

BLOCKCHAIN IN COMPANIES LAW

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Abstract

Blockchain technology has emerged as a transformative force in companies' law, revolutionizing the way businesses operate and interact within legal frameworks. This abstract focuses on the integration of blockchain technology in companies' law and its implications for transparency, efficiency, and security.

Specifically, this article explores the use of blockchain in companies' law, with an emphasis on two jurisdictions: Estonia, Switzerland, Malta and Singapore. The article highlights the advantages of blockchain technology in companies' law, including the immutability of records, enhanced security through cryptography, and the potential for smart contract automation. It also emphasizes the importance of the legal frameworks in Estonia, Switzerland, Malta and Singapore, which aim to recognize the legal validity of blockchain-based transactions and provide regulatory clarity.

By leveraging blockchain's features of transparency, immutability, and decentralization, companies can enhance corporate governance, improve shareholder rights, and streamline administrative processes. It is important for legal frameworks to adapt to these advancements and provide clarity on the legal validity and enforceability of blockchain-based shareholder management systems.

Since Romania has yet to adopt any blockchain – based business law tools, this article is aimed to provide an insight on currently available good practices, both European and from Singapore, in view of setting a standard to which we should be focusing on, as well.

Keywords: *blockchain, companies' law, shareholders registry, crypto application of blockchain, corporate governance.*

1. Introduction

This paper examines the current status of blockchain applications and the specific use of blockchain technology in company law, focusing on its definition, utilization across different jurisdictions, and the advantages it brings to businesses. It aims to cover the specific areas of company law where blockchain technology brings a positive impact and to showcase why the integration of blockchain technology is important in the context of company law.

This paper also explores specific areas where blockchain technology can be applied, including corporate governance, regulatory compliance, and shareholder management.

The relevance of the chosen theme lies in the fact that the integration of blockchain technology in company law addresses long-standing challenges related to data security, transparency, and efficiency in corporate transactions. Moreover, it enhances trust and accountability by providing a clear and transparent record of transactions. Lastly, it streamlines processes, reduces costs, and simplifies regulatory compliance, ultimately improving overall corporate governance.

To shed light on the utilization of blockchain technology in company law, this paper shall provide concrete examples of jurisdictions where blockchain has been actively employed. It will highlight the advantages offered by blockchain technology in enhancing security, transparency, and efficiency in corporate transactions.

From a scholastic perspective, this paper builds upon the existing literature on blockchain technology and its applications in company law. It aims to contribute by providing an in-depth analysis of specific use cases and practical examples from different jurisdictions. Additionally, it seeks to explore the advantages and implications of blockchain integration in company law, expanding the understanding of its potential and offering insights into its future developments.

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2. Understanding blockchain technology

Blockchain is a decentralized digital ledger that records transactions across multiple computers, ensuring immutability, transparency, and traceability. It operates on a peer-to-peer network, where each transaction is verified by consensus mechanisms such as proof of work or proof of stake. The key features of blockchain technology include:

- **Decentralization:** Blockchain operates on a distributed network, eliminating the need for a central authority and reducing the risk of fraud or other potential tampering of the stored information.
- **Immutability and Transparency:** Once a transaction is recorded on the blockchain, it cannot be altered, ensuring data integrity. Additionally, all participants have access to the same information, promoting transparency and trust.
- **Smart Contracts:** Self-executing contracts encoded on the blockchain facilitate automated transactions and enforce predefined rules without intermediaries.

3. Specific use of blockchain in companies' law

Blockchain technology has the potential to bring significant advancements to companies' law, particularly in the field of shareholder management.

The following potential scenarios demonstrate how blockchain technology can revolutionize shareholder management in companies' law¹:

- **Shareholder Voting:** Blockchain can facilitate secure and transparent shareholder voting processes. By utilizing blockchain technology, companies can create tamper-resistant digital tokens representing voting rights. Shareholders can then cast their votes directly on the blockchain, ensuring transparency, immutability, and efficient tallying of votes. This eliminates the need for intermediaries and reduces the risk of fraud or manipulation.
- **Proxy Voting:** Blockchain can enhance proxy voting mechanisms by allowing shareholders to delegate voting rights to trusted parties. Smart contracts can automate the proxy voting process, ensuring accurate representation and execution of shareholder preferences. This increases shareholder participation and engagement in decision-making processes.
- **Shareholder Registry:** Blockchain can serve as a decentralized and immutable shareholder registry. By recording and maintaining ownership information on a blockchain, companies can establish a transparent and auditable record of shareholders and their respective holdings. This eliminates the need for manual record-keeping, reduces administrative burdens, and enhances the accuracy of shareholder information.
- **Dividend Distribution:** Blockchain can streamline dividend distribution processes. Smart contracts on the blockchain can automatically execute dividend payments to shareholders based on predetermined criteria. This ensures timely and accurate distribution of dividends, eliminates manual processing, and provides a transparent audit trail of transactions.
- **Transfer of Ownership:** Blockchain can facilitate the transfer of shares between shareholders securely and efficiently. By tokenizing shares on the blockchain, ownership transfer can occur through peer-to-peer transactions, reducing the need for intermediaries such as brokers or custodians. This improves liquidity, reduces settlement times, and minimizes transaction costs.

To implement blockchain technology in business law in Romania, several key considerations should be taken into account:

- **Regulatory Framework.** The first step would be to establish a comprehensive and clear regulatory framework that addresses the legal aspects of blockchain technology in business law which should provide legal recognition and clarity for blockchain-based transactions, smart contracts, and digital assets.
- **Collaboration and Partnerships.** Romanian Government should foster collaboration between the government, regulatory bodies, industry stakeholders, and academia to develop policies, standards, and guidelines for blockchain adoption. Also, engaging with blockchain startups, technology experts, and legal professionals to leverage their expertise in designing the legal framework and exploring potential use cases in various sectors of business law would lead to a more effective collaboration between stakeholders.
- **Education and Awareness.** Romanian should invest in educational programs, workshops, and training

¹ P. de Filippi, A. Wright, *Blockchain and the Law: The Rule of Code*, Harvard University Press, 2018, p. 68.

initiatives to enhance understanding and awareness of blockchain technology among legal professionals, policymakers, and business stakeholders. Also, it is important to promote knowledge-sharing platforms, conferences, and seminars focused on blockchain's potential in business law to encourage dialogue and exchange of ideas.

- **Pilot Projects and Sandboxes.** Romania should encourage the establishment of pilot projects and regulatory sandboxes that allow companies and startups to test and validate blockchain solutions within a controlled environment. This approach enables real-world experimentation while ensuring compliance with existing legal requirements.

- **Digital Identity Infrastructure.** It is indicated that Romania develops a robust digital identity infrastructure that supports blockchain-based solutions in business law. This infrastructure should enable secure and verifiable digital identities, which are essential for authentication, authorization, and privacy in blockchain transactions.

By considering these recommendations and tailoring them to the specific needs and context of Romania, our country can lay a solid foundation for the implementation of blockchain in business law, fostering innovation, efficiency, and transparency in corporate transactions.

3.1. Good Practices of Jurisdictions Embracing Blockchain in Company Law

Several jurisdictions around the world have recognized the potential of blockchain technology in transforming company law. The following are examples of jurisdictions where blockchain has been actively utilized:

- **Estonia:** Known for its revolutionary e-residency program, Estonia has implemented blockchain technology to enhance corporate governance. Companies registered in Estonia can manage their entire shareholder voting process through blockchain, ensuring security and transparency.

- **Switzerland:** With its Crypto Valley in Zug, Switzerland has emerged as the most prominent hub for blockchain innovation. The country allows companies to issue digital shares on the blockchain, facilitating efficient and transparent ownership management.

- **Malta:** Strongly positioned as the „Blockchain Island“, Malta has enacted favorable legislation to attract blockchain-based companies. Its regulatory framework provides legal certainty for initial coin offerings (ICOs) and smart contracts, actively promoting the growth of the blockchain ecosystem.

- **Singapore:** On the other side of the world, Singaporean government has actively embraced blockchain technology to streamline regulatory compliance and facilitate efficient corporate transactions. It has piloted projects using blockchain for the issuance and transfer of securities, reducing administrative burdens.

3.1.1. Brief analysis of Estonia's blockchain development

Estonia, recognized for its pioneering e-residency program, has longtime taken significant steps to leverage blockchain technology in bolstering corporate governance. The country's legal framework and legislation have been pivotal in implementing blockchain solutions to enhance transparency, security, and efficiency in various aspects of company law, which set an example for other European countries. Companies registered in Estonia can now manage their shareholder voting process through blockchain, leading to a more secure and transparent ecosystem for corporate decision-making.

The Estonian e-residency program, established in 2014, allows non-residents to access digital services and remotely administer businesses within Estonia's jurisdiction. This initiative aligns with the country's commitment to digital innovation and has been instrumental in promoting the adoption of blockchain technology in company law.

Estonia's legal framework, particularly the Commercial Code and the Digital Signatures Act, provides a solid foundation for the integration of blockchain technology in corporate governance. These laws recognize the legal validity of electronic signatures and contracts, facilitating the use of blockchain-based smart contracts for shareholder voting and other corporate processes, which seems futuristic for timid states, such as Romania, which have yet to adopt any measure in respect of implementing blockchain in companies' law.

In the Estonian context, blockchain technology enables companies to ensure the security and integrity of their shareholder voting process². By leveraging blockchain's decentralized nature and cryptographic algorithms, Estonia's companies can create immutable and tamper-proof records of votes, preventing any unauthorized alterations or manipulations. This enhances the transparency and credibility of the voting process, fostering trust among shareholders.

The matter of blockchain in business law has been effectively dealt with in works such as „Blockchain and the Law“ by Primavera De Filippi and Aaron Wright and „Blockchain and the Law: The Rule of Code“ by Professor Jerry Brito and Andrea Castillo, which explores the legal implications of blockchain technology and how Estonia's regulatory framework has created an enabling environment for blockchain adoption in various sectors, including company law.

In conclusion, the legal framework and legislation in Estonia, coupled with the e-residency program, have enabled businesses to harness blockchain's capabilities to enhance security, transparency, and trust in corporate governance processes. Scholarly works further contribute to our understanding of the legal and regulatory implications of Estonia's blockchain adoption, emphasizing the pioneering role the country plays in leveraging technology for effective corporate governance.

3.1.2. Brief analysis of Switzerland's blockchain development

Switzerland's legal doctrine and regulatory framework have played a crucial role in establishing an environment conducive to blockchain adoption, particularly in the realm of ownership management through the issuance of digital shares.

Switzerland's legal system, characterized by its stability and business-friendly approach, has been instrumental in fostering blockchain innovation. The Swiss Code of Obligations (CO) and the Federal Act on Securities Dealers (SESTA) are among the key legislations governing ownership management and securities issuance in the country.

One of the notable developments in Switzerland is the ability for companies to issue digital shares on the blockchain. This initiative streamlines the traditional process of share issuance and ownership transfer, offering increased efficiency, transparency, and security. By utilizing blockchain technology, companies can create digital tokens representing ownership rights, which can be easily traded and transferred on the blockchain network.

The Swiss legal framework recognizes the legal validity of blockchain-based shares, providing a clear legal basis for their issuance and transfer. The CO, in particular, enables the digitization of share certificates and outlines the legal requirements for their issuance and transfer.

Furthermore, Switzerland's regulatory framework, including the Swiss Financial Market Supervisory Authority (FINMA), has adopted a forward-thinking approach to blockchain and digital assets. Through clear guidelines and regulatory sandboxes, Switzerland has sought to balance innovation with investor protection and regulatory compliance.

In conclusion, Switzerland's Crypto Valley in Zug has become a prominent centre for blockchain innovation, particularly in the realm of ownership management. The country's legal doctrine, including the Swiss Code of Obligations and the Federal Act on Securities Dealers, has paved the way for the issuance of digital shares on the blockchain.

3.1.3. Brief analysis of Malta's blockchain development

Malta's legal framework, tailored to attract blockchain companies, has played a pivotal role in establishing a favorable environment for the growth of the blockchain ecosystem, particularly in the context of company law.

Malta's proactive approach to blockchain technology is reflected in its legislative initiatives. The Virtual Financial Assets Act (VFSA), enacted in 2018, provides a robust regulatory framework for virtual financial assets, including cryptocurrencies and tokens issued through initial coin offerings (ICOs). This legislation offers legal certainty and consumer protection, bolstering investor confidence and attracting blockchain-based companies to establish operations in Malta.

In the realm of company law, Malta's legal framework has been designed to facilitate the use of blockchain technology. The Companies Act, together with the Malta Digital Innovation Authority Act, supports the

² K. Werbach, *The Blockchain and the New Architecture of Trust*, MIT Press, 2018, p. 103.

integration of blockchain-based solutions for corporate governance, contract enforcement, and shareholder management.

One of the significant contributions of Malta's legal framework is the recognition and regulation of smart contracts. The legislation provides legal certainty for smart contracts, enabling parties to execute and enforce self-executing agreements using blockchain technology. This promotes efficiency, reduces reliance on intermediaries, and enhances the security and transparency of contract-related processes.

Additionally, Malta has established a regulatory sandbox environment, allowing companies to test innovative blockchain solutions within a controlled framework. This approach encourages experimentation and collaboration between businesses, regulators, and the government, fostering the development of cutting-edge applications for company law on the blockchain.

The legal framework in Malta, along with its commitment to regulatory clarity and investor protection, has positioned the country as an attractive destination for blockchain-based businesses³. Scholars and legal experts have recognized Malta's efforts in developing a comprehensive legal framework that supports the growth of the blockchain ecosystem.

In conclusion, Malta's status as the „Blockchain Island“ is supported by its favorable legal framework that attracts blockchain-based companies. Through legislation such as the VFAA and support for smart contracts, Malta provides a regulated and secure environment for the integration of blockchain technology in company law.

3.1.4. Brief analysis of Singapore's blockchain development

Last but not least Singapore, renowned for its forward-thinking approach to technology adoption, has actively embraced blockchain technology to enhance business law practices. The Singaporean government has taken significant steps to create a supportive legal framework that promotes the use of blockchain technology, streamlines regulatory compliance, and facilitates efficient corporate transactions.

The legal framework in Singapore related to blockchain technology encompasses various laws and regulations. The Monetary Authority of Singapore (MAS), the country's central bank and financial regulatory authority, has been at the forefront of developing guidelines and regulations for blockchain adoption.

One notable initiative is the development of Project Ubin, a collaborative project between MAS and various financial institutions. Project Ubin explores the use of blockchain technology for the issuance, transfer, and settlement of digital securities. The project's successful trials have demonstrated the potential for blockchain to streamline administrative processes and reduce costs in securities transactions.

In addition to Project Ubin, Singapore has introduced the Payment Services Act (PSA), which regulates cryptocurrency exchanges and other payment service providers. The PSA ensures that these entities adhere to robust anti-money laundering (AML) and counter-terrorism financing (CTF) regulations, providing a secure and compliant environment for blockchain-based transactions.

Singapore's legal framework also recognizes the legal validity of electronic contracts and electronic signatures through the Electronic Transactions Act (ETA). This legislation facilitates the use of blockchain-based smart contracts, enabling automated and self-executing agreements in corporate transactions. It provides legal certainty for parties involved in blockchain-based business activities, promoting efficiency and reducing the need for intermediaries.

Furthermore, the Singaporean government has actively supported blockchain-focused initiatives and research. The National Research Foundation (NRF) has funded numerous projects in collaboration with academic institutions and industry partners, focusing on blockchain applications across various sectors, including finance, supply chain management, and healthcare.

In conclusion, Singapore's government has been proactive in embracing blockchain technology to enhance business law practices. The legal framework, supported by institutions like MAS and NRF, provides regulatory clarity and promotes the use of blockchain for streamlined regulatory compliance and efficient corporate transactions.

³ Jai Singh Arun, J. Cuomo, *Blockchain for Business: A Practical Guide to Achieving Enterprise Value*, Pearson Publishing House, 2019, p. 33.

3.2. Advantages of Blockchain Technology in Company Law

Blockchain technology offers several advantages in the realm of company law, empowering businesses to overcome traditional challenges. The key advantages⁴ include:

- **Enhanced Security:** Blockchain's decentralized nature and cryptographic algorithms make it highly secure, reducing the risk of data breaches and fraud. It provides a tamper-proof and transparent audit trail of transactions, ensuring accountability and mitigating the potential for corporate fraud.
- **Improved Transparency and Accountability:** Blockchain's transparency enables shareholders and stakeholders to access real-time information, facilitating trust and accountability. This increased visibility helps prevent conflicts of interest and provides an accurate record of corporate actions.
- **Efficient Shareholder Management:** Blockchain simplifies and automates shareholder management processes such as voting, dividend distribution, and share transfers. This streamlines corporate governance, reduces administrative costs, and enhances shareholder participation.
- **Smart Contract Automation:** Smart contracts on the blockchain enable the automation of routine corporate transactions, such as share transfers and contract enforcement. This eliminates the need for intermediaries, reduces processing time, and ensures accuracy.
- **Streamlined Compliance:** Blockchain technology simplifies regulatory compliance by providing an immutable and auditable record of transactions. This reduces the burden of manual record-keeping, streamlines reporting, and enhances regulatory oversight.
- **Cost Reduction:** By eliminating intermediaries, minimizing paperwork, and automating processes, blockchain technology can significantly reduce costs associated with corporate governance and transactions.

4. Conclusions

The exploration of blockchain technology's applications in business law has revealed several key outcomes. Firstly, blockchain enhances security and transparency in corporate transactions, mitigating the risks of fraud and data breaches. Secondly, it streamlines processes such as shareholder management, voting, and compliance, leading to increased efficiency and reduced costs. Additionally, blockchain facilitates the automation of contractual agreements through smart contracts, eliminating the need for intermediaries and enhancing accuracy. Overall, blockchain technology empowers businesses to improve corporate governance, accountability, and regulatory compliance.

Unfortunately, Romania's legal framework on blockchain in business law is currently underdeveloped as compared to jurisdictions like Estonia, Switzerland, Malta, and Singapore. These countries have recognized the potential of blockchain technology in transforming company law and have implemented favorable regulations to support its adoption.

However, in the future, by highlighting the usage and advantages of blockchain technology, businesses and legal professionals will gain a deeper understanding of its potential in transforming company law practices. The research outcomes will encourage the adoption of blockchain solutions, leading to enhanced security, transparency, and efficiency in corporate transactions. Moreover, the integration of blockchain technology can foster trust among stakeholders and strengthen corporate governance frameworks, ultimately driving innovation and competitiveness in the business landscape.

While this paper provides hopefully valuable insights into the applications of blockchain technology in business law, there are several areas that warrant further research⁵. Firstly, conducting comparative studies across jurisdictions that have implemented blockchain solutions in company law would provide a comprehensive understanding of best practices and regulatory considerations. Additionally, exploring the potential challenges and legal implications associated with the adoption of blockchain technology in company law would help address concerns and develop appropriate frameworks. Furthermore, investigating the long-term societal and economic impacts of blockchain integration in company law can shed light on its transformative potential beyond immediate business benefits. Finally, studying the scalability and interoperability of blockchain platforms in complex corporate environments would contribute to the practical implementation of blockchain solutions.

⁴ M. Swan, *Blockchain: Blueprint for a New Economy*, O'Reilly Media Publishing House, 2015.

⁵ D. Tapscott, A. Tapscott, *Blockchain Revolution: How the Technology Behind Bitcoin and Other Cryptocurrencies Is Changing the World*, Portfolio Publishing House, 2016.

To implement blockchain technology in business law in Romania, several key considerations should be taken into account. These include establishing a comprehensive regulatory framework, fostering collaboration and partnerships between stakeholders, investing in education and awareness programs, encouraging pilot projects and sandboxes, and developing a robust digital identity infrastructure.

By continuing to delve into these areas, researchers can deepen the understanding of blockchain's role in business law and pave the way for its widespread adoption, ultimately shaping a more secure, transparent, and efficient corporate landscape.

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