KLEROS

PROJECT: IMPLEMENTATION OF KLEROS IN TOKENIZED STOCK DISPUTE RESOLUTION

Msc. Darío Echeverria Muñoz, LL.M.
Kleros Fellowship Batch 7, 2024

Index

1. Introduction

The tokenization of assets, including corporate equities, represents a significant innovation in global financial markets. This process, which involves the digital representation of traditional assets on the blockchain, promises to increase liquidity, reduce transaction costs, and democratize access to investment. In Ecuador, the Law of Modernization to the Companies Law, issued in 2020, opened the door to this possibility by allowing the issuance of dematerialized shares and their representation in electronic book entries.

However, the introduction of this new form of shareholder representation also brings challenges, particularly regarding dispute resolution. Traditional dispute resolution mechanisms may be inadequate to deal with the complexities and speed of the digital asset world. In this context, decentralized dispute resolution systems, such as Kleros, are emerging as a promising alternative.

This research explores the possibility of implementing Kleros, a blockchain-based decentralized justice protocol, for the resolution of disputes related to tokenized shares in Ecuador. It will analyze how this system could be integrated within the legal framework established by the Fourth General Provision of the Law of Modernization to the Law of Companies, considering its potential benefits, challenges and legal implications.

2. Kleros operation

Kleros is a decentralized dispute resolution protocol that utilizes blockchain technology and cryptoeconomic incentives to establish an efficient, transparent, and accessible justice system. The protocol's functionality is based on several key principles and mechanisms that ensure its operability and reliability.

2.1 Decentralized juries

The Kleros system employs a decentralized arbitration process that involves multiple components:

- **Case Submission:** Disputants submit their cases to the Kleros platform, providing evidence and arguments.
- **Juror Selection:** A panel of jurors is randomly selected from a pool of candidates whohave staked the native Kleros token (PNK) in specific subcourts. These subcourts are specialized branches of the Kleros system, each dedicated to particular types of disputes such as e-commerce, intellectual property, and finance, among others. (Lesaege et al., 2019)
- **Evidence Review:** Selected jurors examine the submitted evidence and arguments.
- **Voting:** Jurors cast their votes based on their evaluation of the case.
- **Decision Execution:** The majority decision is implemented through smart contracts.

This process aims to provide a fair and efficient alternative to traditional court systems, leveraging the decentralized nature of blockchain technology.

2.2 Dispute resolution process

Kleros offers a digital dispute resolution process designed to address limitations in traditional court systems regarding speed and efficiency.

The process unfolds as follows:

- Parties present their evidence and arguments through the Kleros platform.
- A randomly selected jury examines the provided information.
- Jurors deliberate and render a verdict.

This process occurs in a transparent and accessible environment, allowing real-time monitoring of case progression. The digitalization of the process aims to reduce resolution times and associated costs, potentially democratizing access to justice.

The use of blockchain technology in the Kleros platform ensures the integrity and immutability of records. Additionally, the random jury selection system is designed to mitigate certain biases, although it's important to note that complete elimination of all biases is challenging.

2.3 Financial incentives

Kleros implements an economic incentive system designed to promote quality and adherence to established principles in jury decisions. This mechanism is based on the distribution of PNK tokens, the platform's native cryptocurrency.

The incentive model functions as follows:

- Jurors who vote in alignment with the majority receive additional PNK tokens.
- Jurors whose decisions differ from the majority are penalized, losing a portion of their initial stake.

This model serves two primary functions:

- **Integrity Promotion:** It aims to motivate jurors to vote according to their genuine conviction about the correct decision, based on the assumption that the majority will statistically reach the correct verdict more often.

- **Corruption Deterrence:** By linking the financial interest of jurors to the integrity of the system, the model seeks to reduce the likelihood of bias or corruption.

This system encourages participation and careful study of each case, as jurors have a tangible incentive to invest time and effort in their deliberations. However, it's important to note that the effectiveness of such incentive systems in ensuring fairness is an ongoing subject of research and debate in the field of mechanism design and game theory.

2.4 Appeals

Kleros incorporates an appeals system that aims to reinforce the integrity and accuracy of its verdicts. This mechanism provides an additional layer of review in the dispute resolution process.

Key aspects of the appeals system include:

- **Larger Jury Panels:** When an appeal is initiated, a new panel of jurors is

convened, typically larger than the previous one.

- **Increased Stake Requirements:** Appealing parties and jurors in appeal rounds are required to stake higher amounts of tokens, raising the economic stakes of the process.

- **Multiple Appeal Rounds:** The Kleros system allows for multiple rounds of appeals, with each subsequent round involving a larger jury and higher stakes.

The appeals system is designed to provide a more comprehensive review of complex cases or contentious disputes. However, the effectiveness of this system in achieving optimal outcomes remains an area for further empirical research.

2.5 Transparency and automatic execution

Kleros leverages blockchain technology and smart contracts to enhance transparency and efficiency in dispute resolution. This approach aims to transform how court decisions are recorded, verified, and enforced.

Key features include:

2.5.1. **Blockchain Recording:** Every decision and process within the Kleros ecosystem is recorded on the blockchain, offering:
- **Accessibility:** Interested parties can access and verify the history of transactions and decisions, subject to privacy considerations.
- **Traceability:** Actions are recorded chronologically and immutably.
- **Fraud Mitigation:** The immutability of records aims to reduce the chances of manipulation.

2.5.2 **Smart Contract Integration:** Kleros decisions can be linked to smart contracts, potentially offering:
- **Automated Implementation:** Resolutions can be executed automatically, reducing delays.
- **Cost Reduction:** The need for certain intermediaries may be reduced.
- **Process Simplification:** The complexity associated with the execution of traditional judgments may be minimized.

While this system aims to streamline the dispute resolution process and enhance trust in the protocol, it's important to note that the use of blockchain in legal processes is still an evolving field with ongoing discussions about its implications for privacy, scalability, and legal recognition.

3. Legal Framework for Tokenized Shares in Ecuador

Before considering the implementation of Kleros in resolving disputes related to tokenized shares in Ecuador, it is essential to examine the legal framework that governs this form of shareholder representation and alternative dispute resolution mechanisms. This analysis encompasses relevant provisions from the Code of Commerce, the Constitution of the Republic of Ecuador, and the Companies Law Modernization Act of 2020.

The exploration of Ecuador's legal landscape will provide context for understanding the potential role and challenges of implementing a decentralized arbitration system like Kleros in the country's financial and legal ecosystem.

3.1 Constitution of the Republic of Ecuador

The Ecuadorian Constitution also provides important support for the implementation of alternative dispute resolution mechanisms such as Kleros. The first clause of Article 190 of the Constitution states: "Arbitration, mediation and other alternative dispute resolution procedures are recognized. These procedures shall be applied subject to the law, in matters in which, by their nature, compromise is possible." (Constitución de la República del Ecuador, 2008)

This constitutional provision provides a solid basis for the implementation of innovative dispute resolution systems such as Kleros, if they comply with the legal framework in force and are applied in matters susceptible to settlement.

It is important to note that this constitutional recognition of alternative dispute resolution methods reflects a global trend towards the diversification of justice mechanisms. By including this provision, the Ecuadorian legislator demonstrates a progressive and flexible vision of the judicial system, allowing the incorporation of new technologies and methods that can improve access and efficiency in the administration of justice.

In addition, the phrase 'other alternative procedures' opens the door to the implementation of systems based on blockchain technology, such as Kleros, as long as they comply with the established legal requirements. This could be interpreted as an invitation to innovation in the field of dispute resolution, allowing Ecuador to position itself at the forefront in the adoption of technological solutions for legal problems.

However, it is crucial to point out that the implementation of these systems must be carried out with caution, ensuring that the fundamental principles of due process and the right to defense enshrined in the Constitution itself are respected. The adoption of

platforms such as Kleros must be accompanied by an adequate regulatory framework to ensure their correct application and protect the rights of citizens.

3.2 Commercial Code

The Ecuadorian Commercial Code provides a fundamental legal basis for the implementation of smart contracts, essential in the context of tokenized shares. Article 77 of the Commercial Code states:

> "Smart contracts are agreements produced by computer programs used by two or more parties, which agree on clauses and subscribe electronically.
>
> The smart contract program facilitates the signing or expression of the will of the parties, as well as ensures its fulfillment, by means of provisions instructed by the parties, which can even be fulfilled automatically, either by the program itself, or by a financial institution or other, if at the signing of the contract the parties establish such a provision. When a pre- programmed condition is triggered by the parties, not subject to any kind of human assessment, the smart contract executes the corresponding contractual clause.
>
> In the absence of contractual stipulation, the administrators of such program or those who have its control, shall be liable for the contractual and extra-contractual obligations arising from the contracts entered into in this manner, and in any case the provisions protecting the rights of consumers shall be applicable." (Código de Comercio, 2019)

From a legal perspective, this legal provision represents a significant advance in the modernization of Ecuadorian commercial law. By recognizing and regulating smart contracts, the legislator has created a regulatory framework that allows for technological innovation in the contractual sphere, while establishing safeguards to protect the parties involved.

It is important to highlight several key aspects of this regulation:

- **Legal recognition:** By defining and recognizing smart contracts, they are given legal validity, which facilitates their adoption and use in commercial transactions.
- **Automation:** The law explicitly recognizes the ability of these contracts to execute automatically, which can increase efficiency and reduce costs in many transactions.
- **Liability:** It is clearly established who is responsible in case of problems, which provides legal certainty to the parties involved.
- **Consumer protection:** The inclusion of a clause that keeps consumer protection provisions in force is crucial to avoid potential abuses.
- **Flexibility:** The law allows the parties to determine how clauses will be executed, providing flexibility to adapt smart contracts to various business needs.

This regulation not only facilitates the implementation of tokenized actions, but also lays the groundwork for the development of more complex blockchain-based ecosystems, such as decentralized dispute resolution platforms. However, it is important to note that the practical implementation of these systems will require jurisprudential development and possibly additional regulations to address specific issues that may arise in their application.

3.3 Law of Electronic Commerce, Electronic Signatures, and Data Messages

The Law of Electronic Commerce, Electronic Signatures, and Data Messages of Ecuador provides a crucial legal basis for the recognition of electronic communications, which is particularly relevant for blockchain technology and the tokenization of shares. Article 2 of this law defines a data message as follows:

> "Data message" means the information generated, sent, received, stored, or communicated by electronic, optical, or similar means, such as Electronic Data Interchange (EDI), Internet transmissions, and e-mail. (Ley de Comercio Electrónico, Firmas Electrónicas y Mensajes de Datos, 2002).

Additionally, Article 2 provides for the functional equivalence of data messages to traditional written documents, stating:

> Information shall not be denied legal effect, validity, or enforceability solely on the grounds that it is in the form of a data message. (Ley de Comercio Electrónico, Firmas Electrónicas y Mensajes de Datos, 2002).

This legal recognition is foundational for blockchain technology and the digitalization of corporate processes, as it grants data messages, including blockchain entries, the same legal validity as written documents. This principle of equivalence allows for the secure, transparent, and efficient use of blockchain technology to manage and transfer tokenized shares.

Key points of this regulation include:

- **Legal equivalence:** Data messages, including blockchain records, are granted the same legal effect as traditional written documents, supporting the use of digital assets and tokenized shares.
- **Secure documentation:** Blockchain-based entries used for tokenized shares would fall under this definition, ensuring their legal enforceability.
- **Digital signatures:** The law also supports the use of electronic signatures, which can be integrated with blockchain technology for secure transactions and verifications.

In the context of share tokenization, this principle implies that tokenized shares, which are recorded on a blockchain, must maintain compliance with the legal requirements of traditional shares, ensuring their validity and enforceability within the Ecuadorian legal system.

This framework supports blockchain as a reliable and legally recognized method for recording and managing tokenized shares, ensuring that they hold the same legal value as physical documents. It also plays a critical role in enabling the adoption of advanced technologies like decentralized dispute resolution systems, such as Kleros, by ensuring that digital transactions are not only recognized but also legally protected under Ecuadorian law.

3.4 Companies Law Modernization Act

The Law for the Modernization of the Companies Law, issued in 2020, marks a significant milestone in the modernization of Ecuadorian corporate law. This law introduces several reforms aimed at digitalization and simplification of corporate processes, including the possibility of issuing dematerialized shares.

The Fourth General Provision of this law (Ley de Modernización a la Ley de Compañías, 2020) is particularly relevant to our analysis, as it establishes the legal framework for the issuance of dematerialized shares and their representation in electronic book entries. is particularly relevant to our analysis, as it establishes the legal framework for the issuance of dematerialized shares and their representation in electronic book entries. The key points of this provision include:

- **Authorization for dematerialization:** Companies are allowed to issue dematerialized shares, i.e. shares that do not have a physical representation on paper.
- **Electronic book entries:** Dematerialized shares are represented by electronic book entries, which facilitates their digital management and transfer.
- **Legal validity:** It is established that these electronic account entries have the same validity and legal effects as traditional physical shares.
- **Registration and custody:** It is specified that these shares must be registered and kept in custody by authorized entities, which provides a framework for security and supervision.
- **Digital representation:** The ability to represent actions purely digitally, which is a fundamental requirement for tokenization.
- **Electronic transfer:** Facilitates the transfer of shares by electronic means, which is essential for the liquidity and efficiency promised by tokenization.
- **Technological innovation:** Opens the door to the application of advanced technologies, such as blockchain, for the management and transfer of shares.

In addition to these key points, it is crucial to highlight the principle of functional

equivalence that applies to the virtual implementation of share and shareholder ledgers. This principle, fundamental to the legal validity of dematerialized shares, is based on Article 5 bis of the UNCITRAL Model Law on Electronic Commerce, which states: "Information shall not be denied legal effect, validity or enforceability on the sole ground that it is not contained in the data message purporting to give rise to such legal effect, but is merely contained in the data message in the form of a reference." (Echeverría Muñoz, 2021a)

This principle is crucial because it grants the same legal effectiveness and legal value to data messages, documents and electronic signatures that the law confers to traditional written documents. This makes it possible to transfer the functionality of physical media to electronic or virtual media, ensuring security, trust and transparency for all parties involved.

In the context of share tokenization, this implies that shares implemented through blockchain, or any other telematics technology must maintain concordance with the physical underpinning that gives them legal value. Therefore, even in their dematerialized form, shares must comply with the minimum requirements stipulated in Article 176 of the Companies Law, which include. (Ley de Compañías, 2023)

- Name and principal place of business
- Number of authorized, subscribed and paid-in capital and number of shares
- Order number of the share and title
- Date and details of the deed of incorporation of the company
- Name of share owner
- Type of share (common or preferred)
- Date of issuance of title
- Signature of authorized persons

Incorporating these requirements into the digital format of dematerialized shares ensures that, despite their virtual nature, they retain all the necessary validity and legal effects. This not only facilitates the modernization of the shareholding system, but also provides a solid basis for the implementation of advanced technologies such as tokenization, while maintaining legal integrity and the protection of shareholders rights.

The implementation of blockchain in corporate processes has the potential to reduce informational asymmetries, which is a market failure that makes it difficult for certain individuals to access sufficient documentation to be informed at the same level as their counterparties.

In the corporate context, this asymmetry could mainly affect non-controlling stakeholders, either the partners/shareholders as a whole or minority shareholders, depending on the ownership pattern. The use of blockchain could mitigate these problems by facilitating access to accounting and corporate information in a more

transparent and efficient manner.

The tokenization of shares makes it possible to digitally represent a company's equity securities using blockchain technology. From a functional point of view, tokenized shares would be considered "asset tokens", as they represent rights to shares issued by a company. From a legal perspective, they could be classified as "security tokens" or "non-security tokens", depending on whether they meet the requirements to be considered tradable securities according to the stock market regulation of each country. (Velasco, 2022)

Ecuador has adopted an ex-ante selective control approach for the issuance of tokens. This means that only authorization from the regulator (the Superintendency of Companies, Securities and Insurance) is required for the issuance of tokens that qualify as negotiable securities.

Tokenization of shares of closely held companies, including Simplified Joint Stock Companies, would not require authorization. This model has the advantage of encouraging innovation and promoting access to new sources of financing, while granting a certain degree of control to the regulator to protect investors in the public market.

The Companies Law Modernization Act has laid the legal groundwork for the issuance of dematerialized shares, a fundamental step for the implementation of tokenization.

However, to take full advantage of the benefits of this technology, it is necessary to address the legal challenges and considerations it presents, such as the need for a robust and clear regulatory framework, investor protection, and compliance with anti-money laundering and anti-terrorist financing regulations.

Ecuador is in a favorable position to take advantage of the opportunities offered by stock tokenization. With a responsible and regulated approach, this technology can contribute to the modernization of the stock market, the promotion of innovation and the country's economic growth. Collaboration between the public, private and academic sectors will be critical to navigate this new environment and ensure the successful development of stock tokenization in Ecuador.

This opens a horizon of possibilities for Ecuadorian corporate law, promoting innovation, efficiency and democratization of access to capital. Addressing the legal and technical challenges in a responsible manner will be crucial to take full advantage of the benefits of this technology and position Ecuador as a benchmark in the implementation of innovative solutions in the corporate field.

The Companies Law Modernization Act of Ecuador has laid the groundwork for the tokenization of shares, yet it has also unveiled several challenges, particularly in the

realm of dispute resolution. In this context, decentralized arbitration systems like Kleros emerge as potential solutions to address these challenges. However, it is crucial to evaluate Kleros suitability within the Ecuadorian legal and financial ecosystem.

Currently, Ecuador employs various dispute resolution mechanisms, including traditional court litigation, conventional arbitration, and mediation. These methods, while established, often face criticisms regarding their efficiency, cost, and ability to handle complex technological disputes. For instance, commercial disputes in Ecuadorian courts often face prolonged resolution times, reflecting the latent inefficiency of the traditional system. These delays can extend over several months or even years, increasing associated costs and impacting business competitiveness. Traditional arbitration, while faster, still involves significant costs and can struggle with jurisdictional issues in transnational disputes.

Kleros, as a decentralized arbitration platform, offers several potential advantages that could complement the existing framework:

- **Efficiency:** Kleros could potentially resolve disputes more rapidly than traditional methods, addressing the current issue of lengthy proceedings.
- **Cost-effectiveness:** The automated nature of Kleros might reduce costs compared to conventional arbitration or litigation.
- **Jurisdictional flexibility:** As a decentralized platform, Kleros could offer a solution to jurisdictional challenges in cross-border disputes involving tokenized shares.
- **Transparency:** The blockchain-based structure of Kleros ensures immutable record-keeping, which could enhance trust in the dispute resolution process.
- **Specialization:** Kleros subcourt system could potentially adapt to create chambers specialized in Ecuadorian corporate law and tokenized assets.

However, the implementation of Kleros in Ecuador faces several hurdles:

- **Legal recognition:** Current Ecuadorian law does not explicitly recognize blockchain-based arbitration. Legislative changes or expansive interpretations of existing laws would be necessary.
- **Enforceability:** Mechanisms to ensure the enforceability of Kleros decisions within the Ecuadorian legal system need to be established.
- **Constitutional compliance:** The use of Kleros must not infringe upon constitutional rights to due process and defense.
- **Technological readiness:** The Ecuadorian legal and financial sectors preparedness to adopt blockchain-based solutions requires assessment.

These aspects underscore the potential for integrating decentralized arbitration systems like Kleros into Ecuador's tokenized stock market. However, its success depends on adapting legal frameworks and ensuring technological readiness. Comparative analysis

between Kleros and existing dispute resolution mechanisms, along with a thorough assessment of its legal feasibility and alignment with constitutional principles, will be critical in determining its practical application.

Furthermore, it will be essential to gather insights from key stakeholders—such as legal professionals, regulators, and potential users—to evaluate the system's viability and acceptance within the Ecuadorian context.

While Kleros presents a promising alternative for resolving disputes related to tokenized shares, its implementation in Ecuador requires a rigorous evaluation of both the legal framework and the technological infrastructure currently in place. The challenges related to legal recognition, enforceability, and constitutional compliance must be addressed to ensure that such a decentralized system can operate effectively within Ecuador's judicial and corporate context.

Having established the foundational legal considerations, the next section will explore in depth the potential of Kleros within the Ecuadorian environment, focusing on its applicability, advantages, and the regulatory adjustments necessary to facilitate its adoption.

4. Integration of Kleros into the Ecuadorian Legal System

The implementation of Kleros to resolve disputes related to tokenized stocks in Ecuador requires a multidimensional approach that not only considers technological advantages but also carefully integrates legal frameworks and governance structures.

The following discussion focuses on the mechanisms of integration, legal recognition, corporate governance alignment, and regulatory adaptations to demonstrate the potential efficiency of Kleros in Ecuador while addressing challenges that may arise during this process.

4.1 Legal Recognition of Alternative Dispute Resolution and Blockchain Technologies

A significant reference point for implementing Kleros in Ecuador is the recent reform in Mexico's legal framework for alternative dispute resolution. On January 26, 2024, Mexico published in the Official Journal of the Federation the "General Law of Alternative Dispute Resolution Mechanisms" (Ley General de Mecanismos Alternativos de Solución de Controversias, 2024), which also amended the Organic Law of the Federal Judicial Branch and the Organic Law of the Federal Court of Administrative Justice.

This legislation marks a significant milestone by formally integrating blockchain technologies and decentralized justice systems into the country's legal framework. Specifically, the law provides the foundation for using smart contracts and automated systems in online dispute resolution, with Article 87 defining smart contracts as "digital or computer codes executed on a blockchain that contain a set of predefined rules, under which parties agree to interact. If the rules are met, the agreement is executed automatically" (Ley General de Mecanismos Alternativos de Solución de Controversias, 2024). This legal recognition of smart contracts is transformative as it allows for the automation of dispute resolution processes, ensuring that agreements are executed seamlessly and without the need for intermediary oversight.

In addition, the law introduces the concept of decentralized justice systems, which rely on the collective participation of a community via decentralized voting, open collaboration, and incentives. This is particularly relevant to platforms like Kleros, where decentralized networks of jurors resolve disputes using blockchain-based mechanisms. The law establishes a structure that mirrors the functionality of decentralized platforms, providing a regulated space in which such platforms can operate within the bounds of Mexican law.

Several key aspects of the Mexican reform deserve emphasis:

- **Legal Recognition of Blockchain Technologies:** By formally acknowledging the use of blockchain, including smart contracts, the Mexican legal framework provides a clear pathway for the integration of decentralized technologies into dispute resolution processes. This recognition lends legal certainty to the use of automated mechanisms in resolving commercial conflicts.
- **Algorithmic Transparency:** The law ensures that the algorithms governing automated dispute resolution systems are transparent, auditable, and comprehensible by the parties involved, as outlined in Article 88. This provision enhances trust and accountability, ensuring that parties fully understand how decisions are made and executed through blockchain technologies.
- **Consumer Protection:** The reform guarantees that, even in a decentralized framework, consumer rights remain protected. Article 91 specifies that users of online dispute resolution systems retain their right to be informed about how the systems work, to receive secure treatment of personal data, and to access support when navigating these systems. This safeguard is crucial in maintaining the legitimacy of such technologies in commercial transactions.
- **Flexibility of Dispute Resolution Mechanisms:** The law allows parties to agree on the specific types of systems to be used, whether fully automated, decentralized, or hybrid, ensuring that the resolution process can be tailored to meet the needs of the parties involved. This flexibility enhances the adaptability of the legal framework to various types of commercial and legal disputes, including those involving tokenized assets.

The Mexican legal reform offers a clear example of how traditional legal frameworks can be updated to incorporate cutting-edge technologies, like blockchain and decentralized systems, without undermining fundamental legal principles. For Ecuador, particularly in the context of tokenized stock dispute resolution, this precedent demonstrates the feasibility of introducing similar technologies to improve legal processes. The use of smart contracts, automated decision-making, and decentralized justice systems could dramatically increase the efficiency, transparency, and security of resolving disputes involving tokenized shares.

In Ecuador, implementing Kleros could follow a similar path, utilizing blockchain technology to address the complexities and scalability challenges of dispute resolution in the evolving digital economy. By integrating these systems, Ecuador could benefit from greater procedural efficiency and lower transaction costs, while ensuring that parties retain trust in the legal system. Moreover, the flexibility of decentralized justice systems can help address a variety of disputes, making the Ecuadorian system more resilient and adaptable to the rapidly changing technological landscape.

4.2 Amendment to Ecuador's Arbitration and Mediation Law: Blockchain-Based Dispute Resolution

Ecuador's legal framework for Alternative Dispute Resolution (ADR) is already well-established through the Arbitration and Mediation Law. However, to accommodate emerging technologies such as blockchain and decentralized systems, this law needs to be amended. Specifically, the amendment should explicitly recognize decentralized dispute resolution mechanisms like Kleros, particularly for disputes involving tokenized stocks under the Fourth General Provision of the Companies Law Modernization Act, which regulates the tokenization of shares.

The key objectives of the amendment must consider:

a) **Establish the Legal Validity of Kleros:** The most critical aspect of the amendment would be to grant formal legal status to decisions issued by decentralized systems like Kleros. This would ensure that dispute resolutions regarding tokenized stocks, resolved through Kleros, are enforceable under Ecuadorian law and have the same legal force as traditional arbitral awards. Such a provision would align blockchain-based resolutions with existing corporate governance frameworks, providing legal certainty to companies, shareholders, and investors in Ecuador.

b) **Define Scope and Jurisdiction:** The amendment should clearly define the scope of disputes that can be addressed through Kleros. For example, conflicts involving tokenized assets, such as disagreements over shareholder voting rights, dividend distribution, or ownership transfers, should be within Kleros' jurisdiction. By doing so, the Ecuadorian legal system would provide clarity to both users and regulators, preventing jurisdictional conflicts and ensuring certainty in the application of blockchain dispute mechanisms.

c) **Facilitate Execution through Smart Contracts:** Kleros operates within a smart contract framework, where decisions are automatically executed based on pre-agreed terms. The amendment should contemplate a legal structure allowing for automated execution of decisions in disputes over tokenized stocks. For example, if a Kleros jury rules in favor of a shareholder in a voting rights dispute, the corresponding ownership or governance rights could automatically be adjusted in the company's blockchain-based register. This would create a seamless integration between corporate governance and blockchain-based resolution systems.

d) **Ensure Due Process:** To maintain alignment with Ecuadorian legal principles, it is crucial that Kleros follows established standards of due process, including the right to be heard, impartial decision-making, and fair treatment. The amendment should require Kleros to provide transparent procedures that

respect these fundamental rights, thus ensuring that the system does not undermine Ecuadorian constitutional guarantees or corporate governance laws.

4.3 Integration through Corporate Governance Mechanisms

For Kleros to be successfully implemented in Ecuador's corporate environment, its use must be integrated into corporate governance practices, especially for companies using tokenized shares. the Fourth General Provision of the Companies Law Modernization Act already allows the tokenization of shares, opening the door for innovative governance mechanisms.

To facilitate the use of Kleros in dispute resolution over tokenized shares, companies issuing these shares should incorporate Kleros in their corporate bylaws. The bylaws should detail the following:

- The types of conflicts that can be resolved through Kleros should be clearly outlined. This could include disputes related to shareholder voting rights, dividend distributions, or the interpretation of tokenized stock rights. Clearly defining these areas would help prevent jurisdictional conflicts.
- The bylaws must ensure that Kleros decisions are binding on all shareholders, just like traditional arbitration awards. This would involve drafting bylaws in alignment with Ecuadorian corporate law, guaranteeing that Kleros verdicts have enforceability under local regulations.
- Clear guidelines must be established for initiating Kleros proceedings, including deadlines for dispute submission, juror selection criteria, and procedures for the execution of decisions. This will provide clarity and efficiency to the process.
- The bylaws should contain provisions that protect minority shareholders, ensuring that the decentralized dispute resolution process does not favor larger shareholders or corporate insiders. Safeguards should be in place to prevent the misuse of Kleros as a tool for shareholder oppression.

In addition to bylaws, shareholder agreements provide a critical tool for governing the use of Kleros in resolving disputes. These agreements would legally bind shareholders to resolve specific conflicts through Kleros, avoiding lengthy legal battles over jurisdiction.

To clarify dispute resolution procedures, shareholder agreements should articulate specific mechanisms, ensuring that all parties understand the types of disputes that must be referred to Kleros. By including Kleros as a legally enforceable resolution mechanism in shareholder agreements, companies can ensure that all shareholders are contractually obligated to participate in Kleros proceedings. This would mitigate jurisdictional challenges and make it easier to enforce Kleros decisions in Ecuadorian courts.

4.4 Regulatory Oversight and Guidelines

The Fourth General Provision of the Law for the Modernization of the Law of Companies introduced the possibility of tokenizing shares. However, the tokenization of shares, alongside the integration of decentralized dispute resolution mechanisms like Kleros, requires robust regulatory oversight to ensure compatibility with Ecuadorian corporate governance laws. The role of the Superintendency de Companies, Securities and Insurance as the Supervisory Authority becomes central in guiding the development and application of these technologies.

A primary responsibility of the Supervisory Authority is to ensure that the use of Kleros aligns with Ecuadorian law, particularly in safeguarding shareholders' rights and corporate governance standards. The integration of decentralized dispute resolution requires clear guidelines outlining its legality, limits, and applicability in corporate contexts. Without these, companies could face legal uncertainties, especially regarding the validity and enforcement of decisions made through Kleros.

The Supervisory Authority should provide streamlined procedures for companies wishing to incorporate Kleros, offering legal certainty. This might include specific criteria for integrating blockchain-based governance systems into corporate bylaws and standardized approval processes for those using Kleros for dispute resolution.

The adoption of Kleros poses the risk of potential misuse, particularly by majority shareholders seeking to leverage decentralized systems to their advantage. Without adequate protections, minority shareholders may find themselves disadvantaged in corporate disputes. The Supervisory Authority must establish safeguards that prevent the manipulation of Kleros by powerful stakeholders, ensuring a fair and impartial application of the platform.

For instance, companies should be required to disclose in their filings how Kleros will be used to resolve disputes. Such transparency would enable the Supervisory Authority to monitor and, if necessary, intervene in cases where the system appears biased or inequitable. Additionally, the Supervisory Authority could impose checks, such as independent audits of the Kleros process, to verify that the outcomes reflect fair corporate governance practices.

To encourage the adoption of innovative technologies like Kleros, the Supervisory Authority should reduce administrative obstacles by simplifying the regulatory approval process for companies that seek to integrate decentralized dispute resolution mechanisms. While tokenized shares are already legally permitted, the introduction of Kleros into corporate governance requires additional oversight. By establishing efficient procedures, the Supervisory Authority can mitigate bureaucratic delays and promote technological innovation within Ecuador's corporate sector.

Rather than viewing blockchain-based governance as a legal anomaly, the Supervisory Authority should treat Kleros as an opportunity to enhance transparency and efficiency in corporate operations. A streamlined approval process would reduce the friction that might deter companies from adopting new dispute resolution mechanisms, thereby fostering greater innovation in corporate governance.

4.5 Regulatory Sandbox for Blockchain-Based Dispute Resolution

The establishment of a regulatory sandbox is crucial for the development of blockchain-based dispute resolution systems like Kleros in Ecuador, particularly when applied to tokenized shares under the Fourth General Provision of the Law for the Modernization of the Law of Companies. A sandbox allows firms to test innovative technologies under regulatory oversight, providing a controlled environment to identify challenges, risks, and the practicalities of implementation.

While Ecuador's Fintech Law specifically applies to the financial sector, including fintech companies, securities markets, and insurance, its sandbox provisions provide a valuable model that can be extended to other industries, including corporate governance. The law establishes a framework that allows entities to experiment with new financial technologies while under the supervision of the Superintendence of Banks, the Superintendence of Companies, Securities and Insurance, and the Central Bank of Ecuador (Ley Fintech, Ley para Desarrollo Servicios Financieros Tecnológicos, 2022). Although the Fintech Law's scope is limited to financial services, securities, and insurance, its regulatory approach could complement the tokenization of shares under the Law of Companies by extending sandbox experimentation to corporate governance.

A sandbox environment would enable companies issuing tokenized shares to test Kleros for dispute resolution in a low-risk setting. This would allow stakeholders, including regulators, to evaluate the system's effectiveness in handling disputes related to corporate governance, shareholder voting, and ownership transfers. Such testing would also offer valuable insights into whether Kleros can efficiently integrate with Ecuador's broader legal and financial systems.

Moreover, the sandbox could identify operational risks, such as technological vulnerabilities or challenges in enforcing Kleros decisions. These tests would also give the Superintendence of Companies, Securities and Insurance and related authorities a clearer understanding of whether Kleros can address disputes arising from tokenized shares while ensuring compliance with Ecuadorian corporate governance laws.

The Ecuadorian Fintech Law promotes innovation by allowing fintech companies to operate in a regulated environment while experimenting with emerging technologies). Similarly, extending this framework to blockchain-based governance systems like Kleros could foster innovation in corporate dispute resolution. By adopting a flexible regulatory approach, Ecuador could encourage domestic and international companies to utilize

Kleros in resolving disputes over tokenized shares, thus positioning the country as a leader in corporate governance innovation.

The regulatory sandbox concept, while predominantly applied to financial services, can serve as a powerful tool for fostering innovation in other sectors, such as corporate governance. Ecuador's Fintech Law, though primarily focused on financial, securities, and insurance services, presents a framework that could be adapted to regulate emerging technologies like Kleros in the realm of tokenized shares. By examining successful global sandbox models, Ecuador can draw valuable lessons for applying this regulatory innovation in the corporate governance space.

a) **UK Financial Conduct Authority (FCA) Regulatory Sandbox:** The UK FCA sandbox is one of the earliest and most successful examples of a regulatory sandbox, designed to support fintech innovation. It provides firms with a controlled environment to test new technologies with real consumers, while temporarily relaxing certain regulatory requirements. This approach has allowed companies to develop and refine financial technologies while remaining under regulatory oversight, ensuring both innovation and consumer protection (Zetzsche et al., 2017).

   For Ecuador, this model could be adapted to corporate governance. By allowing companies to test Kleros in resolving disputes over tokenized shares, the Superintendence of Companies, Securities and Insurance could apply a similar system where legal requirements are temporarily adjusted. This would enable companies to explore decentralized dispute resolution mechanisms without facing the full burden of legal compliance from the outset, fostering an experimental environment for Kleros.

b) **Singapore's Fintech Regulatory Sandbox:** Singapore's Monetary Authority of Singapore (MAS) developed a regulatory sandbox with a focus on promoting fintech innovation, particularly in areas like payments, lending, and securities. This model emphasizes risk-based regulation, where the level of supervision depends on the risks posed by the technology being tested. Like the UK model, the Singapore sandbox offers temporary regulatory flexibility, allowing firms to innovate without the immediate pressure of full compliance (Zetzsche et al., 2017).

   For Ecuador, the Singaporean approach can be adapted to blockchain governance by implementing a sandbox that evaluates the risks associated with Kleros in corporate dispute resolution. The Superintendence of Companies, Securities and Insurance could monitor these risks—whether technological, legal, or operational—while companies experiment with the platform. This would ensure that Kleros operates within a secure and transparent environment, helping mitigate potential challenges before

full-scale adoption.

c) **Potential Adaptation to Ecuador's Corporate Governance:** By adopting the best practices from the UK and Singaporean sandbox models, Ecuador can create a regulatory environment that encourages innovation in corporate governance. The Superintendence of Companies, Securities and Insurance would oversee sandbox trials where companies using Kleros can resolve disputes over tokenized shares in a controlled setting. During this trial period, regulatory requirements would be temporarily relaxed, allowing the technology to be tested without the full weight of compliance. However, as with the global models, these trials would occur under close supervision, ensuring that consumer and stakeholder rights remain protected.

   Additionally, by applying risk-based regulation, the Superintendence of Companies, Securities and Insurance can adapt the regulatory framework to the specific risks posed by blockchain technologies like Kleros. This would involve careful assessment of the system's reliability, transparency, and ability to comply with Ecuadorian legal standards. Once the sandbox trials demonstrate that Kleros is both effective and secure, full regulatory approval could be granted, allowing the system to be permanently integrated into Ecuador's corporate governance framework.

Ecuador's adaptation of the sandbox model from leading jurisdictions like the UK and Singapore could significantly enhance the country's ability to innovate in corporate governance. By allowing sandbox trials for Kleros, the Superintendence of Companies, Securities and Insurance can create a space where blockchain-based dispute resolution systems are tested under regulatory oversight, balancing the need for innovation with the protection of legal and corporate standards. This comparative approach offers a pathway for Ecuador to modernize its corporate governance system while ensuring that new technologies are integrated in a safe and structured manner.

4.6. Risks and Challenges in Implementing Kleros

While the implementation of Kleros offers a range of innovative solutions for corporate governance and dispute resolution, it also presents several risks and challenges that need to be carefully addressed to ensure successful integration within Ecuador's legal and corporate frameworks. These risks are not insurmountable but require targeted strategies to mitigate potential pitfalls.

4.6.1. Legal Ambiguities and Enforcement Challenges

One of the key challenges in adopting Kleros is the legal ambiguity surrounding decentralized decision-making. Ecuador's judicial system currently lacks established precedents for enforcing rulings made by decentralized jurors in blockchain-based platforms like Kleros. This raises questions about the legal validity and enforceability of

decisions in critical areas such as shareholder disputes or governance conflicts involving tokenized shares.

For Kleros to be recognized as a legitimate dispute resolution mechanism, legislative reforms are necessary. These reforms should aim to:

- Incorporate decentralized arbitration mechanisms into the existing legal framework, giving Kleros-based decisions a legal status similar to that of traditional arbitration awards.
- Establish clear enforcement procedures that ensure decisions made by Kleros jurors can be recognized and executed within Ecuador's judicial system. This could involve amendments to the Arbitration and Mediation Law, explicitly recognizing blockchain-based rulings as enforceable in corporate disputes.

While these legal gaps pose a significant challenge, they are mitigable through legislative reform and judicial clarification. As the legal system adapts to technological advances, the introduction of blockchain-friendly regulations can provide the necessary framework for recognizing Kleros decisions, much like traditional arbitration agreements are recognized under international law.

4.6.2. Technological and Operational Risks

Blockchain technologies, while innovative, are not without technological risks. Decentralized platforms like Kleros are vulnerable to:

- Hacking and cybersecurity breaches that could compromise the integrity of the dispute resolution process.
- Smart contract failures, which could result in incorrect or unenforceable decisions.
- Technical malfunctions that could undermine confidence in the system, especially in high-stakes disputes involving tokenized assets.

Moreover, the complexity of blockchain technology may act as a barrier for widespread adoption, particularly among smaller companies or those lacking familiarity with decentralized systems. These companies may struggle to understand how Kleros operates, which could lead to misuse or inaccurate outcomes in corporate disputes.

However, these risks are also manageable through the implementation of robust security protocols and continuous system improvements. The Superintendence of Companies, Securities and Insurance could mandate:

- Security standards for all companies using Kleros, requiring encryption, secure data storage, and regular audits to ensure the integrity of the system.
- Education and training programs for corporate executives and legal professionals to familiarize them with the functionality, benefits, and risks of

Kleros. By building capacity among key stakeholders, companies will be better equipped to integrate decentralized dispute resolution systems into their governance practices effectively.

In addition, companies adopting Kleros could engage in pilot programs or sandbox environments to ensure that technical vulnerabilities are identified and resolved before full-scale implementation. These precautions would significantly reduce the technological risks associated with Kleros.

4.6.3. Regulatory Adaptation and Gaps

A significant challenge in the implementation of Kleros lies in the discrepancy between the rapid evolution of blockchain technology and the slower pace of regulatory adaptation. Although Ecuador's Fourth General Provision supports the tokenization of shares, many aspects of the law are not yet equipped to deal with the unique characteristics of decentralized dispute resolution and digital assets.

This gap could lead to regulatory uncertainty, with businesses and legal institutions facing confusion over how to interpret and enforce Kleros rulings. For example, the decentralized nature of Kleros may clash with more centralized regulatory approaches, leading to conflicting interpretations regarding legal compliance.

To mitigate this risk, Ecuador's regulatory bodies, including the Superintendence of Companies, Securities and Insurance, must take a proactive approach by:

- Updating existing laws to account for blockchain-based governance models. This could involve drafting comprehensive regulations that govern the use of decentralized systems for dispute resolution, ensuring compatibility with Ecuadorian corporate law.
- Engaging in continuous dialogue with industry experts, legal professionals, and companies to ensure that the regulatory framework evolves alongside technological advancements. By doing so, Ecuador can bridge the gap between innovation and regulation, ensuring that decentralized systems like Kleros operate within a coherent legal framework.

Additionally, resistance from traditional legal institutions or businesses unfamiliar with decentralized systems is a natural challenge. However, this resistance can be mitigated through education and capacity-building initiatives. By demonstrating the benefits of Kleros—such as increased efficiency, transparency, and cost savings—regulators can encourage broader acceptance within the legal and corporate communities.

4.6.4. Cultural and Institutional Resistance

The shift from traditional dispute resolution mechanisms to decentralized platforms like Kleros could face institutional and cultural resistance. Established businesses, legal

practitioners, and even regulators may be skeptical of decentralized systems, perceiving them as disruptive or unpredictable. This cultural resistance can slow down the adoption of Kleros, especially if key stakeholders do not fully understand the technology or trust its outcomes.

Overcoming this resistance will require a multifaceted approach. First, the Superintendence of Companies, Securities and Insurance and relevant authorities can facilitate awareness campaigns that highlight the advantages of blockchain-based dispute resolution. Demonstrating successful case studies from other jurisdictions and conducting pilot projects in Ecuador can help reduce skepticism.

Second, collaboration between regulators, industry leaders, and legal professionals will be essential. Creating working groups that include these stakeholders can foster open communication, allowing for a smoother transition to decentralized systems. By engaging with institutions early in the process, regulators can address concerns, build trust, and encourage cooperation.

While the risks and challenges associated with implementing Kleros in Ecuador's legal and corporate framework are significant, they are also mitigable with the right strategies. Legal ambiguities can be resolved through targeted legislative reforms, technological risks can be managed through robust security protocols and sandbox trials, and regulatory gaps can be filled through proactive regulatory adaptation. By taking a complete approach that includes education, regulatory reform, and collaboration, Ecuador can effectively integrate Kleros into its corporate governance system, ensuring a transparent, efficient, and reliable method for resolving disputes over tokenized shares.

5. Potential Use Cases and Hypothetical Scenarios

In Ecuador, the implementation of Kleros for tokenized stock disputes must align with:

a) The Law for the Modernization of the Companies Act, particularly its fourth general provision allowing for the issuance of tokenized stocks.
b) The Arbitration and Mediation Law.
c) The Electronic Commerce, Signatures and Messages Law.

The implementation of Kleros in the Ecuadorian context would require several key steps:

5.1 Technical Integration

The first step would be to integrate Kleros with the blockchain platform approved by the Superintendence of Companies, Securities and Insurance for the issuance of tokenized stocks. This would involve:

- Developing smart contracts that include Kleros as the dispute resolution mechanism.
- Creating functions within these contracts to initiate disputes, submit evidence, and execute arbitration decisions.
- Ensuring the integration meets the technical standards set by the Superintendence of Companies, Securities and Insurance.

5.2 Legal and Regulatory Compliance

To operate legally in Ecuador, Kleros would need to:

- Register as an alternative dispute resolution method with Ecuadorian arbitration authorities.
- Demonstrate compliance with Ecuadorian arbitration laws.
- Establish a legal entity or representative in Ecuador.
- Develop protocols for handling confidential information in compliance with Ecuadorian corporate law.

5.3 Juror Selection and Legal Expertise

Kleros would need to adapt its juror selection process to ensure:

- Inclusion of jurors knowledgeable in Ecuadorian corporate law.

- Access to relevant Ecuadorian legal texts and precedents for all jurors.
- A mechanism to verify jurors' qualifications and manage potential conflicts of interest.

5.4 Linguistic Considerations

Given Ecuador's official language, the implementation would require:

- A Spanish-language interface for the Kleros decentralized application (dApp).
- Translation services for evidence and arguments.
- Bilingual jurors or reliable translation of deliberations.
- Protocols for handling multilingual disputes, particularly for cases involving international shareholders.

5.5. Hypothetical Dispute Resolution Scenario

To illustrate the practical application of Kleros in this context, we present a hypothetical scenario involving a dispute over voting rights in a shareholder meeting of an Ecuadorian company with tokenized stocks:

a) **Dispute Initiation:** The process begins with the aggrieved shareholder initiating the dispute through the Kleros dApp. They would stake the required amount of cryptocurrency as per Kleros protocol.

b) **Notification and Response:** The company and other relevant parties would be notified through both the blockchain platform and traditional legal channels to ensure compliance with Ecuadorian notification requirements.

c) **Juror Selection:** Jurors would be selected from a pool that includes individuals with knowledge of Ecuadorian corporate law. This might require Kleros to develop a specific subcourt for Ecuadorian corporate disputes.

d) **Evidence Submission:** Parties would submit relevant evidence, including:

- Blockchain records of stock ownership
- Company bylaws
- Records of the disputed shareholder meeting
- Relevant sections of Ecuadorian corporate law

All evidence would be submitted in Spanish or with certified Spanish translations.

e) **Deliberation and Decision:** Jurors would deliberate based on the evidence and their understanding of Ecuadorian law. Their decision would be recorded

on the blockchain.

f) **Decision Execution and Legal Recognition:** The smart contract would execute the decision on the blockchain. However, to ensure legal validity in Ecuador, the decision would also need to be:

- Formally documented in Spanish.
- Submitted to the Superintendence of Companies, Securities and Insurance and the company's legal representatives.
- Potentially ratified by an Ecuadorian court if challenged.

The implementation of Kleros for tokenized stock disputes in Ecuador represents a novel intersection of blockchain technology, corporate governance, and legal systems. While significant challenges exist, the potential for efficient, transparent, and cost-effective dispute resolution aligns well with Ecuador's efforts to modernize its corporate framework.

This implementation could serve as a model for other jurisdictions exploring similar innovations. However, its success will depend on careful navigation of legal, technical, and cultural factors. As this system is implemented and tested with real cases, it will likely evolve, potentially reshaping the landscape of corporate dispute resolution in Ecuador and beyond.

6. Conclusions and Recommendations

The implementation of Kleros for the resolution of tokenized share disputes in Ecuador represents a significant opportunity to modernize and streamline the corporate dispute resolution system. However, its successful adoption would require careful planning and execution.

6.1 Conclusions

Kleros has the potential to significantly transform the way disputes involving tokenized shares are resolved. This decentralized system can offer faster, more efficient, and accessible dispute resolution compared to traditional methods. Kleros ability to provide fast and fair decisions is crucial in the dynamic world of digital assets, where speed and accuracy are essential.

The implementation of Kleros faces significant legal, technical and cultural challenges. On the legal side, there is a need to develop a regulatory framework that recognizes and supports the decisions made by Kleros. From a technical perspective, issues related to interoperability and security of the blockchain infrastructure must be addressed. In addition, the adoption of Kleros requires overcoming cultural and educational barriers, as both legal professionals and investors must become familiar with this new technology.

Ecuador can position itself as a regional leader in the adoption of blockchain technologies in the legal and financial sphere. By implementing Kleros, Ecuador could attract foreign investment, increase capital market liquidity and promote the democratization of investment. This leadership would not only benefit the financial sector but could also drive a broader modernization of the Ecuadorian judicial system.

The implementation of Kleros in tokenized share dispute resolution in Ecuador represents an exciting and challenging opportunity. With careful planning, a phased approach and effective collaboration among all stakeholders, Ecuador could position itself at the forefront of innovation at the intersection of law, technology and finance. This essay has provided an overview of the key aspects to consider in this implementation. However, additional research and continued dialogue among all stakeholders will be required to bring this vision to reality.

6.2 Recommendations

- It is essential to develop a regulatory framework that allows for the gradual implementation of Kleros. This approach could start with pilot projects in specific areas, which would allow authorities and market players to evaluate the effectiveness of the system and make the necessary adjustments before a wider

implementation. This regulatory framework should include provisions for the recognition and enforcement of Kleros rulings by the Ecuadorian authorities.

- Fostering collaboration between government, the private sector and academia is essential to address the technical and legal challenges of Kleros implementation. Cooperation among these parties can facilitate the development of innovative and practical solutions that support the adoption of Kleros and share tokenization. In addition, collaboration can help build trust and acceptance among different market players.

- Implementing a comprehensive education program to familiarize relevant stakeholders (lawyers, judges, entrepreneurs, investors) with Kleros and tokenized shares is crucial for its successful adoption. This program should include seminars, workshops and online courses that explain how Kleros works, its benefits and how it can be integrated into the existing legal and financial system. Proper education and training can help overcome resistance to change and encourage faster and more effective adoption.

- Developing interoperability standards is essential to ensure that Kleros can integrate effectively with existing systems in the Ecuadorian financial market. These standards should ensure that Kleros data and decisions are compatible with other blockchain platforms and traditional legal and financial systems. Interoperability will facilitate wider and more effective adoption of Kleros and enable greater integration and cooperation between different technologies and platforms.

- Establishing a robust monitoring and evaluation system to assess Kleros impact and adjust as necessary is critical to its long-term success. This system should include clear metrics to measure the efficiency, speed and fairness of Kleros decisions, as well as its impact on the capital market and investor confidence. Ongoing evaluation will identify areas for improvement and adjust policies and practices to maximize Kleros returns.

- Seeking cooperation with other countries and international organizations to share best practices and address common challenges is a key strategy for the successful implementation of Kleros. International collaboration can provide valuable knowledge and experience that can help Ecuador overcome the technical and legal challenges of implementing decentralized justice systems. In addition, cooperation can facilitate the development of global standards and regulatory frameworks that support the adoption of Kleros worldwide.

The adoption of Kleros could transform the dispute resolution system in Ecuador, offering significant benefits in terms of efficiency, accessibility, and modernization. However, to fully realize these benefits, it is crucial to address the legal, technical and cultural

challenges in an effective and collaborative manner. With the commitment and cooperation of all relevant stakeholders, Ecuador can lead the way towards a fairer and more efficient future in corporate dispute resolution.

Bibliographic references

Bergolla, L., Seif, K., & Eken, C. (2022). Kleros: A Socio-Legal Case Study of Decentralized Justice & Blockchain Arbitration. Ohio State Journal on Dispute Resolution, Vol. 37, 55–98. https://law.stanford.edu/publications/kleros-a-socio-legal-case-study-of-decentralized-justice-blockchain-arbitration/

Código de Comercio (2019). https://www.lexis.com.ec/biblioteca/codigo-comercio Constitución de la República del Ecuador (2008). https://www.lexis.com.ec/biblioteca/constitucion-republica-ecuador

Echeverría Muñoz, D. (2021a, enero 5). Tokenización de acciones en la Ley de Modernización a la Ley de Compañías del Ecuador. Revista Digital EDI N° 37, 51–54. https://latam.lejister.com/pop.php?option=articulo&Hash=e4f79390a7d2c652d0401f25721caff1&from_section=autor

Echeverría Muñoz, D. (2021b, junio 21). Contratación: Medios Informáticos. Revista Judicial del Diario La Hora - DerechoEcuador.com. https://derechoecuador.com/contratacion-medios-informaticos/

Echeverría Muñoz, D. (2022, noviembre 24). Tokenización de valores en el mercado de valores. Revista LawyersEC. https://www.yumpu.com/en/document/read/67403673/lawyersec-revista-iv-edicion-legaltech/41

Gurrea Martínez, A., Ortiz Mena, E., & Noboa Velasco, P. (2021, enero 27). Modernizing Corporate Law in Latin America: Lessons from Ecuador | Oxford Law Blogs. https://blogs.law.ox.ac.uk/business-law-blog/blog/2021/01/modernizing-corporate-law-latin-america-lessons-ecuador

Heredia Querro, S. (2020). Smart Contracts: Qué son, para qué sirven y para qué no servirán? (Smart Contracts: What Are They? What Can Be Done with Them and What Cannot Be Done with Them?) (SSRN Scholarly Paper 3875645). https://dx.doi.org/10.2139/ssrn.3875645

Ibáñez Jiménez, J. W. (2018). Blockchain como espacio de cumplimiento normativo. Dykinson. https://app.vlex.com/vid/blockchain-espacio-cumplimiento-normativo-735638581

Jiménez, D. L. (2020). Recensión. Blockchain: Aspectos tecnológicos, empresariales y legales. PAAKAT: Revista de Tecnología y Sociedad, 18, Article 18. https://doi.org/10.32870/Pk.a10n18.421

Kleros (Director). (2021, noviembre 11). Kleros/Maker Fellowship—Presentation of Results of the Research [Video recording]. https://www.youtube.com/watch?v=hcf2CClCWj4

Kleros. (2024, enero 18). Governance. https://docs.kleros.io/governance
Lesaege, C., Ast, F., & George, W. (2019, septiembre). Kleros Short Paper v1.0.7. https://kleros.io/whitepaper.pdf

Ley de Comercio Electrónico, Firmas Electrónicas y Mensajes de Datos (2002). https://vlex.ec/vid/ley-67-ley-comercio-643461577

Ley de Compañías, Pub. L. No. CDF0-RO312, Ley de Compañías (2023). https://www.lexis.com.ec/biblioteca/ley-companias

Ley de Modernización a la Ley de Compañías (2020). https://www.oficial.ec/ley-modernizacion-ley-companias

Ley Fintech, Ley para Desarrollo Servicios Financieros Tecnológicos (2022). https://www.lexis.com.ec/biblioteca/ley-fintech-ley-desarrollo-servicios-financieros-tecnologicos?download=ley-fintech-ley-desarrollo-servicios-financieros-tecnologicos

Ley General de Mecanismos Alternativos de Solución de Controversias (2024). https://www.diputados.gob.mx/LeyesBiblio/pdf/LGMASC.pdf

Monsalve, J. D. C. (2021). Ley de modernización a la ley de compañías, cómo Ecuador pasó a estar a la vanguardia del derecho societario en américa latina y lo que significa para la región. UNA - Revista de Derecho, Vol. 6. https://una.uniandes.edu.co/images/sextaedicion/5carreno2021.pdf

Rivadeneira Guasgua, R. E. (2019). El registro de la transferencia de acciones y su problemática en Ecuador [Universidad Andina Simón Bolívar]. https://repositorio.uasb.edu.ec/bitstream/10644/7034/1/T3040-MDEM-Rivadeneira-El%20registro.pdf

Velasco, P. N. (2022). La implementación del blockchain en gobierno corporativo y la tokenización de las acciones. USFQ Law Review, 9(1), Article 1. https://doi.org/10.18272/ulr.v9i1.2567

Zetzsche, D., Buckley, R., Barberis, J., & Arner, D. (2017). Regulating a Revolution: From Regulatory Sandboxes to Smart Regulation. Fordham Journal of Corporate & Financial Law, 23(1), 31. https://ir.lawnet.fordham.edu/jcfl/vol23/iss1/2