects such as delocalization, specialized expertise, confidentiality, and global enforcement.[30]

Analysing The Benefits Of International Arbitration Over Judicial Action For Technological Conflicts

Between neutrality and nationality

A crucial element of arbitration is the impartiality of the location and the arbitrator. The essential elements of international arbitration consist of a location that is not tied to any one nation, is geographically independent, and is overseen by a tribunal that is impartial, unbiased, independent, and evenly distributed.[31] Given the significance of appearing unbiased, non-partisan, and, above all, impartial, many institutional regulations stipulate that the tribunal must not share the same country as any side involved, unless the parties agree otherwise. The forum's impartiality is subject

[27] "2016 An insight into resolving Technology, Media and Telecoms Disputes - School of International Arbitration," *arbitration. qmul.ac .uk available at*: https://arbitration.qmul.ac.uk/research/2016/ (last visited July 5, 2024).

[28] Naseer Ali Khasawneh and Maria Mazzawi , "Arbitration and the Advent of New Technologies" *globalarbitrationreview.com*, 2023*available at*: https://globalarbitrationreview.com/guide/the-guide-telecoms-arbitrations/second-edition/article/arbitration-and-the-advent-of-new-technologies.

[29] David Mcllwaine, "Study launched into efficiency of international arbitration in resolving technology disputes" *Pinsent Masons*, 2024*available at*: https://www.pinsentmasons.com/out-law/news/study-launched-into-efficiency-of-international-arbitration-in-resolving-technology-disputes (last visited July 5, 2024).

[30] World Intellectual Property Organization, "ADR Advantages" *Wipo.int*, 2019 *available at*: https://www.wipo.int/amc/en/center/advantages.html.

[31] "What Is International Arbitration? • Arbitration," *International Arbitration available at*: https://www.international-arbitration-attorney.com/what-is-international-arbitration/.

 ISSN: 2582-6433

to the same truths. International parties may be hesitant to agree to the jurisdiction of a foreign court due to concerns about potential bias against the party that shares the court's nationality. Arbitration is considered more suitable for resolving disputes related to new technology, such as cryptocurrency conflicts when there is less government regulation or even situations where the government expresses hostility towards cryptocurrencies.[32] In such instances, investors would seek to avoid the judiciary's involvement in policy determinations. Investors in cryptocurrencies are more inclined to trust arbitration as a neutral and non-state-based platform for resolving conflicts, rather than relying on traditional centralized court-based dispute settlement. The advantages of nationality and neutrality would likely be considered particularly suitable for disputes arising from biotechnology projects, which often include several international partners and the exchange of sensitive and personal data across borders.

Global Implementation

The global enforcement of arbitral awards under the Convention on the Recognition and Enforcement of Foreign Arbitral Awards provides a substantial benefit compared to the enforcement of judgments by national courts, due to the inherent cross-border nature of international technology transactions.[33] However, it remains uncertain how international arbitral opinions will be rendered in cases involving potentially uncontrolled subject matter, such as issues related to cryptocurrencies. In certain nations where legal action may be taken, the topic of the disagreement might be considered "arbitrable," potentially due to concerns related to public policy.[34] Granting an award for virtual assets on a blockchain network might possibly pose difficulties. Arbitration is a voluntary and legally binding process for resolving disputes. However, it is crucial to consider the decentralized nature of the platform where transactions occur and are verified by advanced algorithms that are permanently recorded on the platform's ledger. The conventional approach to enforcing awards by attaching assets may provide difficulties. For instance, if the owner of NFTs experiences a disconnection from the underlying asset, any award associated with that asset would become invalid. In addition, transactions recorded on the blockchain are immutable, meaning they cannot be reversed or altered even if it is proven that

[32] Naseer Ali Khasawneh and Maria Mazzawi , "Arbitration and the Advent of New Technologies" *globalarbitrationreview.com*, 2023*available at*: https://globalarbitrationreview.com/guide/the-guide-telecoms-arbitrations/second-edition/article/arbitration-and-the-advent-of-new-technologies.

[33] Sam (Ronghui) Li et al., "Recognition and Enforcement of Foreign Arbitral Awards in China Between 2012-2022: Review and Remarks (Part II)" *Kluwer Arbitration Blog*, 2023 *available at*: https://arbitrationblog.kluwerarbitration.com/2023/09/12/recognition-and-enforcement-of-foreign-arbitral-awards-in-china-between-2012-2022-review-and-remarks-part-ii-2/.

[34] Matthew R Reed et al., "Arbitrability of IP Disputes" *www.worldtrademarkreview.com*, 2021 *available at*: https://www.worldtrademarkreview.com/guide/the-guide-ip-arbitration/2021/article/arbitrability-of-ip-disputes.

 ISSN: 2582-6433

virtual assets were sold with the intention of distributing assets prior to receiving an award. These potential complexities require thorough regulation.[35]

Expertise and arbitrator selection

The main benefit of technology-related arbitration is the possession of professional expertise. One of the main advantages of arbitration is that it allows the parties involved to choose arbitrators who have specialized knowledge. Additionally, they can pick independent third parties to offer technical opinions to support their claims. The demand for sophisticated expertise in making judgments on resolving conflicts increases with each new technological advancement, as well as its implementation, distribution, and utilization. The necessity for a greater number of competent, specialized, and varied arbitrators has been the subject of intense discussion.[36] However, the fact remains that this group of professionals have a level of knowledge and skills that much exceeds that of national judges, who often possess just a legal or judicial administrative background.

Confidentiality

International technical disputes sometimes encompass a range of sensitivities, such as those related to the data involved, the technology itself, and its intellectual property or trade secrets, among others. It is sometimes stated that the decision to choose an alternative dispute resolution method instead of official justice is mostly motivated by the need for confidentiality. Arbitration offers parties a greater range of choices for maintaining privacy and confidentiality in international disputes compared to domestic court processes. This is because arbitration is specifically structured to prioritize confidentiality and non-publicity by default.[37] The confidentiality of the arbitral processes prevents the parties from disclosing information about the underlying dispute. Trade secrets technology challenges are particularly suitable for resolution through arbitration because to its private nature. There will always be those who want to utilize a public platform, regardless of whether they have valid issues related to public interest. Most firms, however, discover that arbitration offers a more efficient method of resolving confidential disputes, which have significant repercussions for their fundamental business operations, particularly in relation to intellectual information or sensitive data.[38]

[35] Gousia Habib et al., "Blockchain Technology: Benefits, Challenges, Applications, and Integration of Blockchain Technology with Cloud Computing," 14 *Future Internet* (2022).
[36] Catherine Rogers, *The Ethics of International Arbitrators the ETHICS of INTERNATIONAL ARBITRATORS*.
[37] Robert W Wachter, Grace Yoon and Minjae Yoo, "Confidentiality in International IP Arbitration" *globalarbitrationreview.com*, 2022*available at*: https://globalarbitrationreview.com/guide/the-guide-ip-arbitration/second-edition/article/confidentiality-in-international-ip-arbitration.
[38] "Resolving IP Disputes through Mediation and Arbitration," *www.wipo.int*, 2006 *available at*: https://www.wipo.int/wipo_magazine/en/2006/02/article_0008.html.

 ISSN: 2582-6433

Adaptability, control, and flexibility

Due to its inherent structure as a consensual procedure, arbitration grants parties greater autonomy in determining the course and extent of the proceedings. This encompasses comprehensive control over nearly every aspect of the procedure, spanning from fundamental determinations regarding the qualifications, nationality, backgrounds, and appointment methods of the arbitrators to more specific determinations concerning institutional or ad hoc rules, as well as the latest permissible time for meeting a deadline and the potential necessity of document disclosure or discovery. In addition, the parties have the option to reach an agreement about the structure of the processes and the specific types and levels of technologies that can be utilized. During the onset of the COVID-19 epidemic, arbitral hearings rapidly transitioned to a "remote" format.[39] In reaction, institutions promptly issued revised protocols for this procedure, which serves as a current illustration of the efficacy and authority of this adaptability and oversight, and a demonstration of the versatility of arbitration as a mechanism. Currently, the majority of firms provide online dispute resolution as a means to emphasize the efficiency and simplicity of the procedure. The benefits of electronic arbitration have garnered more attention due to the COVID-19 pandemic, which has necessitated virtual arbitration proceedings. This method is particularly advantageous in terms of its efficiency and potential for cost and time savings. Electronic arbitration is particularly suitable for new technology dispute resolution since it is not inherently tied to a certain location. Individuals with a strong understanding and proficiency in technology may find e-arbitration and the incorporation of technology in arbitration particularly attractive.[40] Depending on the manner in which technology is utilized, these parties may have the ability to have greater influence on the processes and the secrecy of electronically administered arbitration, as well as secure access to pleadings and evidence. Given that digital file sharing forms the basis of e-arbitration, cybersecurity emerges as the foremost area of susceptibility. This risk increases when additional personal information is shared, transmitted, and accessed by individuals online. Consequently, it is incumbent upon the parties and arbitral institutions to enforce security protocols that would diminish the probability of such occurrences.

Rapidity and effectiveness

The main advantage of arbitration has consistently been its capacity to promptly settle conflicts without hindering corporate operations or frequent discussions among partners. Conversely, state

[39] Nicole Iannarone, *A MODEL for POST-PANDEMIC REMOTE ARBITRATION?*

[40] Naseer Ali Khasawneh and Maria Mazzawi , "Arbitration and the Advent of New Technologies" *globalarbitrationreview.com*, 2023*available at*: https://globalarbitrationreview.com/guide/the-guide-telecoms-arbitrations/second-edition/article/arbitration-and-the-advent-of-new-technologies.

 ISSN: 2582-6433

court proceedings can experience prolonged durations, spanning several months or even years, before reaching a resolution. Speed in arbitration is often seen as both advantageous and disadvantageous. Disputes resolved through arbitration are often resolved far more quickly compared to those resolved by national courts, depending on the applicable legal system. Regarding arbitration, a hearing date is usually secured within a few months, and the tribunal's availability is revealed before they are appointed. However, in certain legal systems, it might take many years only to arrange a trial date due to the overwhelming number of cases awaiting resolution. Consequently, it is simple to schedule arbitration sessions based on the availability of the parties involved and the arbiter. Although arbitration is widely recognized for its expedited resolution of disputes compared to national courts, it is sometimes criticized for its apparent sluggishness. These issues have prompted a significant change in the arbitration sector. Prominent arbitral organizations have implemented emergency and accelerated procedures. The International Chamber of Commerce in Paris [41]for instance, has committed to overseeing a rapid arbitration process that will be completed within six months. The method is referred to as the *Expedited Procedure Provisions* (EPP) process.[42]

Accessibility/Cost

Arbitration is frequently more cost-effective than litigation, however, there are exceptions, particularly when taking into account the conclusive nature of verdicts (which will be discussed later). The primary factor influencing the cost is the legal expenses, which, after being subtracted, result in a significant expenditure consisting of expert fees, administrative costs of the institution, and any fees imposed by the tribunal.[43] Arbitration costs might vary depending on the preferences of the parties involved. Online dispute resolution allows for remote resolution of issues by replacing the travel expenses of parties, legal representatives, witnesses, and tribunal members with the cost of a virtual hearing service provider and an internet connection. Arbitration offers a notable advantage over litigation in terms of costs, as travel fees are still incurred, notwithstanding the increasing allowance of e-appearance in some court hearings.

Traditionally, the high cost of arbitration has been a significant obstacle for small technology

[41] sylvie, "ICC Arbitration and ADR Commission Report on Emergency Arbitrator Proceedings" *ICC - International Chamber of Commerce*, 2019*available at*: https://iccwbo.org/news-publications/arbitration-adr-rules-and-tools/emergency-arbitrator-proceedings-icc-arbitration-and-adr-commission-report/ (last visited July 5, 2024).
[42] "Expedited Procedure Provisions," *ICC - International Chamber of Commerceavailable at*: https://iccwbo.org/dispute-resolution/dispute-resolution-services/arbitration/rules-procedure/expedited-procedure/.
[43] Bhumika Indulia, "A Requiem for Costs" *SCC Times*, 2023*available at*: https://www.scconline.com/blog/post/2023/02/06/a-requiem-for-costs/ (last visited July 5, 2024).

 ISSN: 2582-6433

firms, making it difficult for them to access arbitration. The *World Intellectual Property Organization*[44] (WIPO) and the *International Chamber of Commerce* (ICC) have recently made changes to their arbitral rules in order to offer *Small And Medium-Sized Firms*[45] (SMEs) a more efficient and cost-effective alternative for resolving disputes through arbitration. Starting from July 1, 2021, the WIPO Arbitration and Mediation Centre will decrease its fees by 25% if either or both parties involved in a dispute are small and medium-sized enterprises (SMEs) with a maximum of 250 employees.[46] This change is in accordance with the revised WIPO Mediation Rules, Arbitration Rules, Expedited Arbitration Rules, and Expert Determination Rules. The amended EPP, like the 2017 Rules, is included in the 2021 ICC Rules.[47] This also offers a streamlined, expedited procedure with reduced time and cost implications.

Finality

Arbitration has the benefit of providing final and conclusive verdicts, which is not the case with litigation. An arbitral ruling may often only be nullified or disputed on specified grounds, and appeals based on the merits of the award are not allowed. Arbitration offers a higher degree of conclusiveness compared to court rulings, which can be challenged on both procedural and substantive grounds through a two-tier appeals procedure, resulting in significant delays.[48] Arbitration is more expeditious than litigation, which is another significant factor contributing to its effectiveness in resolving conflicts. Although it can be advantageous if an arbitration ruling is favourable, parties involved in disputes related to new and unregulated issues or businesses may find it worrisome. In such instances, the judgments may be grounded on the legislation that was applicable during the disagreement, which may not be suitable considering the significant advancements in technology or the nature of the current challenges. This principle would also extend to determinations rendered by domestic tribunals regarding the same issue, encompassing any potential bias or absence of fairness in national regulations. Therefore, despite limited opportunities for appeal, arbitration appears to be the preferable alternative.

---

[44] WIPO, "WIPO - World Intellectual Property Organization" *Wipo.int*, 2019*available at*: https://www.wipo.int/portal/en/index.html.

[45] "2021 Arbitration Rules," *ICC - International Chamber of Commerce available at*: https://iccwbo.org/dispute-resolution/dispute-resolution-services/arbitration/rules-procedure/2021-arbitration-rules/.

[46] "WIPO Schedule of Fees and Costs," *www.wipo.intavailable at*: https://www.wipo.int/amc/en/mediation/fees/#:~:text=A%2025%25%20reduction%20on%20the (last visited July 5, 2024).

[47] "2021 Arbitration Rules," *ICC - International Chamber of Commerceavailable at*: https://iccwbo.org/dispute-resolution/dispute-resolution-services/arbitration/rules-procedure/2021-arbitration-rules/.

[48] Sanjeev K Kapoor and Saman Ahsan , "Challenging and Enforcing Arbitration Awards: India - Global Arbitration Review" *globalarbitrationreview.com*, 2024*available at*: https://globalarbitrationreview.com/insight/know-how/challenging-and-enforcing-arbitration-awards/report/india.

 ISSN: 2582-6433

CONCLUSION

Given the emergence of several novel technologies in the past decade, it is certain that they will persist in evolving and giving rise to fresh challenges and repercussions.[49] Although the future outcomes of these technologies and technological arbitration remain somewhat uncertain, it is necessary to revise the existing system of traditional conflict resolution through litigation to accommodate the emerging environment. Due to the current state of affairs and the established terminology and principles associated with it, the legal system that relies on litigation places significant emphasis on geographical considerations. The legal system incorporates several key concepts and terms that are considered essential. These include habitual residency, places of business, and regulated commercial operations, as defined by conventional standards. These outdated definitions may soon become obsolete as a result of the rise of new technologies such as virtual reality and blockchain, rendering them inappropriate for use in the quickly evolving legal domains. Arbitration is the most suitable approach for resolving conflicts related to emerging technology, and it will continue to evolve and adjust promptly until traditional dispute resolution methods catch up. Arbitration is a leading venue that is perceived as fair by all parties because of its remedies that provide a transnational scope, a private and flexible process, and maximal control. This results in a conclusive and globally applicable resolution that is not limited by the geographical jurisdiction of court rulings. Arbitration's main advantages still lie in its possession of specialized expertise, particularly in matters related to technology. The parties' ability to choose arbitrators with specialized expertise and independent specialists to provide technical opinions creates an atmosphere that is fully equipped to manage even the most complex matters.

[49] Stefan Calimanu, "How technology is changing the landscape of economic development" *ResearchFDI*, 2023*available at*: https://researchfdi.com/resources/articles/how-technology-is-changing-the-landscape-of-economic-development/.