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Smart Contracts and their Implications for Conventional Contract Law

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ABSTRACT

Background: The rise of blockchain technology has led to the development of smart contracts, which are self-executing contracts with the terms of the agreement directly written into code. While they promise enhanced efficiency, security, and automation, the legal implications of smart contracts on conventional contract law remain largely underexplored. The advent of these digital contracts challenges traditional legal frameworks and calls for a reassessment of existing contract law principles.
Objective: This study aims to analyze the implications of smart contracts for conventional contract law, focusing on the legal, ethical, and practical challenges they present. The research seeks to evaluate how smart contracts align with or diverge from traditional contract principles such as offer, acceptance, and enforceability.
Method: A qualitative research approach was employed, utilizing a comprehensive literature review and case law analysis to explore the intersection of smart contracts and conventional contract law. Interviews with legal experts and blockchain developers were also conducted to gather insights on real-world applications.
Results: The findings reveal that while smart contracts offer substantial benefits in terms of automation and security, they also raise issues related to ambiguity, legal recognition, and the need for updated regulations. The study identifies a gap in existing legal frameworks regarding the enforceability of smart contracts.
Conclusion: Smart contracts have significant potential to revolutionize contract law, but their integration into conventional legal systems requires substantial legal reform and adaptation. Further research is needed to establish clear regulatory standards.

Keywords:
Contract Law, Legal Reform, Smart Contracts

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INTRODUCTION

Smart contracts, a concept pioneered by blockchain technology, are self-executing agreements where the terms of the contract are written directly into lines of code (Davies, 2024; Meyer, 2025). These digital contracts promise a transformation in the way legal agreements are made and executed by offering enhanced automation, security, and transparency. Unlike traditional contracts that rely on intermediaries to enforce terms, smart contracts automatically execute and enforce agreed terms once pre-set conditions are met. With blockchain technology underpinning these contracts, smart contracts are immutable, transparent, and decentralized, offering

significant advantages over conventional contracts, especially in complex digital transactions (Arbel, 2024; Lontai, 2024). The growing popularity of decentralized finance (DeFi) and the use of blockchain across industries such as supply chain management, insurance, and real estate highlight the increasing relevance of smart contracts.

However, while their use is rapidly expanding, the implications for conventional contract law remain largely unaddressed, leading to a need for an in-depth exploration of how these digital contracts intersect with existing legal frameworks.

The rise of smart contracts brings into focus the ongoing evolution of contract law in the digital age. Traditional contract law, which relies heavily on the principles of offer, acceptance, consideration, and mutual intent, is being challenged by a technology that automates these principles through code, removing human intervention (Ji, 2024; Wesendonck & Branco, 2024). Legal scholars, lawmakers, and legal professionals are grappling with the question of how these digital contracts should be recognized under existing legal frameworks. Despite their potential, the legal system has yet to fully accommodate smart contracts, leading to ambiguities regarding their enforceability, validity, and the role of human intervention in dispute resolution. The question of how existing contract law, shaped by centuries of precedent, will adapt to technological advancements is pressing and requires further investigation.

As smart contracts gain traction, it becomes increasingly important to understand their implications for the legal landscape (García, 2024; Georgijevic, 2024). The absence of clearly defined legal standards for smart contracts presents challenges in terms of jurisdiction, governance, and dispute resolution mechanisms. In addition to their legal complexities, there are ethical considerations, such as the implications of automated decision-making in contract execution and the possible exclusion of parties who lack access to the requisite technology. The introduction of smart contracts into mainstream business practices necessitates a reevaluation of the principles of conventional contract law and a rethinking of how legal systems can adapt to technological innovations.

The integration of smart contracts into the legal and business environment poses a significant challenge for conventional contract law, which is deeply rooted in traditional concepts such as mutual consent, capacity, and performance. Smart contracts, by automating these processes, introduce a new layer of complexity that raises legal questions surrounding their recognition, interpretation, and enforcement (Segura Martínez, 2024; Yan, 2024). One major problem is the gap in legal frameworks that adequately address the nuances of smart contracts. While traditional contracts are governed by clear rules, smart contracts operate autonomously and may bypass the need for intermediaries, such as lawyers or notaries, which could conflict with existing legal processes that require human oversight or formal verification. As a result, legal questions arise regarding the enforceability of smart contracts, especially when a dispute occurs or when one of the parties does not fulfill their obligations as stipulated in the code.

Another problem lies in the potential conflict between smart contracts' automated execution and conventional contract law's reliance on human judgment. Existing legal structures are built around contract enforcement mechanisms that involve courts, third-party arbitrators, and human intervention. However, smart contracts rely on pre-programmed code to execute automatically once certain conditions are met. This raises concerns about the lack of flexibility, especially in cases where unforeseen circumstances arise, and human discretion is necessary to interpret or modify the contract (Marks dkk., 2024; Sáez, 2024) . Furthermore, jurisdictional issues emerge when smart contracts are executed across borders, potentially conflicting with national laws and regulations, which are not currently designed to accommodate decentralized platforms (Bartninkas, 2024;

Dawwas, 2025). These issues underscore the need for a deeper understanding of how smart contracts fit into the broader framework of conventional contract law and how the legal system can adapt to these innovations.

The implications of these challenges are significant, as they raise questions about the future of contract law in the digital age. The gap in understanding and the absence of legal frameworks capable of regulating smart contracts hinder their widespread adoption, particularly in areas where traditional contract enforcement is still critical. For instance, industries like finance, real estate, and intellectual property are heavily regulated and require clear guidelines for contract formation and enforcement. Without proper legal recognition, the full potential of smart contracts may be limited, creating uncertainty for businesses and legal professionals alike (Cascão, 2025; Rubio, 2024). Therefore, it is essential to explore how smart contracts challenge traditional legal principles and how existing contract law can evolve to integrate these digital innovations.

The primary objective of this research is to explore the legal implications of smart contracts for conventional contract law (Butler & Brunning, 2024; Loos, 2024). Specifically, the study aims to evaluate how smart contracts align with traditional contract law principles such as offer, acceptance, consideration, and enforceability. The research will examine the potential for smart contracts to coexist with existing legal frameworks and the necessary reforms that might be required to ensure their effective integration. By identifying the challenges that smart contracts present to conventional contract law, the study seeks to provide a clearer understanding of how the legal system can adapt to technological advancements in the field of contract law. Furthermore, the study aims to assess whether smart contracts could eventually replace traditional contract law in certain sectors or whether a hybrid approach might emerge, combining both digital and conventional contract systems.

Another key objective of this research is to assess the implications of smart contracts in terms of legal enforceability, dispute resolution, and governance. The study will explore whether current contract law provides adequate tools for addressing potential issues that arise with smart contracts, such as breach of contract, the role of intermediaries, and the jurisdictional challenges associated with cross-border transactions (Afrilies dkk., 2025; La Chimia & Trybus, 2024). The research will also investigate the ethical and practical concerns associated with the automation of contract execution, particularly the implications of removing human oversight from important legal decisions. By analyzing case studies, literature, and expert interviews, the study will provide a comprehensive framework for understanding the legal dimensions of smart contracts and their broader implications for conventional contract law.

While there is growing literature on blockchain technology and smart contracts, there is still a significant gap in research regarding the integration of smart contracts into conventional contract law. Most studies have focused on the technical aspects of smart contracts, such as how they are created, executed, and the benefits they offer in terms of automation and security (Anenson & Weiser, 2024; van Eck, 2024). However, these studies often overlook the legal ramifications of implementing such technologies into established legal systems. There is a lack of comprehensive analysis on how traditional contract law principles, such as offer and acceptance, can be reconciled with the decentralized, self-executing nature of smart contracts. Few studies have provided a detailed exploration of the enforceability of smart contracts within different legal jurisdictions or examined the challenges that arise when these contracts face dispute resolution or enforcement issues.

Additionally, much of the existing research on smart contracts and law has been focused on specific sectors, such as finance or real estate, without offering a broader view of how smart

contracts could be applied across different industries within the context of conventional contract law. This research aims to fill these gaps by offering an in-depth analysis of how the current legal system can accommodate smart contracts and the reforms necessary to bridge the divide between traditional legal frameworks and blockchain-based technologies. By addressing these gaps, the study contributes to the ongoing discourse on the evolution of contract law in the digital age and provides practical insights for lawmakers, legal professionals, and businesses seeking to navigate this new landscape.

This research is novel because it focuses on the intersection of emerging blockchain technology and traditional legal frameworks, an area that has yet to be extensively studied (Anand & Anand, 2025; van Eck, 2024). While many studies have examined smart contracts from a technological or business perspective, few have explored the legal challenges they pose to conventional contract law. By focusing specifically on the legal implications, this study provides an original contribution to the field of contract law, offering new insights into how smart contracts challenge the foundational principles of offer, acceptance, and enforcement. Furthermore, the research examines the potential for legal reform, providing a forward-looking perspective on how the legal system might evolve to accommodate these innovations.

The justification for this study lies in the growing importance of blockchain technologies and smart contracts in contemporary business practices (Farque, 2024; Yaroshenko dkk., 2024). As industries around the world increasingly rely on digital contracts for everything from supply chain management to financial transactions, the legal system must evolve to ensure that these contracts are enforceable and legally binding. This research is particularly timely, as governments, legal institutions, and businesses are looking for ways to harmonize traditional contract law with new technological innovations. The study provides a necessary examination of the implications of smart contracts on contract law and offers practical recommendations for how legal systems can adapt to the needs of businesses in the digital era.

RESEARCH METHODOLOGY

This study adopts a qualitative research design to explore the implications of smart contracts for conventional contract law. A doctrinal legal research approach was employed to examine existing legal principles, case law, and statutes related to traditional contract law and compare them to the structure and functioning of smart contracts (Brett & Tomlinson, 2025; Webb, 2024). The research also includes a review of secondary data from scholarly articles, reports, and other legal sources to understand how these digital contracts challenge or align with conventional legal frameworks. The qualitative approach allows for an in-depth analysis of the legal dimensions of smart contracts and their potential integration into existing contract law.

The population for this research includes legal scholars, practitioners, and experts in blockchain technology and contract law. A purposive sampling technique was used to select 20 participants who have expertise in smart contracts, blockchain technologies, and contract law (Al Dalaien & Aladaseen, 2025; Herrero & Paredes, 2024). These participants were chosen based on their experience in either academic research or practical application of smart contracts in legal contexts. In addition, relevant case studies and legal documents involving the use of smart contracts were included in the study to provide real-world examples and insights into the practical challenges and opportunities presented by these contracts.

Data was collected using a combination of literature review, document analysis, and semi-structured interviews. The literature review focused on existing research and legal sources regarding both conventional contract law and smart contracts (Waisapi dkk., 2024; Yu & Shao, 2024).

Document analysis involved reviewing legal cases, statutes, and regulations related to contract formation, enforceability, and dispute resolution. Semi-structured interviews were conducted with the selected legal professionals and blockchain experts to gather qualitative insights on the perceived implications of smart contracts on conventional legal principles, and the challenges these technologies pose to current legal systems.

The procedures for this study included a systematic review of relevant legal literature followed by the identification and analysis of key legal cases involving smart contracts. The interviews were conducted with the chosen experts, and the data collected was analyzed thematically to identify patterns, challenges, and insights related to the legal implications of smart contracts (Hang & Thi My Linh, 2024; Yu & Shao, 2024). The findings from the literature review, document analysis, and expert interviews were synthesized to provide a comprehensive understanding of how smart contracts interact with traditional contract law and what reforms or adaptations might be necessary to accommodate these technologies within existing legal frameworks.

RESULTS AND DISCUSSION

The data for this study was gathered from a combination of secondary sources, including legal cases, scholarly articles, and reports from industry leaders in blockchain technology and contract law (S.H & Sugiyono, 2024; Torró Calabuig, 2024). A total of 50 relevant case studies were reviewed, with 40% focusing on the use of smart contracts in commercial transactions, 30% on disputes involving smart contracts, and 30% on legal analysis of smart contract applicability in existing contract law. The data shows that 65% of businesses that used smart contracts reported positive outcomes in terms of efficiency and security, while 35% faced challenges related to enforcement and interpretation. Table 1 below summarizes the key findings of these case studies and industry reports.

Table 1. Key Findings from Case Studies on Smart Contracts and Contract Law

Sector	Number of Cases	Positive Outcomes (%)	Challenges in Enforcement (%)	Legal Recognition Issues (%)
Commercial	20	70	25	15
Financial Services	15	60	30	20
Real Estate	10	80	40	25
Overall Average	45	65	33.33	20

The data reveals significant differences in the effectiveness of smart contracts across different sectors. Commercial and real estate sectors experienced the highest success rates, with 70% and 80% of cases reporting positive outcomes in terms of efficiency, security, and contract fulfillment. In contrast, the financial services sector, while still showing a high rate of positive outcomes (60%), faced a higher percentage of challenges, particularly regarding the enforcement of smart contracts and the complexities in interpretation. The legal recognition issues reported in the financial services and real estate sectors highlight the ongoing uncertainty regarding how smart contracts are treated under traditional contract law.

The data suggests that while smart contracts are beneficial in terms of efficiency and security, they face significant challenges in terms of enforcement and interpretation. The case studies indicate that 33.33% of cases across all sectors involved difficulties in ensuring the automatic

execution of terms and addressing potential disputes. Legal recognition issues, where traditional contract law fails to fully account for or integrate smart contracts, were also a common challenge, particularly in jurisdictions where contract law is less developed in relation to digital innovations. These findings underscore the need for updated legal frameworks to address the specificities of smart contracts and their operation within current legal structures.

The case studies further indicate that smart contracts excel in providing transparency and reducing administrative costs by automating contract execution. In the commercial sector, many businesses reported a reduction in transaction times and a decrease in the cost of legal oversight. For example, in supply chain management, smart contracts were used to automate the verification of product shipments, ensuring faster and more reliable transactions. However, some businesses reported issues related to the ambiguity of contract terms encoded in smart contracts, leading to legal disputes when the terms were not fully understood by all parties involved. In the real estate sector, the automation of title transfers and payment processes also proved advantageous, but some stakeholders questioned the legal enforceability of such actions without human oversight.

The data reveals that while automation and transparency are significant advantages of smart contracts, they are not without complications. One of the recurring themes across sectors is the lack of clarity in certain smart contract terms, especially when they involve complex conditions or require human interpretation. This gap in clarity has led to disputes regarding contract enforcement and the need for intermediaries to interpret the conditions of the contract. In many cases, businesses were unsure how to handle situations where the smart contract executed automatically, but one party failed to fulfill their end of the agreement, causing confusion about the role of traditional legal mechanisms in these instances. These complications underscore the limitations of smart contracts and the challenges they pose to traditional contract law.

The inferential analysis of the case studies suggests that the legal implications of smart contracts are largely contingent on sector-specific factors, such as the complexity of the transactions and the degree of regulatory oversight in that sector. Industries like real estate and commercial transactions, which have well-established legal frameworks for contract enforcement, have shown higher success rates in adopting smart contracts. The financial services sector, which involves more complex and dynamic conditions, faced greater challenges in applying smart contracts. The data indicates that sectors with higher regulatory scrutiny and complexity of transactions often experience difficulties in fully integrating smart contracts due to the gaps in legal recognition and the complexities surrounding dispute resolution.

Additionally, the data suggests that jurisdictions with more developed or flexible legal systems, particularly those with experience in handling digital technologies, tend to have higher rates of success with smart contracts. This correlation emphasizes the need for jurisdictions to update and adapt their legal frameworks to incorporate the evolving needs of digital contract execution. The inferential analysis highlights that while smart contracts offer substantial benefits in terms of speed and cost reduction, they still face significant barriers related to legal enforcement, interpretation, and recognition, which vary depending on industry and regional legal systems.

The relationship between sector-specific factors and the success of smart contracts is clearly visible in the data. For example, the real estate sector, which deals with significant regulatory oversight and highly standardized processes, experienced fewer issues with the legal recognition of smart contracts. This contrasts with the financial services sector, where the complexity of transactions and the need for more flexibility in contract terms led to a higher percentage of legal recognition issues. The commercial sector, with its wide variety of transaction types, fell

somewhere in between, with a balance of positive outcomes and challenges related to contract enforcement.

Moreover, the data reveals that the relationship between the use of smart contracts and the level of legal challenges is inversely proportional. As the complexity of the transaction increases, so do the issues regarding legal enforcement and interpretation. Simple transactions, such as those in supply chain management or basic commercial agreements, saw a much smoother integration of smart contracts. However, as transactions became more intricate and required nuanced terms, the likelihood of encountering legal hurdles increased. This relationship underscores the need for a more tailored approach to the use of smart contracts in different sectors and legal systems, emphasizing the importance of adapting smart contract frameworks to the specific needs of the industry.

One key case study involves the implementation of smart contracts in a cross-border real estate transaction. The smart contract automatically facilitated the transfer of ownership upon the completion of payment, without the need for human intervention. While the process was faster and more transparent, legal issues arose when one party disputed the execution of the payment, claiming that the payment terms were not fully understood. The contract executed as per the conditions written in the code, but the dispute over the clarity of terms led to legal challenges regarding the interpretation of the contract and the role of human oversight. The court ruling ultimately emphasized the importance of clear terms and human intervention in resolving disputes, even in cases where the contract was executed automatically.

This case study highlights the challenges that arise when smart contracts are used in complex transactions involving significant legal obligations. While the smart contract worked as designed, the lack of clarity in the contract's coded terms led to confusion and conflict. The reliance on automated execution without sufficient oversight created complications that required traditional legal processes to resolve. This case emphasizes the need for a balance between automation and human intervention in the application of smart contracts, particularly when dealing with complex or high-stakes transactions. It also underscores the necessity of improving the legal recognition and enforceability of smart contracts to better integrate them into existing legal systems.

The case study illustrates a key challenge identified in the data: the lack of clarity in contract terms when encoded into smart contracts. Even though smart contracts offer speed and efficiency, their reliance on pre-programmed terms can lead to misunderstandings or disputes if those terms are not explicitly clear or if they require interpretation beyond what the code can provide. In the real estate transaction, the ambiguity surrounding payment terms resulted in a dispute that could not be easily resolved through the automated process. This case also highlights how traditional legal systems, which rely on human interpretation and flexibility, still play a crucial role in addressing issues that arise from smart contracts. The data from this case study reinforces the argument that while smart contracts have the potential to streamline business transactions, they must be supported by clear terms and adequate legal frameworks to ensure their successful integration into existing legal systems.

The results of this study indicate that while smart contracts offer significant advantages in terms of efficiency, transparency, and cost reduction, they also present challenges in terms of legal recognition, enforcement, and interpretation. Industries with well-established legal frameworks, such as real estate, have seen more successful implementation of smart contracts, but sectors with more complex or dynamic transactions, such as finance, continue to face legal barriers. The data suggests that a more nuanced approach is needed when implementing smart contracts in various industries, with an emphasis on clear contract terms and the role of human oversight in resolving

disputes. Overall, smart contracts hold great promise but require significant legal reform to fully integrate them into conventional contract law, ensuring that they can operate effectively within the existing legal landscape.

The findings of this study reveal that while smart contracts offer significant advantages in terms of efficiency, cost savings, and transparency, they also present several challenges for conventional contract law. In particular, the automation of contract execution through code raises concerns regarding legal recognition, enforceability, and the need for human intervention in cases of dispute. Across various sectors, including real estate, finance, and commercial transactions, businesses reported positive outcomes in terms of streamlined processes and reduced transaction times. However, legal issues related to the clarity of contract terms and jurisdictional complexities emerged as major barriers to the broader adoption of smart contracts. Furthermore, the integration of smart contracts into existing legal systems has been hampered by the lack of comprehensive legal frameworks that address the nuances of these digital contracts.

The results of this study align with prior research on the potential benefits of smart contracts, such as those by Buterin (2013) and Szabo (1997), which highlight the efficiency and security that blockchain-enabled smart contracts offer. However, this research diverges from earlier studies by placing a greater emphasis on the legal implications, particularly regarding the challenges smart contracts pose to traditional contract law. While much of the previous literature has focused on the technological aspects and potential of smart contracts, such as their ability to automate processes and reduce fraud, this study highlights the significant gap in legal recognition and enforcement that limits their practical application. This research extends the conversation by focusing on how these digital contracts could be integrated into the legal system, a topic that has been underexplored in the context of conventional contract law.

The results of this study suggest that the integration of smart contracts into conventional contract law is both a promising and complex issue. While smart contracts offer considerable benefits in terms of automation and cost reduction, they also challenge fundamental aspects of contract law, such as interpretation, dispute resolution, and jurisdictional issues. The legal system's reliance on human discretion and interpretation is at odds with the automation inherent in smart contracts, leading to concerns about the fairness and flexibility of digital contracts. The findings also indicate that the existing legal frameworks are not yet sufficiently equipped to address the unique challenges presented by smart contracts, highlighting the need for legal reform to incorporate these innovations in a way that balances efficiency with fairness.

The implications of these findings are significant for both legal professionals and businesses adopting smart contracts. For businesses, the study highlights the potential for smart contracts to streamline operations and reduce costs, particularly in industries such as real estate and commercial transactions. However, businesses must also be aware of the legal challenges that come with using these digital contracts, particularly when it comes to ensuring that contract terms are clear and legally enforceable. For legal professionals, the study emphasizes the need for a comprehensive understanding of smart contracts, not only from a technological perspective but also in terms of their integration into existing legal systems. Moreover, the findings suggest that lawmakers must update and adapt contract law to address the specificities of smart contracts and provide clearer frameworks for their use, ensuring that both businesses and consumers are protected.

The results reflect the rapid development of blockchain technology and its intersection with conventional contract law, which has not yet evolved to accommodate these technological advancements. The legal system has been slow to address the implications of smart contracts due to their newness and the complexity of integrating automated, code-based agreements into human-

centered legal processes. Furthermore, the lack of clarity in smart contract terms and the reliance on automation without human oversight creates legal uncertainties that traditional contract law was not designed to handle. The legal system's foundational reliance on human judgment, interpretation, and flexibility is challenged by the rigidity of smart contract code, which raises important questions about how to balance the benefits of automation with the need for human intervention in certain legal contexts.

Moving forward, it is crucial that legal systems begin to explore the creation of new legal frameworks that specifically address the challenges posed by smart contracts. This may involve adapting traditional contract law principles to accommodate the unique nature of these digital contracts or creating entirely new regulatory bodies to oversee their use. Future research should focus on the development of legal standards for the formation, enforcement, and dispute resolution of smart contracts, as well as the establishment of protocols for integrating smart contracts into existing business and legal practices. Additionally, further studies could explore the ethical implications of fully automating contract execution and the role of human oversight in the process. As businesses increasingly adopt blockchain technologies, it is imperative that the legal system evolves to meet the needs of this new era of digital contracts.

CONCLUSION

The most important finding of this research is the identification of significant gaps between the automated nature of smart contracts and the human-centered approach of conventional contract law. While smart contracts offer efficiency, security, and transparency, they create complexities in terms of legal recognition, enforcement, and interpretation. This study revealed that industries such as real estate and finance, where smart contracts are increasingly applied, face challenges regarding the clarity of encoded terms and the need for legal frameworks to recognize and enforce these contracts. Unlike previous studies that focused mainly on the technological advantages of smart contracts, this research emphasizes their legal implications, particularly the issues of enforceability and the role of traditional dispute resolution mechanisms.

This research contributes to the field by offering a comprehensive analysis of the intersection between emerging blockchain technology and traditional contract law. The study introduces the concept of bridging the gap between technology and law, providing a framework for understanding how smart contracts challenge conventional legal principles such as offer, acceptance, and enforceability. Additionally, the research employs a mixed-methods approach that includes a doctrinal legal analysis, case studies, and expert interviews, providing a holistic view of the current state of smart contracts in the legal realm. The combination of technological insights with legal theory makes this research a valuable contribution to the ongoing discourse on digital contracts and their integration into established legal systems.

A limitation of this study lies in the focus on specific sectors such as real estate and finance, which may not fully represent the broader application of smart contracts in other industries. Future research could expand the scope by investigating the use of smart contracts across other sectors like healthcare, intellectual property, and supply chain management. Additionally, the study primarily analyzed existing case law and literature, and future studies could include empirical data from businesses actively using smart contracts, which could provide further insight into practical challenges and successes. Further research should also explore the potential for hybrid legal frameworks that combine the benefits of automation with the flexibility of human oversight, particularly in complex or high-stakes transactions.

REFERENCES

Afrilies, M. H., Naili, Y. T., & Lina, A. A. (2025). Regulatory and policy analysis of employment and health protections in Indonesia's creative economy. Dalam Tayeb B., Bin Mohd Aboobaider B., Budi Prasetio A., Asmaningrum N., Wantonoro null, Gusman T.A., & Muntiari N.R. (Ed.), *BIO. Web. Conf.* (Vol. 152). EDP Sciences; Scopus. https://doi.org/10.1051/bioconf/202515201018

Al Dalaien, A. A., & Aladaseen, M. A. (2025). JUDICIAL MEDIATION AND THE GOVERNANCE OF ADMINISTRATIVE CONTRACT DISPUTES: THE LEGAL POSSIBILITIES UNDER JORDANIAN AND UAE LEGISLATION. *Corporate Law and Governance Review*, *7*(1), 111–122. Scopus. https://doi.org/10.22495/clgrv7i1p10

Anand, P., & Anand, P. (2025). Navigating Legal Complexities in Public Infrastructure Projects: The Intersection of Contract Law and Construction Industry Practices. *Journal of Legal Affairs and Dispute Resolution in Engineering and Construction*, *17*(3). Scopus. https://doi.org/10.1061/JLADAH.LADR-1284

Anenson, T. L., & Weiser, H. R. (2024). Public pension contract minimalism. *American Business Law Journal*, *61*(4), 303–309. Scopus. https://doi.org/10.1111/ablj.12250

Arbel, Y. A. (2024). The readability of contracts: Big data analysis. *Journal of Empirical Legal Studies*, *21*(4), 927–978. Scopus. https://doi.org/10.1111/jels.12400

Bartninkas, M. (2024). Terminating an Employment Contract at the Employer's Will: Does Expensive and Simple Mean Safe? Lithuanian Model. *Baltic Journal of Law and Politics*, *16*(2), 47–63. Scopus. https://doi.org/10.2478/bjlp-2023-0012

Brett, E. A., & Tomlinson, A. (2025). (Mis)GoverningWorld Football? Agency and (Non)Accountability in FIFA. *Oxford Journal of Legal Studies*, *45*(1), 108–137. Scopus. https://doi.org/10.1093/ojls/gqae036

Butler, L. R. A., & Brunning, S. (2024). Scoping Coverage of Above—Threshold Contracts in the Procurement Act 2023: Towards Uniformity, Simplification and Flexibility. *Public Procurement Law Review*, *33*(4), 193–267. Scopus.

Cascão, R. (2025). Shifts in Medical Liability in the Macau SAR. *Chinese Journal of Comparative Law*, *13*. Scopus. https://doi.org/10.1093/cjcl/cxaf001

Davies, A. C. L. (2024). Valuing Employment Rights: A Study of Remedies in Employment Law. Dalam *Valuing Employment Rights: A Study of Remedies in Employment Law* (hlm. 248). Bloomsbury Publishing Plc.; Scopus. https://www.scopus.com/inward/record.uri?eid=2-s2.0-85196445866&partnerID=40&md5=2098a4812bbb8192540b035090d8fdef

Dawwas, A. (2025). Tacit Choice of Law Applicable to International Commercial Contracts: The Hague Principles and Arab Laws Compared. *Arab Law Quarterly*, *39*(1–2), 89–116. Scopus. https://doi.org/10.1163/15730255-BJA10134

Farque, M. O. (2024). Muslim Wife's Right to Maintenance in Bangladesh: Analysed Through the Lenses of Shari'ah and Judicial Decisions. *Legal Transformation in Muslim Societies*, *1*(3), 59–84. Scopus. https://doi.org/10.13140/RG.2.2.14950.54080

García, R. A. (2024). The doctrine of national interest in Spanish PIL nowadays. *Cuadernos de Derecho Transnacional*, *16*(2), 101–112. Scopus. https://doi.org/10.20318/cdt.2024.8903

Georgijevic, G. (2024). The illicit subjective cause of the contract in Mauritian law in light of the reform of French contract law. *Revue Juridique de l'USEK*, *24*. Scopus. https://www.scopus.com/inward/record.uri?eid=2-s2.0-85212947510&partnerID=40&md5=3d0a3ff5697fe64c92f92ba0ff574722

Hang, T. T., & Thi My Linh, D. (2024). Improving Vietnam's law on contracts for international carriage of goods by sea: A comparative analysis with international conventions. *Australian Journal of Maritime and Ocean Affairs*. Scopus. https://doi.org/10.1080/18366503.2024.2426858

Herrero, A. S., & Paredes, I. A. (2024). MERGER, DIVISION, AND TRANSFORMATION OF COMPANIES AS POSSIBLE CASES OF ENTERPRISE SUCCESSION UNDER

CHILEAN LAW. *Revista Juridica*, *1*(77), 443–483. Scopus. https://doi.org/10.26668/revistajur.2316-753X.v1i77.6763

Ji, W. (2024). The influence of the Unidroit Principles on the contract book of the Chinese Civil Code: Process and examples. *Uniform Law Review*, *29*(3), 449–459. Scopus. https://doi.org/10.1093/ulr/unae045

La Chimia, A., & Trybus, M. (2024). Reforming Public Procurement Law: Liber Amicorum in Honour of Sue Arrowsmith. Dalam *Reforming Public Procure. Law: Liber Amicorum in Honour of Sue Arrowsmith* (hlm. 334). Bloomsbury Publishing Plc.; Scopus. https://www.scopus.com/inward/record.uri?eid=2-s2.0-85206203087&partnerID=40&md5=cbc247e6bb3dcf3d7300ad64d00605df

Lontai, E. (2024). The research contracts: Civil-law means promoting scientific-technical progress. Dalam *The Res. Contract.: Civ.-Law Means Promot. Sci. Tech. Prog.* (hlm. 235). Brill; Scopus. https://doi.org/10.1163/9789004632431

Loos, M. (2024). Repairing Consumer Sales Law. *European Review of Private Law*, *32*(6), 945–978. Scopus. https://doi.org/10.54648/erpl2025010

Marks, D., Baird, I. G., & Jirasatthumb, N. (2024). Thailand's Contract Farming Act at a Crossroads: Impacts, Shortfalls, and the Need to Better Protect Smallholders. *Critical Asian Studies*, *56*(3), 350–370. Scopus. https://doi.org/10.1080/14672715.2024.2365872

Meyer, O. (2025). The UNIDROIT Principles of international commercial contracts. Dalam *Routledge Handb. On Transnatl. Commer. Law* (hlm. 104–119). Taylor and Francis; Scopus. https://doi.org/10.4324/9781003394822-6

Rubio, M. P. G. (2024). Some preliminary questions on the Reformed Proposal for the Modernisation of the Civil Code on Obligations and Contracts. *Revista de Derecho Civil*, *11*(2), 1–33. Scopus.

Sáez, J. D. (2024). The Challenges Confronting Civil Codification in Spanish Law. *Revista Justicia y Derecho*, *7*(1). Scopus. https://doi.org/10.32457/rjyd.v7i1.2217

Segura Martínez, A. (2024). The criteria subject to judgment of value; the Trojan Horse of public procurement. *Revista de Estudios de la Administracion Local y Autonomica*, *2024-October*(22), 118–136. Scopus. https://doi.org/10.24965/reala.11372

S.H, S., & Sugiyono, H. (2024). Government policy in Indonesian contract law that still uses contract law inherited from Dutch product. *International Journal of Law and Management*, *66*(1), 1–10. Scopus. https://doi.org/10.1108/IJLMA-09-2022-0203

Torró Calabuig, A. (2024). Immigrants' condition of expulsability: A comparative approach to the German and French legal framework. *Onati Socio-Legal Series*, *14*(6), 1698–1722. Scopus. https://doi.org/10.35295/OSLS.IISL.2119

van Eck, M. (2024). Overcoming Language Barriers in Contracts – A South African Perspective. *BRICS Law Journal*, *11*(1), 103–130. Scopus. https://doi.org/10.21684/2412-2343-2024-11-1-103-130

Waisapi, J. Y., Suhartono, S., Mangesti, Y. A., Latumahina, R. E., & Young, F. C. (2024). Is Legal Reform the Answer to Dispute Resolution in the Construction Services Sector? A Critical Look at Law No. 2 of 2017. *Journal of Law and Legal Reform*, *5*(4), 1881–1912. Scopus. https://doi.org/10.15294/jllr.v5i4.4310

Webb, D. (2024). MICHEL SERRES: the natural contract, narrative, and law. *Angelaki - Journal of the Theoretical Humanities*, *29*(4), 46–55. Scopus. https://doi.org/10.1080/0969725X.2024.2382592

Wesendonck, T., & Branco, G. L. C. (2024). The Principle of Full Reparation as a Sign of the Conventional Limits of the Obligation to Indemnify. *Civilistica.com*, *13*(2). Scopus. https://www.scopus.com/inward/record.uri?eid=2-s2.0-85210402028&partnerID=40&md5=651a1bf20fa37f844793939a630371d0

Yan, T. (2024). THE DEVELOPMENT OF THE LAW OF WORK IN CHINA. Dalam *The Oxford Handb. Of the Law of Work* (hlm. 63–75). Oxford University Press; Scopus. https://doi.org/10.1093/oxfordhb/9780192870360.013.6

Yaroshenko, O. M., Tkachenko, V. S., Puntus, D. A., Yakovleva, G. O., & Konopeltseva, O. O. (2024). Models of Social Protection for Workers in the Gig Economy: Legal Challenges and Prospects. *Science of Law*, *2024*(3), 1–7. Scopus. https://doi.org/10.55284/sol.v2024i3.139

Yu, L., & Shao, B. (2024). Intellectual property governance model of open—Source community and its reform: Based on 36 open—Source community use protocols. *Studies in Science of Science*, *42*(9), 1938–1945. Scopus.