

THE ADMISSIBILITY AND AUTHENTICATION OF ELECTRONIC EVIDENCE IN ARBITRATION: A LEGAL PERSPECTIVE

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Abstract

The growing dependence on digital communication and electronic records has profoundly affected arbitration processes globally. This study examines the use of electronic evidence in arbitration, concentrating on its admissibility, authentication, and evidentiary significance within Indian and international arbitration systems. This analysis explores the progression of arbitration law in India, detailing its transformation from historical practices to contemporary statutory structures, notably the Arbitration and Conciliation Act of 1996 and its later changes. A comparative review of international arbitration rules, encompassing those of the United States, United Kingdom, France, Germany, Singapore, and Hong Kong, highlights the disparities in legal norms and methodologies regarding electronic evidence. The study examines critical concerns, including data preservation, authenticity verification, and cybersecurity threats, while assessing technical improvements such as E-Discovery and digital forensics that enhance evidence management. The examination of experts' roles in validating electronic records underscores the necessity for specialised expertise in arbitration processes. The paper examines the future of electronic evidence in arbitration, taking into account advancements in artificial intelligence, blockchain technology, and virtual hearings. It promotes standardised minimum criteria and improved legal structures to guarantee efficacy and equity in digital conflict resolution. In conclusion, it guarantees that arbitration continues to serve as an effective and credible instrument for conflict settlement in the digital age.

Keywords: Arbitration, Electronic Evidence, Technology, Digital age

Arbitration in India

Arbitration in India is a method of resolving conflicts outside the judicial system by appointing a neutral third person, referred to as an arbitrator.¹ The arbitration procedure is regulated by

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¹ <https://www.wipo.int/amc/en/arbitration/what-is-arb.html>

the Arbitration and Conciliation Act of 1996, which establishes a legal foundation for dispute resolution by arbitration in India.²

Arbitration in India is:

- cost-effective;
- time-efficient;
- faster and less formal than court proceedings;
- parties can choose the arbitrator;
- confidential;

In India, arbitration is regulated by the principle of party autonomy, permitting the parties to determine the rules and procedures that will govern their arbitration. This encompasses the governing law, the arbitration venue, and the quantity and qualifications of the arbitrators.³

In India, arbitration awards are binding and enforceable and can be enforced in the courts⁴. However, the parties have limited rights to appeal an arbitration award, and any challenges to the award must be made on limited grounds, such as violation of natural justice or lack of jurisdiction.⁵

History of Arbitration and the existing legal framework

Arbitration possesses very extensive historical lineage in India, originating from the Vedic era. The "Brihadaranyaka Upanishad" was among the earliest texts to address arbitration within Hindu law. Under British administration, government courts addressed only those cases that remained unsettled by popular courts and served as appeals against the verdicts of the popular courts.

On July 1, 1899, India enacted its inaugural Arbitration Act. It is pertinent solely to the presidential cities of Bombay, Calcutta, and Madras. The arbitration agreement must provide the names of the arbitrators, who will serve as judges to adjudicate the case. The Indian Arbitration Act of 1889 was intricate, unwieldy, and required amendment. Subsequently, a

² https://legalaffairs.gov.in/sites/default/files/arbitration-and-mediation_0.pdf

³ Arbitration – India, Shreyas Jayasimha, Mysore Prasanna, Rajashree Rastogi and S Bhushan, Aarna Law, Dec 12, 2014

⁴ Section 35, Arbitration and Conciliation Act, 1996

⁵ Section 34, Arbitration and Conciliation Act, 1996

more precise Arbitration Act was enacted in 1940 during the British administration, applicable throughout India. The Arbitration Act, of 1940 had a provision for:

- Preventing the degradation and dilution of the parties' agreement;
- Provision to differentiate between an application for annulment of an award and for a determination that the award is void.

But the act has the following drawbacks as well:

- Different high courts have different rules for filing awards.
- There was no provision for the appointment of a new arbitrator if the court-appointed arbitrator died during the arbitration process.
- The Act contains no stipulation preventing an arbitrator from leaving at any point throughout the arbitration process.
- It allowed for arbitration devoid of judicial intervention; nonetheless, it failed to yield the intended outcome, resulting in an increasingly litigation procedure.

The existing arbitration legislation is a synthesis of prior decrees and ordinances issued by the Government of India to address the challenges posed by the nation's cyclical economic fluctuations. Subsequent to independence, the Arbitration and Conciliation Act 1996 was promulgated, patterned on the UNCITRAL (United Nations Commission on International Trade Law) legal framework.

The Arbitration and Conciliation Act, of 1996 has the following features:

- The Act contains no stipulation preventing an arbitrator from leaving at any point throughout the arbitration process.
- It allowed for arbitration devoid of judicial intervention; nonetheless, it failed to yield the intended outcome, resulting in an increasingly litigation procedure.
- Revise and unify the legislation regulating domestic and international business arbitration.
- Define the legislation regulating conciliation.
- Render foreign arbitral awards enforceable.
- To establish a just and efficient arbitration procedure, seek to diminish the courts' supervisory function in the arbitral process.
- It permits an Arbitral Tribunal to employ mediation, conciliation, and other methods to resolve disputes during the arbitral process.

- One purpose of the Act was to significantly limit the grounds for contesting an arbitrator's ruling in court.

In 2015 and 2019, the Government of India revised the Arbitration and Conciliation Act of 1996.

The Arbitration and Conciliation (Amendment) Act, 2015 becomes effective on October 23, 2015. The Amendment Act of 2015 substantially reformed the nation's prior arbitration framework, rendering arbitration a profitable form of alternative dispute resolution (ADR). These enhancements were vital in strengthening the nation's endorsement of international arbitration.

The features of the Arbitration and Conciliation (Amendment) Act 2015 are:

- Judicial activity has been markedly constrained and diminished. Part I of the Act shall be applicable to international commercial arbitrations, regardless of whether the venue is located outside India, unless the parties stipulate otherwise.
- In the context of international commercial arbitration, the term "Court" exclusively denotes the High Court of competent jurisdiction.
- A clause was added to Section 2(2) indicating that, unless otherwise stipulated, the provisions of Articles 9, 27, and 37 (1)(a) shall also be applicable to international commercial arbitrations. The 2015 Act instituted a stringent time constraint for the completion of the arbitration process.

The 2019 Amendment Act is a governmental endeavour aimed at establishing India as an arbitration-friendly jurisdiction and harmonising Indian arbitration law with various other jurisdictions. The features of the Arbitration and Conciliation (Amendment) Act 2019 are:

- The appointment of arbitrators, which previously resulted in delays due to a significant backlog of cases in the courts, also alleviated some pressure on the judicial system.
- The previously established 12-month time limit for issuing awards in all arbitration processes has been abolished for foreign arbitrations.

- Before the 2019 Amendment Act, a conflict existed between the Arbitral Tribunal and the judiciary; however, parties may now seek interim relief from the courts following the arbitral award but prior to its enforcement.
- The 2019 Amendment Act mandates that parties disputing the award must exclusively depend on the Arbitral Tribunal's record, thereby facilitating a more efficient arbitration process.
- The 2019 Act has stipulations pertaining to the confidentiality of arbitration proceedings.

The Arbitration and Conciliation (Amendment) Act, 2021

In March 2021, Parliament adopted the Arbitration and Conciliation (Amendment) Bill, 2021, which replaced the Arbitration and Conciliation (Amendment) Ordinance of 2020. The Arbitration and Conciliation (Amendment) Act 2021 currently encompasses stipulations for both local and foreign arbitration, together with regulations pertaining to conciliation proceedings.

Features of the act:

- The elimination of the 8th Schedule allowed parties to select their arbitrators without regard to their credentials.
- The Eighth Schedule prohibits a foreign national from acting as an arbitrator in an Arbitration conducted in India was consequently condemned by legal scholars.
- The Amended Act, however, abolishes the qualifications for arbitrators as stipulated in the Arbitration and Conciliation Act of 1996.
- The criteria for arbitrator accreditation are currently intended to be governed by regulations to be formulated by a newly established Arbitration Council.
- The elimination of the Eighth Schedule is regarded as a beneficial measure that will significantly enhance India's arbitration framework.
- Under the 2021 Act, the court may only order an unconditional stay if an appeal pursuant to Section 34 of the arbitration legislation is proceeding, if the award is founded on a fraudulent agreement or corruption.

Arbitration and Conciliation (Amendment) Bill 2024 (Draft)

The draft Arbitration and Conciliation (Amendment) Bill, 2024 (Draft Amendment) represents a pivotal advancement in enhancing India's arbitration framework by recognising and providing legislative support to practices that have already been established through judicial precedents and broad acceptance. The Draft Amendment aims to modernise arbitration procedures by establishing clearer regulations, enforcing tougher timetables, and enhancing dependence on institutional arbitration.

- The Bill expands the concept of arbitration to specifically encompass proceedings conducted via "audio-video electronic means," so formalising the use of virtual hearings. It acknowledges arbitration agreements executed with digital signatures, conforming to modern digital transaction practices.
- A thorough structure for emergency arbitration is constructed, permitting the appointment of an emergency arbitrator before the formation of the Arbitral Tribunal. Orders rendered by emergency arbitrators are enforceable in an identical manner to those from the Arbitral Tribunal, offering parties options for urgent interim relief.
- To resolve persistent misunderstandings, the Bill substitutes the term "place" with "seat" throughout the Act, clarifying that "seat" denotes the legal authority overseeing the arbitration processes, whilst "venue" refers to the physical location of the hearings.
- The Bill introduces strict timelines for various stages of arbitration to expedite proceedings.
- The Bill redefines "arbitral institution" and empowers these institutions to handle procedural aspects traditionally managed by courts, such as extending time limits and substituting arbitrators. This shift aims to reduce judicial intervention and promote efficiency.
- The Arbitration Council is tasked with framing a model arbitration agreement, providing parties with a standardized template to reduce interpretational issues and promote consistency.
- The Bill proposes the deletion of the Fourth Schedule, with arbitrator fees to be determined by the Arbitration Council. It also emphasizes a regime of costs, holding parties accountable for procedural delays and encouraging adherence to timelines.

Definition of Electronic Evidence in Indian Arbitration and International Commercial Arbitration

Electronic Evidence- India

Electronic Evidence in Indian Arbitration denotes any information generated, saved, or transmitted electronically that serves as evidence in an arbitration process. This includes emails, text messages, digital documents, audio recordings, video recordings, and various other types of electronic communication.

The admissibility and significance of electronic evidence in arbitration in India are regulated by the Indian Evidence Act of 1872 (now Bharatiya Sakshya Samhitha, 2023) and the Arbitration and Conciliation Act of 1996, together with applicable international treaties. The Indian Evidence Act characterises electronic evidence as "any information generated, transmitted, received, or stored in media, including magnetic, optical, computer memory, microfilm, computer-generated microfiche, or analogous devices."

The Indian legal system acknowledges electronic evidence as possessing equivalent evidentiary value to traditional evidence, provided that the electronic evidence is appropriately certified and its integrity is demonstrable. The side must present the electronic evidence to demonstrate its authenticity and confirm that it has not been altered or tampered with. The authentication procedure may be conducted via digital signatures, secure timestamps, and further techniques.

Electronic Evidence- International Commercial Arbitration

Electronic Evidence in International Commercial Arbitration denotes any information generated, saved, or transmitted electronically that serves as evidence in an international commercial arbitration process. This include emails, text messages, digital documents, audio recordings, video recordings, and various other types of electronic communication.

In international commercial arbitration, the admissibility and significance of electronic evidence may be regulated by various rules, including the governing law of the arbitration agreement, the regulations of the arbitral institution overseeing the arbitration, and pertinent international treaties.

The utilisation of electronic evidence in international commercial arbitration adheres to the idea of party autonomy, permitting the parties to stipulate the rules and procedures governing

their arbitration. In the absence of a contract, the arbitral tribunal possesses the authority to assess the admissibility and significance of electronic evidence, taking into account the principles of equity and neutrality.

For electronic evidence to be admissible, it must be pertinent and significant to the case, and it must be susceptible of authentication and corroboration. The authentication method necessitates that the party present the electronic evidence to demonstrate its authenticity and confirm that it has not been modified or compromised. The evidentiary value of electronic evidence is assessed by the arbitral tribunal, which will evaluate aspects including the reliability of the evidence, the method of its collection, and any pertinent expert testimony.⁶

Admissibility of Electronic Evidence in Indian Arbitration and International Commercial Arbitration

Admissibility of Electronic Evidence in India

The acceptance of electronic evidence in Indian arbitration is regulated by the Indian Evidence Act of 1872 and the Arbitration and Conciliation Act of 1996. Under these criteria, electronic evidence is admissible in Indian arbitration if it is pertinent and significant to the dispute, and if it can be authenticated and its integrity verified.

Section 65B of the Indian Evidence Act stipulates that electronic evidence is admissible when it is generated in accordance with the provisions of the Information Technology Act of 2000. The Information Technology Act 2000 mandates that electronic records must be safe, tamper-proof, and admissible as evidence in legal proceedings.

In Indian arbitration, the arbitral tribunal possesses the authority to accept evidence that may be inadmissible in a court of law. The tribunal must ensure that the evidence presented is pertinent and significant to the dispute and that its admission does not compromise the rights of the parties involved.⁷

To authenticate electronic evidence, the party introducing it must prove that it is what it purports to be and that it has not been altered or tampered with. This can be done using digital signatures, secure timestamps, and other methods. The party introducing the electronic

⁶ "Recognition and Enforcement of Foreign Arbitral Awards", Springer Science and Business Media LLC, 2017

⁷ "Methanex Corporation. United States of America ", ICSID Reports, 2021

evidence must also provide a witness or expert testimony to explain the technology and the evidence.⁸

Electronic evidence is admissible in Indian arbitration provided it is pertinent, significant, can be adequately vetted, and its integrity verified. The arbitral tribunal possesses extensive discretion to accept evidence and will evaluate its probative value alongside any objections presented by the parties in its determination.

Admissibility of Electronic Evidence in International Commercial Arbitration

The acceptance of electronic evidence in international commercial arbitration is regulated by the principle of party autonomy, permitting the parties to determine the applicable rules and procedures for their arbitration.⁹ Without an agreement, the acceptance of electronic evidence is at the discretion of the arbitral panel.

International commercial arbitration tribunals generally have a permissive stance on the admission of evidence, accepting any evidence that is pertinent and significant to the dispute.¹⁰ This includes electronic evidence, which is considered on the same footing as traditional forms of evidence.

The party presenting electronic evidence must verify its authenticity. This necessitates the party to demonstrate that the electronic evidence is authentic and has not been modified or interfered with.¹¹ The authentication process can be done through digital signatures, secure timestamps, and other methods.

The evidential value of electronic evidence is assessed by the arbitral tribunal, which will evaluate aspects including the reliability of the evidence, the method of its collection, and any pertinent expert testimony.¹²

Electronic evidence is admissible in international commercial arbitration if it is relevant and material to the dispute and its authenticity can be established. The arbitral tribunal has broad

⁸ Quynh Anh Tran. "Chapter 7 The Authentication of Electronic Evidence", Springer Science and Business Media LLC, 2022

⁹ "Recognition and Enforcement of Foreign Arbitral Awards", Springer Science and Business Media LLC, 2017

¹⁰ *ibid*

¹¹ Quynh Anh Tran. "Chapter 7 The Authentication of Electronic Evidence", Springer Science and Business Media LLC, 2022

¹² "Handling and Exchanging Electronic Evidence Across Europe", Springer Science and Business Media LLC, 2018

discretion to admit evidence and will consider the probative value of the evidence and any objections raised by the parties in deciding.

Authenticating Electronic Evidence

Authenticating Electronic Evidence under Indian Arbitration

Under the Indian Arbitration and Conciliation Act of 1996, the admission of electronic evidence in arbitration proceedings is regulated by the same criteria that apply to the admissibility of all other forms of evidence.¹³ Electronic evidence is typically admissible if it pertains to the issue and meets the criteria of relevance, reliability, and authenticity. The Act does not explicitly address the authentication of electronic evidence; nevertheless, the Indian Evidence Act of 1872 offers guidelines on the admissibility of electronic evidence within the Indian legal framework.¹⁴

According to the Evidence Act, electronic records can be accepted as evidence if generated from a routinely utilised computer system and if the record is demonstrated to be a genuine and precise representation of the originally stored information. In an arbitration case, the party utilising electronic evidence must demonstrate that the electronic record is legitimate, precise, and dependable.¹⁵ This can be done through the examination of the computer system that generated the record, the examination of the person responsible for the computer system, or the examination of any other evidence that supports the authenticity of the electronic record.

In certain instances, the parties may concur on the authenticity of electronic evidence via a mutual agreement or by stipulating the applicable rules of evidence for the arbitration procedures. The parties may also concur on the designation of an expert to aid the arbitrator in assessing the veracity of the electronic evidence.

The authentication of electronic evidence in Indian arbitration is regulated by the general rules of evidence admissibility, with the Indian Evidence Act offering advice on the admission of such evidence within the Indian legal framework. The parties may concur on the validity of

¹³ Lee Swales. "An Analysis of the Regulatory Environment Governing Hearsay Electronic Evidence in South Africa: Suggestions for Reform – Part Two", Potchefstroom Electronic Law Journal, 2018

¹⁴ "Handling and Exchanging Electronic Evidence Across Europe", Springer Science and Business Media LLC, 2018

¹⁵ "Recognition and Enforcement of Foreign Arbitral Awards", Springer Science and Business Media LLC, 2017

electronic evidence by an agreement or stipulation, or by designating an expert to aid the arbitrator in assessing the legitimacy of the electronic evidence.¹⁶

Authenticating Electronic Evidence under International Commercial Arbitration

The admissibility and authenticity of electronic evidence in international commercial arbitration are regulated by the laws and norms of the jurisdiction in which the arbitration occurs, as well as the regulations of the arbitral institution overseeing the process.

International commercial arbitration organisations typically use rules analogous to those present in national legal frameworks and judicial systems. The International Chamber of Commerce (ICC) implements regulations akin to those established in the United Nations Commission on International Trade Law (UNCITRAL) Model Law on International Commercial Arbitration.

According to the UNCITRAL Model Law, electronic evidence is permissible in international commercial arbitration provided it is pertinent to the dispute and its validity can be verified. The Model Law lacks explicit directives about the authentication of electronic evidence; rather, it asserts that parties should be permitted to address the relevance and legitimacy of the evidence submitted.¹⁷

In practice, the validation of electronic evidence in international commercial arbitration frequently necessitates that the parties furnish comprehensive elucidations regarding the provenance and veracity of the electronic evidence. This may encompass the analysis of the computer systems that produced the evidence, the evaluation of the individual accountable for the computer system, or the scrutiny of any additional evidence that corroborates the authenticity of the electronic evidence.

In certain instances, the parties may concur on the authenticity of electronic evidence via a mutual agreement or by stipulating the applicable rules of evidence for the arbitration procedures. The parties may also concur on the designation of an expert to aid the arbitrator in assessing the veracity of the electronic evidence.¹⁸

¹⁶ Quynh Anh Tran. "Chapter 7 The Authentication of Electronic Evidence", Springer Science and Business Media LLC, 2022

¹⁷ "Role of Data Hiding Techniques for Detection of Virtual Disks in Cloud Environment" , International Journal of Recent Technology and Engineering, 2020

¹⁸ Quynh Anh Tran. "Chapter 7 The Authentication of Electronic Evidence" , Springer Science and Business Media LLC, 2022

The validation of electronic evidence in international commercial arbitration is regulated by the laws and regulations of the jurisdiction in which the arbitration occurs, along with the norms of the arbitral institution overseeing the proceedings. The parties may concur on the validity of electronic evidence by an agreement or stipulation, or by designating an expert to aid the arbitrator in assessing the legitimacy of the electronic evidence.

The Weight of Electronic Evidence in Arbitration

Weight of Electronic Evidence in Indian Arbitration

The significance attributed to electronic evidence in Indian arbitration is contingent upon various criteria, including the evidence's relevance, authenticity, and the trustworthiness of the systems and methods employed for its creation and storage.

The Indian Evidence Act of 1872 regulates the admissibility of evidence in legal procedures, including arbitration, under Indian law. The Act stipulates that all pertinent evidence is admissible, irrespective of its format, whether electronic or traditional physical evidence. Nonetheless, the Act stipulates that the court or arbitrator must assess the credibility of the electronic evidence prior to attributing it any significance.

The significance attributed to electronic evidence in Indian arbitration will be contingent upon the particular facts and circumstances of the case. If the electronic evidence has been appropriately saved, secured, and preserved, it is more likely to be accorded significance by the arbitrator. If the electronic evidence is deemed unreliable or its validity is questioned, it may be afforded diminished significance or totally dismissed.

The admissibility and significance of electronic evidence in Indian arbitration may be affected by the regulations of the arbitral institution overseeing the process, along with any agreements between the parties concerning the admissibility and significance of such evidence.¹⁹

The significance attributed to electronic evidence in Indian arbitration will be contingent upon various criteria, including the evidence's relevance, authenticity, and the trustworthiness of the systems and methods employed for its creation and storage. The Indian Evidence Act of 1872 establishes the legal basis for the admissibility and significance of electronic evidence in Indian arbitration; nevertheless, the particular facts and circumstances of the case may influence the weight assigned to such evidence.

¹⁹ "Handling and Exchanging Electronic Evidence Across Europe", Springer Science and Business Media LLC, 2018

Weight of Electronic Evidence in International Commercial Arbitration

The significance of electronic evidence in international commercial arbitration is contingent upon various elements, including the evidence's relevance, authenticity, and the dependability of the systems and methods employed for its creation and storage.

In international commercial arbitration, the regulations of the administering organisation, such as the International Chamber of Commerce (ICC) or the International Centre for Settlement of Investment Disputes (ICSID), may dictate the admissibility and significance of electronic evidence. The laws of the arbitration seat or the governing law of the contract may influence the admissibility and weight of electronic evidence.

International commercial arbitration tribunals often possess extensive discretion to assess the admissibility and significance of electronic evidence. The ICC guidelines stipulate that the tribunal may consider any pertinent aspect, including the credibility of electronic evidence, when assessing its weight.

The significance attributed to electronic evidence in international commercial arbitration will be contingent upon the particular facts and circumstances of the case. If the electronic evidence has been appropriately saved, secured, and preserved, it is more likely to be accorded significance by the tribunal. If the electronic evidence is deemed unreliable or its validity is questioned, it may be accorded diminished significance or totally dismissed.

The significance of electronic evidence may change across various arbitral tribunals and nations. Certain nations may prioritise the dependability of electronic evidence, whereas others may focus more on the authenticity of the evidence.

The significance of electronic evidence in international commercial arbitration is contingent upon various elements, including the evidence's relevance, authenticity, and the dependability of the systems and methods employed for its creation and storage. The regulations of the administering institution and the laws of the arbitration's location, or the contract's governing law, may influence the admissibility and significance of electronic evidence; however, the particular facts and circumstances of the case may also affect the weight assigned to such evidence.

Considerations for Electronic Evidence in Arbitration

In both Indian and international commercial arbitration, there are several considerations that parties should keep in mind when presenting and relying on electronic evidence:

- **Relevancy:** The significance of electronic evidence is a critical element in assessing its admission and weight in arbitration procedures. The evidence must be directly pertinent to the dispute and must substantiate the facts at issue. The arbitral tribunal will evaluate the relevance of the electronic evidence to the dispute and its potential to aid in the decision-making process. If the evidence lacks relevance, it may be omitted from the proceedings.
- **Authenticity:** The veracity of electronic evidence is a crucial element in assessing its admissibility and significance in arbitration. The parties must demonstrate that the electronic evidence is authentic and has not been manipulated or modified in any manner. This may entail establishing the chain of custody for the electronic evidence, verifying that the evidence was produced by the party asserting its generation, or employing alternative methods to confirm its validity.²⁰
- **Reliability:** The dependability of electronic evidence is a crucial element in assessing its admissibility and significance in arbitration. The parties must be able to demonstrate that the electronic evidence is accurate and complete and that it has not been subject to any defects or malfunctions that would affect its reliability. This may necessitate the involvement of technical experts to evaluate and assess the electronic evidence.²¹
- **Preservation:** The preservation of electronic evidence is an important consideration in arbitration. The parties must take steps to preserve all relevant electronic evidence from the time the dispute arises until it is resolved. This may involve backing up electronic data, preserving electronic equipment, and ensuring that electronic evidence is not lost or destroyed.
- **Admissibility:** The acceptability of electronic evidence in arbitration is contingent upon the regulations of the administering institution, the laws of the arbitration's seat, or the governing law of the contract. The parties must guarantee that the electronic evidence complies with the applicable rules or laws for admissibility. The admissibility of electronic evidence may, in certain instances, be contested by either or both parties.

²⁰ "Handling and Exchanging Electronic Evidence Across Europe" , Springer Science and Business Media LLC, 2018

²¹ *ibid*

- The burden of Proof: The parties must be ready to demonstrate the validity and trustworthiness of the electronic evidence and fulfil their burden of proof. This may entail presenting expert testimony or additional evidence to establish the legitimacy and credibility of the electronic evidence.
- Technical Expertise: The parties may require the involvement of technical experts to aid in the authentication, preservation, and presentation of electronic evidence. Technical experts can verify the validity and reliability of electronic evidence and offer expert testimony to support it.²²
- Confidentiality: The parties must consider the confidentiality and privacy implications of electronic evidence and must take steps to protect sensitive information. In some cases, the parties may need to agree on confidentiality and privacy arrangements for the electronic evidence. They may also need to take steps to redact confidential information from the electronic evidence before it is submitted to the arbitral tribunal.

Use of Technology in Electronic Evidence Collection in arbitration proceedings

The use of technology in electronic evidence collection in arbitration proceedings has increased significantly in recent years. The use of technology has made the process of evidence collection and preservation more efficient, cost-effective, and reliable.

Electronic evidence collection technology includes eDiscovery software, which allows the parties to collect and preserve electronic evidence from a variety of sources, including email, social media, cloud-based data storage, and other digital sources. The use of eDiscovery software makes it easier for parties to identify, preserve, and collect relevant electronic evidence, and can greatly reduce the time and costs associated with traditional evidence-collection methods.

Another technology used in electronic evidence collection is digital forensics, which involves the analysis of electronic devices and systems to recover and analyze data for use in legal proceedings.²³ Digital forensics can be used to retrieve and preserve evidence from a variety of sources, including computers, smartphones, and other digital devices.

In addition to these technologies, there are also various tools and platforms available for conducting virtual arbitration proceedings, which allow parties to participate in proceedings

²² "Handling and Exchanging Electronic Evidence Across Europe" , Springer Science and Business Media LLC, 2018

²³ *ibid*

remotely and submit electronic evidence. These virtual platforms provide a secure and efficient way for parties to present and consider electronic evidence, and can greatly reduce the time and costs associated with traditional arbitration proceedings.

The integration of technology in the collection of electronic evidence during arbitration procedures represents a significant advancement that is expected to expand and progress in the forthcoming years. Technology may significantly enhance the efficiency, reliability, and cost-effectiveness of the evidence-collection process, making it a crucial factor for participants in arbitration procedures.

The Role of Experts in Electronic Evidence in Arbitration

The involvement of specialists in electronic evidence in arbitration is essential for establishing the admissibility, legitimacy, and significance of such evidence. Electronic evidence is inherently complicated and technological, necessitating specialised knowledge and experience for comprehension and interpretation.²⁴

Specialists in electronic evidence may assume various roles in arbitration processes. For instance, they may be consulted to provide optimal techniques for the collection, preservation, and presentation of electronic evidence, in addition to evaluating the strengths and weaknesses of various forms of electronic evidence.

Experts can significantly contribute to the validation of electronic evidence. This entails evaluating the dependability and veracity of electronic evidence while ensuring it remains unaltered and untampered. Professionals may be enlisted to do forensic analyses of electronic devices and systems, as well as to offer expert testimony regarding the authenticity and reliability of electronic evidence.²⁵

Furthermore, specialists can assess the significance of electronic evidence, including its relevance, credibility, and reliability. This may entail appraising the robustness of the evidence, evaluating the quality of the data, and contemplating the environment in which the evidence was produced.

The involvement of specialists in electronic evidence in arbitration is crucial for guaranteeing that such evidence is evaluated equitably and dependably during arbitration processes.

²⁴ "Handling and Exchanging Electronic Evidence Across Europe", Springer Science and Business Media LLC, 2018

²⁵ Quynh Anh Tran. "Chapter 7 The Authentication of Electronic Evidence", Springer Science and Business Media LLC, 2022

Participants in arbitration hearings ought to contemplate enlisting specialists in electronic evidence to guarantee that their electronic evidence is admissible, authentic, and sufficiently substantial to bolster their case.

Challenges and Solutions for Electronic Evidence in Arbitration

The use of electronic evidence in arbitration proceedings can present several challenges, which can impact the admissibility, authenticity, and weight of the evidence. Some of these challenges include:

- **Preservation of electronic evidence:** It can be difficult to preserve electronic evidence in a way that ensures its integrity and reliability. Electronic evidence can be easily altered, deleted, or destroyed, and appropriate measures must be taken to ensure its preservation.²⁶
- **Authenticating electronic evidence:** Electronic evidence is susceptible to fabrication, making the assessment of its veracity difficult. This complicates the assessment of the trustworthiness and believability of electronic evidence.
- **Interpreting electronic evidence:** Electronic evidence may be intricate and sophisticated, posing challenges for arbitrators, parties, and witnesses in comprehending and interpreting the information.
- **Ensuring electronic evidence is admissible:** Electronic evidence may not be admissible if it does not meet certain legal requirements, such as being properly authenticated, or if it is irrelevant, unreliable, or prejudicial.

To address these challenges, parties involved in arbitration proceedings can implement several solutions, including:

- **Engaging experts in electronic evidence:** Experts in electronic evidence can assist in collecting, preserving, and presenting electronic evidence, as well as in authenticating and interpreting electronic evidence.
- **Implementing proper preservation protocols:** To ensure the preservation of electronic evidence, parties should implement proper preservation protocols, such as backing up electronic data, using write-protect mechanisms, and using appropriate storage devices.

²⁶ "Handling and Exchanging Electronic Evidence Across Europe", Springer Science and Business Media LLC, 2018

- Authenticating electronic evidence through forensic examinations: To ascertain the veracity of electronic evidence, parties may enlist experts to do forensic analyses of electronic devices and systems.
- Using technology to present and interpret electronic evidence: Parties can use technology, such as visual aids, to present and interpret electronic evidence in a way that is easy for arbitrators, parties, and witnesses to understand.
- Ensuring electronic evidence meets legal requirements: To ensure that electronic evidence is admissible, parties should be aware of the legal requirements for admissibility and take steps to ensure that their electronic evidence meets these requirements.

By addressing these challenges and implementing appropriate solutions, parties involved in arbitration proceedings can ensure that electronic evidence is considered fairly and reliably in arbitration proceedings.

International Considerations for Electronic Evidence in Arbitration

International considerations for electronic evidence in arbitration pertain to the variances in laws and regulations among nations concerning the utilisation and admissibility of electronic evidence in international commercial arbitration proceedings. The following are some of the key international considerations:

- Different legal frameworks: The legal foundation for electronic evidence might significantly differ among countries. Some countries may possess particular legislation concerning electronic signatures, although others may lack such provisions. This may affect the admission of electronic evidence in arbitration proceedings.
- Cross-border disputes: Cross-border disputes involving electronic evidence can be challenging, especially when the evidence is stored in different countries. This may raise issues of jurisdiction, conflict of laws, and data protection.
- Different evidential standards: Different countries may have different evidential standards for electronic evidence. For example, in some countries, electronic evidence may only be admissible if it is original and has not been altered, while in others, evidence that is not original may still be admissible if it is reliable.
- Data protection laws: Electronic evidence may contain personal data, and the collection and use of such data must comply with relevant data protection laws. These laws vary

between countries, and it is important to be aware of the different requirements in each jurisdiction.

- International treaties: Some international treaties, such as the Hague Evidence Convention, provide for the exchange of evidence between countries in civil and commercial matters.²⁷ However, not all countries have ratified these treaties, and even where they have, the procedures for exchanging evidence may differ.

Parties and arbitrators must take into account certain international factors when addressing electronic evidence in international commercial arbitration. This may necessitate obtaining legal counsel and consulting specialists in electronic evidence and international disputes.²⁸

Future Developments in Electronic Evidence in Arbitration

In recent years, the utilisation of electronic evidence in arbitration has escalated due to the increasing dependence on technology in commercial operations. As technology advances, electronic evidence is anticipated to have a progressively significant role in arbitration hearings. Some of the future developments in electronic evidence in arbitration include:

- Advancements in Artificial Intelligence: Artificial intelligence is expected to play a larger role in the collection and analysis of electronic evidence in arbitration. AI tools can automate certain tasks, such as the review of large amounts of data, and provide insights that may not be possible through manual review.
- Increased Use of Blockchain: Blockchain technology is expected to be used increasingly in the arbitration to ensure the authenticity and integrity of electronic evidence. Blockchain can provide a secure and tamper-proof record of transactions and other data, making it a valuable tool for use in arbitration proceedings.
- Greater Interoperability: As more and more data is generated electronically, it is expected that there will be increased efforts to develop systems and protocols that allow for greater interoperability between different technologies. This will make it easier for parties to exchange electronic evidence and ensure that it can be easily analyzed and evaluated in arbitration proceedings.
- Increased Use of Virtual Hearings: As technology continues to evolve, it is expected that virtual hearings will become increasingly common in arbitration proceedings. This

²⁷ "Handling and Exchanging Electronic Evidence Across Europe", Springer Science and Business Media LLC, 2018

²⁸ *ibid*

will allow parties to participate in proceedings from different locations, reducing the need for travel and making the process more efficient.

- **Improved Cybersecurity:** With the growing use of electronic evidence, appropriate measures must be taken to ensure its security. In the future, it is expected that there will be increased attention paid to cybersecurity in arbitration, including the development of new tools and technologies to protect electronic evidence from cyber threats.

Future advancements are expected to profoundly influence the utilisation of electronic evidence in arbitration, necessitating that parties and arbitrators remain informed about the latest technologies and best practices.²⁹

Conclusion

In conclusion, electronic evidence is becoming an increasingly vital component of arbitration proceedings, especially in international commercial arbitration. The admissibility and authenticity of electronic evidence are regulated by an intricate framework of laws and regulations, encompassing the norms of the arbitral institution, the legislation of the arbitration seat, and pertinent international treaties. The utilisation of technology in the acquisition and examination of electronic evidence entails numerous obstacles and issues, encompassing data privacy, data security, and the involvement of experts.

To utilise electronic evidence effectively in arbitration, parties and arbitrators must be acquainted with pertinent legislation and best practices, and must undertake necessary measures to ensure the proper authentication and protection of electronic evidence. This encompasses proficiency in technology for electronic evidence gathering, comprehension of the experts' role in electronic evidence, and awareness of the issues and solutions associated with the utilisation of electronic evidence in arbitration.

With the increasing utilisation of electronic evidence, it is imperative for parties and arbitrators to remain informed about the newest technological advancements and optimal procedures. This would guarantee the effective and efficient utilisation of electronic evidence in arbitration, so facilitating the equitable and effective resolution of disputes through arbitration.

²⁹ "Abstract", Journal of Thrombosis and Haemostasis, 2007